

Self Study Report (SSR)

For NAAC-Accreditation of

Jayawant Shikshan Prasarak Mandal's [JSPM's]

Jayawantrao Sawant College of Engineering,

Hadapsar, Pune – 411 028

Submitted to

The National Assessment & Accreditation Council Bangaluru

Submitted by



JSPM's Jayawantrao Sawant College of Engineering,

Survey No58, Indrayaninagar, Handewadi Road, Hadapsar,

Pune – 411028, Maharashtra (India) 2016-17



JAYAWANT SHIKSHAN PRASARAK MANDAL'S

Jayawantrao Sawant College of Engineering

(Approved by AICTE, New Delhi, Govt. Of Maharashtra and affiliated to University of Pune.)

[Id. No.: PU / PN / Engg. / 199 / (2004)]



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M.E. Ph D. (Mech-Engg) F.I.E(I)
Principal

Ref. No.: JSPM/JSE/Admn/2016-17/1259

Date: 21/04/2017

To,
The Director,
National assessment and Accreditation Council [NAAC],
Post Box No. 1075, Nagarbhavi,
Bengaluru – 560 072

Subject: Submission of Self Study Report [SSR] in The Hard Copies (5) and Soft Copies (5 CDs) Along with A & A Fee.

Ref: LOI Bearing *Track ID MHCOGN27350* submitted on Dated 29 / 03 / 2017.

Respected Sir,

With reference to above referred LOI bearing Track ID MHCOGN27350, we are pleased to submit hereby Self Study Report [SSR] of our Institute in the form of 5 hard copies and 5 soft copies in word & pdf format. Also, find attached herewith a DD of Rs. 3,45,000=00 of Punjab National Bank, Satara Road, Pune branch drawn in favor of 'The Director, NAAC' (DD No. 018793 dated 21.04.2017) towards A & A Fee.

We further ensure you that the uploaded SSR and the hard copies of the SSR are as per prescribed manual / format of NAAC.

With Warm Regards,

Enclosures:

1. Five Hard Copies
2. Five soft copies- CDs
3. DD towards A&A fees.



M. G. Jadhav

Yours Sincerely,
J.S.P.M.'s Jayawantrao Sawant
College of Engineering
Hadapsar, Pune - 411 028

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NAAC Steering Committee

<i>Sr. No</i>	<i>Name of Faculty</i>	<i>Designation</i>	<i>Department</i>
1.	Dr. M. G. Jadhav	Principal	Mechanical Engineering
2.	Prof. Suneeta Phadkule	Vice-Principal	Mechanical Engineering
3.	Dr. P. M. Patil	Professor	E&TC Engineering
4.	Prof. S. V. Todkari	Asso. Professor	Information Technology
5.	Prof. Y. P. Joshi	Asst. Professor	E&TC Engineering

NAAC SSR Preparation Committee

Prof. Suneeta Phadkule	Dr. P. M. Patil
Prof. S.V. Todkari	Prof. V. M. Sardar
Dr. V.S. Jatti	Dr. D.B. Salunke
Dr. V.K. Bhojwani	Prof. D. R. Patil
Prof. N.G. Padulkar	Prof. H.A. Hingoliwala
Prof. P. D. Lambhate	Dr. A.P. Rao

Department NAAC Coordinators

<i>Sr. No</i>	<i>Name of Faculty</i>	<i>Department</i>
1.	Prof. S. H. Patil	Computer Engineering
2.	Prof. S.H. Phand	Electrical Engineering
3.	Prof. N.V. Tayade	Electrical Engineering
4.	Prof. C.A. Manjare	E&TC Engineering
5.	Prof. J.S. Patil	IT
6.	Dr. P.A. Patil	Mechanical Engineering
7.	Prof. N.D. Ranaware	FE
8.	Prof. A. N. Ganbote	MBA
9.	Prof. S.S. Shah	MCA

List of Abbreviations

ACM	Association for Computing Machinery
AICTE	All India Council for Technical Education
APART	Academy of Professionals For Aptitude, Research & Training
ARQAC	Academic Review and Quality Assurance Cell
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BAMU	Dr. Babasaheb Ambedkar Marathwada University
BCUD	Board of College & University Development
BE	Bachelor of Engineering
BOS	Board of Studies
CAD/CAM	Computer Aided Design / Computer Aided Manufacturing
CAE	Computer Aided Engineering
CAP	Centralized Admission Process
CAT	Common Admission Test
CBCS	Choice Based Credit System
CBT	Computer Based Training
CC	Course Coordinator
CEO	Chief Exam officer
CET	Common Entrance Test
CFD	Computational Fluid Dynamics
CMS	Course Management System
CO	Course Outcome
COEP	College of Engineering Pune
COMP	Computer Engineering
COs	Course Outcomes
Cr.	Corer
CR	Class Representative
CRT	Cathode Ray Tube
DAB	Department Advisory Board
DELD	Digital Electronics and Logic Design
DRDO	Defence Research and Development Organization
DS	Digital System
DSE	Direct Second Year
DST	Department of Science & Technology
DTE	Directorate of Technical Education
E&TC	Electronics and Telecommunication Engineering

EBC	Economically Backward Class
EDC	Entrepreneurship Development Cell
ELO	Experiments Learning Outcome
ENDSEM	End Semester
FDP	Faculty Development Program
FE	First year Engineering
FFT	Fast Fourier Transform
FG	Focus Group
FPSE	Free Piston Sterling Engine
GATE	Graduate Aptitude Test In Engineering
GB	Governing Body
GD	Group Discussion
GFM	Guardian Faculty Member
GMAT	Graduate Management Admission Test
GRE	Graduate Record Examinations
GS	General Secretary
GTT	Barclays Global Talent Track
HOD	Head of Department
HR	Human Resource
ICT	Information and Communications Technology
IEEE	The Institute of Electrical and Electronics Engineers
III	Industry Institute Interaction
IIT	Indian Institute of Technology
INSEM	In Semester
IP	Internet Protocol
IQAC	Internal Quality Assurance Cell
ISHRAE	The Indian Society of Heating, Refrigerating and Air Conditioning Engineers
ISR	Institutional Social Responsibility
ISRO-UoP-STC	The Indian Space Research Organisation - University of Pune-Space Technology Cell
ISRO	Indian Space Research Organisation
IT	Information Technology.
J&K	Jammu and Kashmir
JEE	Joint Entrance Examination
JRF	Junior Research Fellow
JSCOE	Jayawantrao Sawant College of Engineering
JSPM	Jayawant Sawant Prasarak Mandal
JTO	Junior Technical officer
LCD	Liquid Crystal Display

LMC	Local Management Committee
LMS	Learning Management System
LOs	Learning Outcomes
LR	Ladies Representative
MBPS	Mega Bits Per Second
MC	Module Coordinator
MECH	Mechanical Engineering
MH CET	Maharashtra Common Entrance Test
MHRD	Ministry of Human Resource & Development
MODROBs	Modernisation and Removal of Obsolescence
MOOC	Massive Open Online Courses
MOODLE	Modular Object Oriented Dynamic Learning Environment
MOU	Memorandum of Understanding
MPSC	Maharashtra Public Service Commission
MSEDCL	Maharashtra State Electricity Distribution Co. Ltd
NPTEL	National Program on Technology Enhanced Learning
NIT	National Institute of Technology
NSS	National Service Scheme
OBE	Outcome Based Education
OFA	Originative Facile Approach
OFC	Optical Fiber Communication
ONGC	Oil and Natural Gas Corporation
OR	Oral
PAC	Programme Assessment Committee
PCB	Printed Circuit Board
PDEI	Plan Do Evaluate Improve
PEOs	Program Educational Objectives
PG	Post Graduate
Ph.D	Doctor of Philosophy
PLC	Programmable Logic Controller
PMC	Pune Municipal Corporation
POs	Program Outcomes
PRACT	Practical
PSOOP	Problem Solving and Object Oriented Programming.
PSOs	Program Specific Outcomes
PSU	Public Sector Unit
QIP	Quality Improvement Program
QPD	Question Paper Distribution Center
R&D	Research & Development
RAC	Refrigeration and Air Conditioning

RSCOE	RajarshiShahu College of Engineering
SAE	Society of Automotive Engineers
SCADA	Supervisory Control and Data Acquisition
SE	Second Year Engineering
SPPU	Savitribai Phule Pune University
STP	Student Training Program
STTP	Short Term Training Program
T&P	Training And Placement
TDCS	Technology Dissemination Contest For Students
TE	Third Year Engineering
TFWS	Tuition Fee Waiver Scheme
TH	Theory
TLO	Topic Level Outcome
TOFEL	Test of English as a Foreign Language
TPC	Training and Placement Coordinator
TPO	Training and Placement officer
UGC	University Grants Commission
UG	Under Graduate
UPSC	Union Public Service Commission
UPS	Uninterrupted Power Supply.
UTM	Unified Threat Management
VC	Virtual Classroom
VJTI	Veermata Jijabai Technological Institute
VLE	Virtual Learning Environment
WIFI	Wireless Fidelity

Principal's Message

JSPM's Jayawantrao Sawant College of Engineering, Hadapsar, Pune is one of the premier college in the affiliated university. Present college strength is **2568** and teaching faculties are **184**. The institute is constantly taking efforts since its inception to establish strong teaching learning process through well qualified and dedicated faculty. Pune, being a major hub in mechanical and IT industries, students get more opportunities for internship and sponsored projects. JSCOE faculty tries to impart high quality education with thrust on creativity and innovations, amongst the students to make them employable. The institute is committed to provide joyful learning atmosphere with student centric learning that leads to successful professional career with lifelong learning. Founder Secretary visualised that a social transformation can be brought about through the medium of dynamic education, JSPM is thus an institution of higher education with social commitment.

Knowledge only Liberates and technical education has been the core for the development of society and humanity. Educational Institutions at JSPM are committed for imparting time based and value added quality learning. It is our endeavour at JSPM to make students learn through involvement and commitment. We believe that quality education is the only way for moulding students into successful engineers. Modern technology helps us in efficient learning process. At JSPM, we set up and adopt all available modern methods to see that students learn the fundamentals of the technology they have chosen.

For learning, right environment is required and this is available at our campus. Apart from classroom teaching and lab works, we believe in overall development of the students. We have adopted the mentor scheme where in each faculty member takes care of twenty students and has to take the volley of peer group. Also emphasis is given on presentation skills and innovative projects to be carried out by the students. At JSPM we make the learning process like ritual that attracts the students to our institutes. We are totally committed for overall development of student fraternity as we know that they are the only future growth generators of the world. Teaching is supported by MOU's with industries, training courses and faculty Development Programmes as more of the faculties are engaged in research activities. This will definitely help us to increase the strength of college.

We have great concern about the discipline of students and systematic and inbuilt mechanism of performance evaluation and enhancement of students and teaching faculties. We are inviting the NAAC for accreditation in the coming academic year and we are fully confident that because of the vision and mission of our founder secretary, the support of alumni, teaching and non-teaching staff and our present student, we will be known for quality and excellence in higher education.

I am very much grateful to the founder secretary, management, faculties, administrative staff and all stakeholders who have believed and supported us to undergo the NAAC assessment and accreditation.

Dr. M. G. Jadhav

ACKNOWLEDGEMENT

We have great pleasure to submit Self Study Report (SSR) of JSPM's Jayawantrao Sawant College of Engineering, Hadapsar, Pune to the NAAC Bengaluru. The SSR includes the Executive Summary, Profile of the Institution, Criterion wise Evaluative Report, Evaluative Report of Departments and Declaration by the Head of the institution.

Pune, being a major hub in mechanical and IT industries, students get more opportunities for internship and sponsored projects, which reduces the gap between industry and education. We are very much aware of the fact that the environment in around us changes with the quality of education. JSPM's Jayawantrao Sawant College of Engineering, Hadapsar, Pune is ready to for the Assessment and Accreditation by NAAC. Under the instructions provided by NAAC our faculties have sincerely collected data and prepared the SSR. It is unfeasible to complete this SSR without receiving whole-hearted cooperation and fruitful interaction from all the management members of JSPM's, Coordinator and members of Steering Committee, Academic and Administrative Staff of the college and all stakeholders such as students, parents, alumni, etc. We would like to offer my sincere gratitude to all of them for their consistent devotion and determination.

The NAAC has given us an opportunity to find the Institutional strengths and weaknesses while preparing its seven criteria's. Thanks for the golden opportunity given by NAAC to improve our on-going process of self-appraisal and make changes as intensified to remove every shortcoming and to boost the strengths to promote the core values among higher educational institutes of the country. As we present ourselves for accreditation and assessment, we restate our commitment to fine-tune education to meet the expectations from all the stakeholders.

We are all awaiting up for the NAAC visit and are eagerly looking forward to receive the Peer Team at our Institution.

Dr. M. G. Jadhav
Principal

Prof. Suneeta Phadkule
NAAC-Coordinator

SSR Upload Intimation
JSPM's Jayawantrao Sawant College of Engineering,
Hadapsar, Pune

To
Dr. Ganesh Hegde
 Deputy Adviser
 National Assessment & Accreditation Council
 P. O. Box. No. 1075, Opp: NLSIU
Nagabhavi, Bangalore – 560 072

Subject: Intimation regarding uploading of SSR/RAR on website

Dear *Sir*,

We hereby intimate that SSR/ RAR is uploaded on website as per following details.

Sl. No.	Particulars	
1	Name of the Institution and Address	JSPM's Jayawantrao Sawant College of Engineering, S. No. 58, Handewadi Road, Hadapsar, Pune – 411 028
2	Head of Institute	Dr. M.G. Jadhav
3	Contact Mobile No.:	+91 94226 47123
4	Co-ordinator	Suneeta Phadkule
5	Contact Mobile No.:	+91 94225 38856
6	Track Id of NAAC:	MHCOGN27350
7	Accreditation Cycle	Cycle 1
8	Web site:	www.jspm.edu.in
	_____	http://jspm.edu.in/JSCOE_NAAC_SSR.pdf
	Web-link showing SSR	
9	a. Date of Uploading SSR/RAR :	29 th March 2017
	b. Probable date of submission of SSR/RAR:	25 th April 2017
1	Institution has Uploaded the data of All India Survey of Higher Education (AISHE - MHRD) website: (Mandatory)	AISHE certificate for last three years attached herewith.

1	12 B UGC status and XII Plan General Development Grant copy submitted to NAAC:	NA
1	Probable date of NAAC Peer Team Visit: <i>(After 60 days of SSR Submission and before 180 days)</i>	9 th , 10 th and 11 th August 2017 (Wednesday, Thursday and Friday)
1	Nearest Airport for the Peer team to arrive:	Pune International Airport, Pune
	and distance (and time taken) from the Airport to the College/place of stay	17 Km (50 minutes) from Pune Airport to JSPM College Hadapsar.

With regards

(Dr. M.G. Jadhav)
Principal-JSCOE

1. PREFACE

JSPM's Jayawantrao Sawant College of Engineering (JSCOE) is pleased to present the Self Study Report (SSR) to the National Assessment and Accreditation Council (NAAC), Bengaluru.

JSPM's Jayawantrao Sawant College of Engineering, Hadapsar, Pune is among the premier Engineering Institutes in Maharashtra. The College is established in 2004 by Jayawant Shikshan Prasarak Mandal under the dynamic leadership of Hon'able Prof. T. J. Sawant, Founder Secretary.

It is a self-financing institute and is affiliated to Savitribai Phule Pune University (SPPU). It is approved by AICTE and Director of Technical Education (DTE), Maharashtra State.

The institute runs five undergraduate courses, six postgraduate courses and one Ph.D program as enumerated below:

A) Under Graduate Courses:

- 1] Computer Engineering [120 seats]
- 2] Electrical Engineering [60 seats]
- 3] Electronics & Telecommunications Engineering [120 seats]
- 4] Information Technology [60 seats]
- 5] Mechanical Engineering [180 seats]

B) Post Graduate Courses:

- 1] ME (Computer Engineering) [42 seats]
- 2] ME (E&TC - Digital Systems) [24 seats]
- 3] ME (Mechanical – Design Engineering) [24 seats]
- 4] ME (Mechanical – Heat Power) [24 seats]
- 5] MBA [60 seats]
- 6] MCA [60 seats]

C) Research Centre in Mechanical Engineering since 2015.

- 1] PhD (Mechanical Engineering) [08 seats]

The institute is constantly taking efforts since its inception to establish strong teaching learning process through well qualified and dedicated faculty. Pune, being a major hub in mechanical and IT industries, students get more opportunities for internship and sponsored projects. JSCOE faculty tries to impart high quality education with thrust on creativity and innovations, amongst the students to make them employable. The institute is committed to provide joyful learning atmosphere with student centric learning that leads to successful professional career with lifelong learning.

This report is an outcome of collective efforts of all the faculty members of JSCOE together. We have tried our best to ensure that all the information given in the report is true and genuine.

2. EXECUTIVE SUMMARY

The Institute was established in **2004** as a part of **JSPM group** under the able leadership of **Prof. T. J. Sawant** with the mission “**To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards**”. The institute has arrived at this mission statement by considering the **National policy** on education, National & Technology mission, National policy on **skill development** and **entrepreneurship**, National environment policy and National policy on **social participation**. Contributing to National development has always been an implicit goal of any higher educational institutions in India. Technical institutes play a significant role in human resource development and capacity building of individuals to gratify the needs of economy, society and the country as a whole, thereby contributing to development of the Nation. Serving the cause of social justice, ensuring equity and increasing access to higher education are a few ways by which Institute will contribute to the National development. Also, the institute has incorporated the core elements of quality assurance that focuses on the values and desirable practices of higher education for continuous improvement as defined by National Assessment and Accreditation Council (NAAC) such as **fostering global competencies** amongst the students inculcating a **value system** among them. The mission of the institution can be achieved by promoting the **use of technology** and **quest for excellence** amongst the students which in turn help to **national development**.

Criterion I-Curricular Aspects:

The institute is affiliated to Savitribai Phule Pune University (SPPU). Thus adopts the syllabi of all the programs set by SPPU, which is revised after every four years. Technology continuously upgrades and the requirements of the industry and society changes accordingly. Hence, institute designs its own curriculum which is in line with the institutional mission. The focus of this criterion is captured in the following Key Aspects:

1.1 Curriculum Planning and Implementation

Institute has stated the **vision, mission** and **objectives** which is **communicated** to the students, teachers, staff and other **stakeholders** through college website, brochure, magazine, notice boards, meetings, e-mails and lab sessions. The institute has established a well-proven mechanism to **develop and deploy action plans** for effective curriculum implementation. SPPU sets syllabi for all the affiliated courses for implementation. The institute designs its own curriculum, which is in line with Institute's Vision, Mission, Quality Policy and Objectives. Institute organizes Faculty Development Program (**FDP**) for effective curriculum design and development. Faculty finalizes curriculum by taking inputs from internal and external stakeholders. Department prepares an exact plan of curriculum deployment which includes curricular, co-curricular, extracurricular activities. Institute has a hierarchical structure

to analyze and ensure that the stated objectives of the curriculum are achieved in the course of implementation and provide feedback for improvement.

1.2 Academic flexibility

Institute adopts flexibility offered by SPPU to develop students as per the need of emerging global market. SPPU offers **semester system** to cover a large number of courses which institute adopts in modular form. The MBA program comprises of four Semesters and adopts the Choice Based Credit System (**CBCS**) and Grading System. Academic flexibility in form of **audit courses**, **electives**, **add-on courses** and **emphasized skill development courses** of the institute provides required support to the students to meet current and future demands of the market.

1.3 Curriculum Enrichment

Outcome-based Education (**OBE**) adopted by institute ensures integration of academic program and institute **goals and objectives** while achieving them. Experts from industry, research organization and academia endow inputs for the enrichment of curriculum. Institute **organizes workshops** on recent engineering trends to cope up with the needs of the employment and enhance the experiences of the students. Institute motivates student by conducting co-curricular and extracurricular activities to **resolve cross-cutting issues** such as gender, climate change, environmental education and ICT. To ensure **holistic development** of students, Institute offer **value added courses** and **enrichment programs** on moral and ethical values, life skills, better career options. The established mechanism ensures quality of offered programs.

1.4 Feedback System

Faculty members contribute actively and positively for design and development of university syllabi. Some Faculty members are holding important and key positions in Board of Studies (**BoS**). Institute has structured **360° feedback** mechanism comprising of **internal** and **external stakeholders** for obtaining opinion about the curriculum. At Institute level Curriculum is enriched as per the feedback analysis. The feedback is also conveyed to SPPU for further improvement. The institute has recognized the national need for research and initiated **SPPU affiliated research center**. This has contributed for strengthening the domain and building **research culture** at institute.

1.5 Any other

Parent organization (JSPM) has established **Learning Management System (LMS) - MOODLE** which helps the institute to manage academic activities effectively and efficiently. This system has contributed towards teaching-learning and evaluation process. The institute has implemented **Originative Facile Approach (OFA)** in order to make the system student centric and enhance learning.

Criterion II - Teaching-Learning and Evaluation:

Institute uses **modern tools** and **technological innovations** for teaching-learning and evaluation. Institute **fosters global competencies** amongst students by preparing the students to achieve **core competencies**, to face the global requirements successfully. Institute ensures that the students **imbibe** the appropriate **values** corresponding to social, cultural, economic and environmental realities. These **essential** and **desirable values** are being inculcated in the students. This criterion also considers the adequacy, competence as well as the **continuous professional development** of the faculty. The effectiveness of the methods used to continuously evaluate the performance of teachers and students is focus of this criterion. The aspect of this criterion is captured in the following Key Aspects:

2.1 Student Enrolment and Profile

Institute admits students through **transparent** and **well-administered** mechanism, complying with **all the norms** of the concerned regulatory and governing agencies of State Government. Institute gives wide publicity about admissions through National, State and Local **newspaper** advertisements and institute **website**. Students are supported with **scholarships** as per state and central government norms. The review committee analyses student profile annually which helps to understand **student background** and plan the teaching learning process accordingly. The seat allocation for various categories of students is decided by Government of Maharashtra and accordingly admission authority allocates the candidate to the institute through, Centralized Admission Process (**CAP**). Analysis is carried out to understand the admission trends for each program, in case of decrease in admission appropriate actions such as **Industry institute interaction**, infrastructure, improved teaching learning process, etc.

2.2 Catering to Student Diversity

As per the guidelines of **AICTE** required infrastructural facilities are made available for differently abled students. In order to understand needs of the admitted students institute undertakes various activities such as analysis of academic profile, direct interaction with candidates and parent etc. based on the results of analysis appropriate actions are planned for the students, namely Guardian Faculty Member (**GFM**), language training, personality development etc. The institution has policy of equal opportunity to all and is implemented for employees and students. However, **lady grievance** and **anti-ragging committee** addresses issues if any. The overall ambience is healthy for learning. Institute undertakes exercise for classifying the student into various categories based on predefined criteria. In addition student performance in internal and external examination, continuous assessment, co-curricular and extra-curricular activities is taken into account. **Special assignments** are offered to advanced learners, recommended various **self-learning** activities and material, preferred for internship, **R&D** activities exposers to current and **future trends** etc. Well defined mechanism exists in the institute for data collection and analysis with respect to the student who are at the **risk of drop-out**. The information obtained from

the analysis is used to plan **remedial actions** for improving academic performance of such candidates.

2.3 Teaching-Learning Process

On the basis of academic calendar issued by SPPU institute formulates its calendar in consultation with all departments. The **academic calendar** includes scheduling of teaching duration, curricular and extracurricular activities and evaluation. While formulating schedule availability of resources is taken into account. Faculty development program are organized prior to commencement of semester, where in details about curriculum planning, development of teaching learning material evaluation methods and schedule are discussed and finalized. If required faculty members are trained on identified domain for effective implementation of planed activities.

IQAC plays vital role in improving teaching learning process. It sets the benchmarks for the processes and corresponding outcomes. To strengthen the faculty, Training Need Analysis (**TNA**) is carried out by IQAC and corresponding training is offered to faculty members. It uses the information available from student performance for suggesting corrective actions and appropriate methodologies leading to better results. Learning Management System (**MOODLE**) provides opportunity to student as well as faculty to have one to one discussion on various aspects including learning styles and evaluation. Identifying the drawbacks of large class size the innovative approach **OFA** is adopted on experimental basis for one of the program. Students are motivated to make use of facilities like **virtual laboratories**, **self-learning laboratories**, **MOOCs**, etc. In addition the facilities like **NPTEL** and **SWAYAM** are used by faculty members for effective teaching learning process. Due care is taken to nurture critical thinking, creativity and scientific temper among student by offering various platforms to them. Role of faculty is multifaceted; help is extended to student on academic, personal, psychosocial front. Major role is played by **GFM**.

The innovative approach of **OFA** which has provided opportunity to change the system from teacher centric to student centric, methodologies like problem based learning, interactive learning, experiential learning are practiced. Opportunity of self-assessment for student has shown positive impact on academic performance and behavioral of students. Collaborative projects between student and faculty represents one of the innovative practices in domain of research and development. Assignments demanding use of various resources available in the library are given to students. Once a while open book examination is planned and organized by the faculty member with venue as library. As policy decision it is mandatory for all the students to refer online subscribed journals while preparing seminars and projects. Simultaneous conduction of academic activities for regular students and students through lateral entry poses problem with respect to resource and time management. Also the aspect of cultural change management from diploma education to degree comes in to picture. Proper planning and execution helps to overcome these challenges. The existing mechanism through IQAC takes due care for ensuring **quality of teaching learning** at various stages such as preparation of teaching material, laboratory preparation,

preparation of faculty members, implementation of academic plan and execution of remedial measures.

2.4 Teacher Quality

Every department analyzes the revised curriculum and maps the **skill** and **competency** of existing faculty members with it. In case of change in curriculum the faculty for corresponding domain are recruited as adjunct or emeritus. However if it is difficult to recruit such faculty member then existing faculty members are trained. In case of minor change in curriculum faculty are asked and supported to equip them-self for the change. Provisions like purchasing book of choice, **support for research activity**, provision to use infrastructure beyond schedule time helps to retain the faculty.

Input from the feedback and **TNA** establishes the basis for training of the faculty. Institute makes attempt to provide required training at right time to the faculty members, the training can be either in-house or on site. In case the need for training get highlighted during regular academics then faculty members encouraged to attend online training programs. The scheme of **mentor-mentee** exists in institute. The newly recruited faculty members attend the induction training program organized by JSPM. Institute has exclusive **policy for research and development**. The prevailing environment in the institute motivates faculty members to undertake research projects, opt for higher studies, visit institutes of national importance etc. The provision of teacher evaluation by students helps to understand the student need and the scope for faculty improvement thereby improving upon **quality of teaching learning process**.

2.5 Evaluation Process and Reforms

To increase the efficiency and effectiveness of the teaching-learning process, Institute has adopted the assessment and evaluation processes and reforms of the University and Institute has framed its own reforms as part of evaluation of students and continuous assessment. Institute has adopted the **formative** and **summative assessment approaches** to measure student achievement. This helps the teacher to plan appropriate activities for enhancing student performance. The qualitative dimension of evaluation helps for enhancing the **competence** of students. In line with requirement of engineering profession institute has defined the graduate attributes. Through rigorous academic process, curricular and extra-curricular activities and the performance evaluation of students **GA** attainment is ensured. In case of grievance student can approach **grievance redressal cell** at institute level where as at university level separate mechanism exists.

2.6 Student Performance and Learning Outcomes

The Institute has clearly stated **learning outcomes**. Institute designs the curriculum in such a way that desired outcome of the learning process in terms of acquisition of the skills and knowledge are embedded in the curriculum. Hence all the stated Learning Outcomes are the part of evaluation procedure. Institution has well-structured teaching, learning and assessment strategies to ensure the achievement of the intended learning outcomes. Student assessment provides an indication of the areas where learning has happened and where it has to be improved upon. As a result of teaching-

learning process and efforts of Institute there are **14 University rankers** and **10 Gold Medalists**, since the year 2012-13.

Criterion III - Research , Consultancy and Extension:

Institute fosters global competencies amongst students by **promoting** a **research culture** and use of **modern tools** and **technological innovations** to undertake research projects. The essential and desirable values are being inculcated in the students by serving the community through extension, activities to demonstrate the **social responsibility** and a **core value** of the institution. The focus of this criterion is captured in the following key aspects:

3.1 Promotion of Research

Institute has research committee to encourage research in all departments and motivate **interdisciplinary project** activities and ensure active participation of the UG / PG / Ph.D. students. Institute has recognized **research Centre** in the discipline of Mechanical Engineering by the affiliating University, Savitribai Phule Pune University (SPPU). The institute has a policy in place to facilitate smooth progress and a favorable environment for all staff members to participate in the research activity. Institute organizes the various **extracurricular activities** to develop scientific temper and research culture amongst the students. In the Institute faculty members are actively involved in research work and Institute has **50 PG recognized guide** and **four Ph.D. recognized guide** by SPPU. More than **60 workshops** and **conferences** have been conducted by the Institute in collaboration with industries, research organization and professional bodies with a focus on capacity building in terms of research and imbibing research culture among the staff and students. Institute has expertise faculty members in a particular domain and has prioritized research areas of the faculty members. The institute believes in interaction with outside world especially with researchers of eminence to visit the campus and interact with faculty members/students so as to have thoughts/ideas sharing, giving guidelines for further improvement resulting in streamlining of the research culture/research activities in the institute. The policy of sabbatical leave is in place which helped in improving the quality of research. Institute believes in interacting, collaborating, and sharing the laboratory facilities with other institutes.

3.2 Resource Mobilization for Research

Institute has kept aside five percent of the total budget for carrying out the research work. Institute supports in building testing facility. In the year 2016, the institute has started to work on **student's satellite program**. Institute supports students to participate in National Competition like **SAE-BAJA** and **GoKart**. Institute encourages Interdisciplinary projects amongst the departments of the institute. Research facilities developed at the Institute are optimally utilized by the staff and student for various research projects. Faculty members of the Institute have received **grants from industry** and **research organization**. Institute encourages various staff to apply for funding to various agencies as a result of that around **70 lakhs** of **research grants** have been sanctioned by various agencies.

3.3 Research Facilities

Dedicated **Research Laboratory** is accessible for student and staff during working hours and beyond the working hours of the institute. Institute supports research by procuring **high-end equipment** through funding received as well as allocating budget as when required for various **projects undertaken** in various departments. The institution received **grants from funding agency** to develop research facilities. Institute has a formal agreement with various laboratories in and around Pune for carrying out research projects at the Institute. The Institute has **digital library, e-learning resources, computing & IT infrastructure** for carrying out the research work. The institute has collaboration with different engineering Institutes for the exchange of ideas and resources. UG / PG and Ph.D students from various organizations work in the research laboratory of the institute for their research work.

3.4 Research Publications and Awards

The established Institute Patent cell motivates staff and students to **file patents** for preserving their novel ideas and work. Till date **25 patents** have been filed and **published** by the students and faculty members of the institute. More than **900 research papers** have been published by the students and faculty members in reputed **national and international journals and conferences**.

3.5 Consultancy

The institution has Industry Institute Interaction (**I-I-I**) cell that builds relationship between the industry and the institution. Institute encourages faculty members with adequate research experience for providing consultancy to industry. Major areas of expertise are advertised through college website and also through technical events/ Programs. The institute has signed **MoUs** with different institute and industries **free of cost** for **technology transfer**. The students from other institutes working in JSCOE have not been charged. The institute has a policy in place for sharing the income generated through consultancy. All the consultancy income is distributed to the Principal Investigator.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

The institute promotes **institution-neighborhood community** and engage student through **students project** contributing to good citizenship, service orientation and holistic development of students by developing innovative technologies. The institute is committed to attracting students for participating in various **social activities** by ensuring consistent **encouragement and motivation**. Institute takes feedback from stakeholder perception on the overall performance and quality of the institution. Institute has **various coordinators** for **planning and organizing outreach programs**. Institute supports various social outreach programs. The Institute performs various activities through **student's associations** and other forms of **community development services**. The Institute has organized various **social activities** to ensure social justice and empower students from underprivileged and vulnerable sections of society. Institute has adopted village under **Unnat Abhiyan**. Co-curricular activity

essentially takes place outside the classroom. It gives the students an opportunity to develop particular skills and exhibit their non-academic abilities. These activities include social drama, traffic safety, and tree plantations. The institute is having sanctioned unit under National Service Scheme (NSS) of Savitribai Phule Pune University, Pune. Fifty students have registered under NSS activity. Institute has organized various social activities under NSS. Co-curricular activities like **blood donation camps**, inter-collegiate **cultural programs**, MOU's with various companies helped in **building constructive relations** with other institute and companies. The institute has believed in performing and delivering to the community and society. As a result of this, every year students from various departments have **received awards for extension activities**.

3.7 Collaborations

A formal **MoU with Zensar**, Pune has been signed for improving education and employability of students by enhancing vocational training so as to enhance their employability in IT sector. Ph.D. / PG / UG students from **other organizations** viz. SAE, Kondhwa, SKNCOE, RSCOE etc. have utilized facility of the institute for their dissertation work of various institutes **across Pune and outside Pune**. The institute **encourages collaborative work** between students and staff different organizations for the exchange of expertise, culture, knowledge and ideas, which in turn resulted in **MoUs** and are operational. Institute have developed significant product in collaboration with industry and research organization. The institution is taking continuous efforts to attract the best minds of our country to visit the campus and interact with the students and faculty to create awareness on the various **research opportunities** in the **emerging areas** of science and technology.

Criterion IV - Infrastructure and Learning Resources:

4.1 Physical facilities

Institute always ensure the facilities should be appropriate for teaching learning process and as per **AICTE/DTE/SPPU Norms**. Twenty eight technology enabled classrooms, fifty well equipped laboratories, eight seminar halls, interactive virtual classroom, research laboratories with high end equipment serves for academic satisfaction and necessary infrastructure to support administrative work is created. All academic and administrative facilities are well equipped with necessary furniture, electrification, ventilation arrangement to elevate ambiance. All the laboratories are not only equipped with desirable equipment for learning but also have necessary equipment required for **advance learning** and **self-learning**. Institute developed Laboratories as Museum (**LAM**) to satisfy the learning needs of variety of learners. Students groom their computational skills and communication skills in computer center and **Language laboratory** available with suitable PC and multimedia kits. The institute augments the infrastructure and utilities as per need, enhancement in intake and addition of program/ courses. For optimal utilization of available infrastructure the institute is running in two shifts. Spacious **play ground** is a noteworthy feature of the institute to support extracurricular activities. Eighty five students have **won prizes**

in **sports** and **cultural activities** in last four years. Students whole heartedly participate in inter collegiate cultural events and avail need base facilities. **Sick room, first aid box** in each laboratory and **separate rest rooms** for boys and girls, periodic **health checkup camps** and counseling by **expert doctors** reduce physical and mental stress of students and faculty members. Need of physically challenged persons are considered while designing the physical facilities. The Special toilets, Ramps, lifts, and wheel chairs are provided wherever necessary keeping in mind the regulation laid down by the authorities in this regards.

4.2 Library as a learning resource

Total area of **600Sqm** and seating capacity of 250 students creates welcoming and comfortable environment for promoting free intellectual exploration, research, and learning. The library of the institute offer well-managed, diverse collections of library resources of **28457 book titles, 91 journals, 27000 E-Books ,6852 E-journals**. Photocopying service is available for students and staff members to create copies of resources. Average numbers of books added during last three years are 2127. **OPAC** is utilized by users to locate books and other learning material available at a library using three different ways viz. title, author and subject. Library is digitized using **Autolib software**. E-publication is made available/downloadable throughout the campus through Internet speed of **10 Mbps Broadband** or **Wi-Fi**. The institute library has an **Advisory Committee** comprises Principal, librarian, senior faculty from each department and student to formulate policies and strategies for the development of the library facilities and services. Library committee collects regular feedback from the students and staff to find out the appropriate solution to raise the overall standard of the library. Suggestion box facility is available in library to resolve issues, user encountered while using library facilities. Inter Library Loan Service provides access to other library collections of five campus of JSPM in Pune.

4.3 IT Infrastructure

JSCOE has **891computer systems** connected in **LAN** to internet via switches. The entire network is connected through **centralized Server room** through Optical Fiber Cable (**OFC**) **1000 base converter**. Centralized **UTM/Firewall cyberoam** is used for Network Monitoring, Management and internet Security. **10 KVA online UPS**, Central **Generator backup of 160KVA** are provided for power backup. **200 Mbps ILL** from BSNL, **48 mbps** for JSCOE (**LAN**) internet facility in the campus is available for students use. Entire network is well connected with **Fiber optics Ring topology**. Institute has 11 licensed **system software** and 25 **application software**. Institute has established IT-Infrastructure committee for planning and strategic development. Institute facilitates **MOODLE** platform for e-learning, online quiz, online evaluation & computer based training (**CBT**) through High speed Wi-Fi facility for both faculty members and students. Interactive Virtual class room having 72 inch **LCD screen**, 4 Mbps dedicated line and seating capacity of 200 students provides opportunity to students to interact with experts from eminent institute connecting through **studio** located at JSPM Katraj. Excellent IT infrastructure enables faculty members and students to enhance their domain knowledge using Lecture

series (**NPTEL**) by **IIT subject experts**. The institute has self-learning laboratories and digital library. The institute has access to National digital library and reputed journals. Every department maintains a log register and Maintenance register for laboratory equipment. Budget provisions are made as per the AICTE/DTE, SPPU norms, Industry needs and technological changes.

4.4 Maintenance of campus facilities

The Institute ensures **optimal allocation** and **utilization** of the available financial resources for maintenance and up keep of the facilities. Prior to start of academic year **maintenance budget** is prepared by each department. Each department allots one staff as maintenance coordinator to look after the maintenance requirement. The requirement is forwarded from each lab in-charge to maintenance coordinator, department HOD approves the budget and then it is forwarded to principal. **Maintenance departments** are available in campus for maintaining electrical lines and equipment, buildings, civil works, furniture and fittings, plumbing, welding, housekeeping, security and gardening services. Maintenance coordinator also coordinates among laboratory in-charge for calibration of instruments prior to start of semester. Users are updated with safety operation/precaution with the help of display boards near the equipment. UPS of 10 KVA capacity and 160 KVA capacity power generator is provided for uninterrupted power supply to all physical facilities. The preventive and quick breakdown maintenance procedure ensures smooth running of equipment. **RO plant** provides **potable** drinking water to students and faculty members.

Criterion V - Students Mentoring and Support:

National development is achieved through **higher education** and by undertaking successful employment and entrepreneurship. **Global competency** is fostered through value added courses, NPTEL certification courses, appearing for competitive exams, higher education, and employment. Achievement in extra-curricular and co-curricular activities is a result of team work. Institute promotes the digital learning through e-learning platform, MOODLE, NPTEL. Institute supports student to excel in different domain such as awards in academics, sports, placement and higher education. It also helps in developing entrepreneurship skill.

5.1 Student Mentoring and Support

Institute takes effort to make atmosphere **student friendly** and **secure**. Highlighting feature of student mentoring and support is **GFM** scheme. Under this scheme **20 students** are mentored by one faculty. It provides necessary support for student **academic**, **personal** and **professional** needs. GFM also provides guidance to **advanced** and **slow learners** and facilitates as a **linkage** between **teacher** and **student** to strengthen the teaching learning process. Also, institute promotes use of digital technologies in teaching learning process. The efforts of the faculty to deliver contents through e-learning platform are appreciated. The institute has established MOODLE, e-learning platform for delivering and accessing the contents. The students and teachers are encouraged to excel in their domain undertaking NPTEL

lecture series. Necessary hardware is provided through self-learning laboratories. Students are motivated for **competitive exams** like GATE, GRE, TOFEL, GMAT. Sample GATE questions are discussed in regular academic lectures as content beyond syllabus and made available on MOODLE. Institute has established **JACS** (Jayawant Academy for Civil Service) for guidance and preparation of competitive exams. Civil services books are provided to the students who prepare for such exams. Institute is keen to provide **welfare schemes** in the form of scholarship, free-ship to students belonging to economically and **socially weaker** section of society. Institute has tie-up with multi-specialty hospital for providing 24×7 medical assistance to students. All students of the institute are insured with group insurance scheme. **Anti-ragging cell**, student grievance cell, woman sexual harassment cell as per **Vishkha judgment** create secured atmosphere in the institute. This promotes student to concentrate more on academics and achieve progression. In-line with national policy **Make in India**, **Smart City** students are encouraged to undertake entrepreneurship which resulted in **44 proud alumni** of the institute have **established enterprise**. Institute ensures all round personality development of a student by conducting co-curricular and extra-curricular activities which results in 85 numbers of students won prizes in various state level and national events. Internal and external stakeholders are updated by publishing annual handbook and prospectus in which information about institute is publically accessible.

5.2 Student Progression

Institute is bound to develop career of our students. As a part of this endeavor, it monitors student progression to higher education, placement and entrepreneurship. Institute supports students and alumni through registered alumni association. Alumni meet is arranged once a year. Alumni actively participate in curricular enrichment and peer learning. This supports institute efforts to reduce dropout rate and increase passing percentage. Students are encouraged and counseled to appear for **GATE**, **GRE** and **TOEFL** examinations for higher studies. The college library has a well-stocked rack containing books, journals, e-journals for the above preparations and students can access these during regular library hours. To satisfy the aspiration of student who appears for competitive exams, institute has established Jayawant Academy for Civil Services (**JACS**). About eleven percent of students seek post-graduation.

5.3 Student Participation and Activities

Institute believes that student participation in curricular, co-curricular and extra-curricular activities is necessary for overall development. The planning of co-curricular and extra-curricular activities is done with curricular activities at the start of the academic year. Annual sports and cultural activity **Antarnad** is conducted every year. Students whole heartedly participate in these activities. The bright students further participate in inter-colligate, state and national level sports activities and cultural activities like **Firodiya karandak** and **Purushottam karandak**. The student council plays an important role in awareness creation among students. The departmental student association bodies and student councils groom leadership and

inter-personal skills among students. **Kshitij, Flair**, departmental newsletter provides platform for students to **showcase their ideas**.

Criterion VI - Governance, Leadership and Management:

This criterion depicts the data on the policies and practices of the institution in the matter of planning human resources, recruitment, training, performance appraisal, financial management and the overall **role of leadership in institution building**. The focus of this criterion is on the following key aspects:

6.1 Institutional vision & leadership

All courses offered at UG and PG levels are in tune with objectives of higher education and reflects academic excellence, research, entrepreneurship and global challenges for aspiration of youth force.

6.2 Strategy development & deployment

Institute provides autonomy to execute curriculum for enhancing teaching learning for the overall development of the student. Activities of the institute are reviewed by interaction with internal & external stakeholders through **alumni meet, HR meet**, parent meet, **IQAC meetings**, newsletter, **GFM** and **suggestion box**, etc.

The institute monitors & evaluates policies & plans by IQAC for effective implementation and reviewed by **PDEI** process. The institution **grooms leadership** at various levels like student, faculty, university, national leadership, etc. Institute has a well-defined **perspective plan** for 20 years. Institute has **grievance redressal** cell like Sexual Harassment of Women, student grievance and anti-ragging.

6.3 Faculty empowerment strategies

The recruitment process is carried out as per roaster. Institute has self, peer group and administrator appraisal system. **Annual increments** and **promotions** to faculty based on their **performance**. The institution has an effective welfare mechanism for teaching and on teaching staff. The Institution conducts programs to enhance the competency of its faculty and non-teaching staff.

6.4 Financial management & resources

Performance budgeting is a core planning activity used by the institution for informed decision making. The institution has adequate **budgetary provisions** for academic and administrative activities. Institute receives suggestions from Local Investigation Committee (**LIC**) and consequence compliance is done in time.

6.5 IQAC

IQAC play an important role to analyze and improve the academic and administrative performance of the institute. **IQAC** has defined **quality assurance strategies** to ensure the quality of teaching learning, evaluation, research and administrative processes. Integration of modern teaching methods/tools and promote e-learning platform.

Criterion VII- Innovations and Best Practices:

7.1 Environment consequences

Institute conducts green audit with the help of state government approved external agency. Institute makes attempt to implement the suggestions (if any) given by auditor. **Eco friendly** nature of the campus get exhibited through various implemented activities like institutional **energy audit, rain water harvesting, reuse and recycling of paper**, appropriate **e-waste management**.

7.2 Innovations

The innovative approach of teaching learning process namely **OFA** is adopted on pilot basis, this approach has extended the benefit of modifying the existing system to the **student centric system**.

7.3 Best practices

The usefulness of best practices viz. **industry institute interaction cell**& related activities and **faculty development program** are quite visible.

3. SWOC ANALYSIS OF THE INSTITUTE

STRENGTHS

- 1 Premier Institute due to number of university rankers from our college
- 2 Location of college provide good conveyance to our stakeholders
- 3 Good infrastructural facilities
- 4 Student centric learning
- 5 Strong Support by top management for Institute development
- 6 Institute focuses on overall development of students
- 7 Institute has strong GFM system for mentoring the students in terms of academics and personal level
- 8 Friendly but responsible behavior of faculty towards student
- 9 Experienced and qualified faculty in adequate number with good retention ratio
- 10 College motivates faculty and staff for their Higher Studies and Research.
- 11 Laboratories are equipped with state of the art infrastructure.
- 12 Counseling by faculty to students helps them to set goals & achieve them.

WEAKNESSES

- 1 More number of interdisciplinary projects should be pursued both at UG and PG level
- 2 Average Aptitude, soft-skills and Communication skills possessed by the students
- 3 Lack of initiatives of students in curricular and extra-curricular activities
- 4 Ascertained gap in the industry expectation and the contextual delivery of curriculum.

OPPORTUNITIES

- 1 Use of E-learning resource like MOODLE, NPTEL notes, open access material available on internet
- 2 Potential to establish Center of Excellence in collaboration with industries
- 3 More MOUs can be signed with Industries for benefit of both the institute and the industry.
- 4 Fund raising through consultancy and project work with the help of strong Alumni network.
- 5 Make in India, Start up, Digital India, Smart Cities, etc. are government initiatives which will enhance job opportunities as well

- as entrepreneur activities
- 6 Various cultural & technical events can be organized for providing platform to students to exhibit their inner talent

CHALLENGES

- 1 Improving the aptitude, soft-skills and communication skills of students
- 2 To identify student's strength and interest for helping them to build their carrier path
- 3 The market downturn and recession are major hindrances in the training and placement activities
- 4 Exam oriented learning attitude of students needs to be changed
- 5 Developing a strong partnership with local industry
- 6 Taking benefit of large number of books and journals in library as well as benefit of digital library facility

4. PROFILE OF THE INSTITUTION

1. Name and Address of the College:

Name:	JSPM's Jayawantrao Sawant College of Engineering	
Address:	Sr.No:58, Indrayani Nagar, Handewadi Road, Hadapsar, Pune – 411 028	
City: Pune	Pin: 411 028	State: Maharashtra
Website:	http://www.jspm.edu.in/jscoe	

2. For Communication:

Designation	Name	Telephone With STD code	Mobile	Fax	Email
Principal	Dr. M.G. Jadhav	O:020 26970880 R:020 26898025	94226 47123	020-2697 0880	jscoe@jspm.edu.in
Vice Principal and Steering Committee Coordinator	Suneeta Phadkule	O:020 26970886 R:020 41307563	94225 38856	-	suneetaphadkule@gmail.com
Steering Committ Co-co-ordinator	Dr. P.M. Patil	O:02026970886 R : -----	98506 01506	-	drpmp66@gmail.com
Steering Committ Co-co-ordinator	Prof. S. V. Todkari	O:02026970886 R : -----	99221 35900	-	sachintodkari@gmail.com

3. Status of the Institution:

Affiliated College to **Savitribai Phule Pune University [SPPU]**
 Constituent College
 Any other (specify)

✓

4. Type of Institution:

a. By Gender

- i. For Men
- ii. For Women
- iii. **Co-education**

✓

b. By Shift

- i. **Regular**
- ii. Day
- iii. Evening

✓

5. It is a recognized minority institution?

Yes

No

✓

If yes specify the minority status (Religious/ linguistic/ any other) and provide documentary evidence.

NA

Under Section/ clause	Recognition/Approval details Institution/Department Programme	Day, Month and Year	Validity	Remarks
AICTE	AICTE 2004-05 No.:06/07/MS/ENGG/2004/009	11-05-2004	2004-05	Approved
	AICTE 2005-06 No.:06/07/MS/ENG/2004/009	24-06-2005	2005-06	Approved
	AICTE 2006-07 No.:06/07/MS/ENG/2004/009	26-06-2006	2006-07	Approved
	AICTE 2007-08 No.:06/07/MS/ENG/2004/009	20-06-2007	2007-08	Approved
	AICTE 2008-09 No.:06/07/MS/ENG/2004/009	30-06-2008	2008-09	Approved
	AICTE 2010-11 Western Region. Maharashtra /1-4738886 /2010/EOA	08-11-2010	2010-11	Approved
	AICTE 2011-12 Western/1-403154495/2011/EOA	01-09-2011	2011-12	Approved
	AICTE 2012-13 Western/1-694429661/2012/EOA	10-05-2012	2012-13	Approved
	AICTE 2013-14 Western/1-2018745295/2014/EOA	30-04-2013	2013-14	Approved

AICTE 2014-15 Western/1-2018745295/2014/EO	04-06- 2014	2014-15	Approved
AICTE 2015-16 Western/1- 2454034946/2015/EOA	07-04- 2015	2015-16	Approved
AICTE 2016-17 Western/1- 2809733749/2016/EOA	05-04- 2016	2016-17	Approved

6. Source of funding:

Government

Grant-in-aid

Self-fiancing

Any other

v

7. a. Date of establishment of the college: **11/05/2004** (dd/ mm/yyyy)

b. University to which the college is affiliated / or which governs the college (If it is a constituent college)

Savitribai Phule Pune University [SPPU]

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks(If any)
i. 2 (f)	NA	-
ii. 12 (B)	NA	-

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act)

d. Details of recognition/approval by statutory/ regulatory bodies other than UGC (AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

(Enclose the recognition/approval letter)

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

YES

☒

NO

☐

If yes, has the College applied for availing the autonomous status?

YES

☐

NO

☒

9. Is the college recognized

a. By UGC as a College with Potential for Excellence (CPE)?

YES

NO

If yes, date of recognition :.....(dd/mm/yyyy)

b. For its performance by any other governmental agency?

YES

NO

If yes, Name of the agency.....and

Date of recognition :.....(dd/mm/yyyy)

10. Location of the campus and area in sq.mts:

Location*	Urban
Campus area in sq.mts.	14,164 m ² [3.5 Acre]
Built up area in sq.mts.	16,572 m ²

(*Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or incase the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.

- Auditorium/ seminar complex with infrastructural facilities✓
- Sports facilities

* **play ground** ✓

* swimming pool

* gymnasium

- Hostel

* Boys' hostel **Yes**

i. Number of hostels : **One**

ii. Number of inmates: **70**

iii. Facilities(mention available facilities)

Hot Water, Ambulance, TV Room

* Girls' hostel:

i. Number of hostels : **One**

ii. Number of inmates: **300**

iii. Facilities(mention available facilities)

Wi-Fi, Hot Water, Ambulance, Bio-metric, CCTV,TV Room, Garden, Water Purifier.

* Working women's hostel: **NA**

i. Number of inmates

ii. Facilities (mention available facilities)

- Residential facilities for teaching and non-teaching staff (give numbers available — cadre wise) : **No**

- Cafeteria—Yes =3
- Health centre—No

First aid, Inpatient, Outpatient, Emergency care facility, Ambulance :
First aid and Ambulance.

Health center staff– Yes

Qualified Doctor Full time Part-time ☒

Qualified Nurse Full time ☒ Part-time

- Facilities like banking, post office, book shops: **Yes**
- Transport facilities to cater to the needs of students and staff: **Yes**
- Animal house : **NA**
- Biological waste disposal: **Yes**
- Generator or other facility for management/ regulation of electricity and voltage: **Yes, Generator - 165 KVA**
- Solid waste management facility: **Yes**
- Waste water management: **Yes**
- Water harvesting: **Yes**

12. Details of programmes offered by the college(Give data for current academic year) [**For AY : 2016-17**]

Sl. No.	Programme Level	Name of the Programme/ Course	Duration	Entry Qualification	Medium of instruction	Sanctioned/ approved Student strength	No. of students admitted
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1	Under-Graduate	1.BE (Computer Engineerin g)	04Years	i)12 th CET / JEE or ii) Diploma	English	120	95
		2.BE (Electrical Engineerin g)				60	50
		3.BE (E&TC Engineerin g)				120	42
		4.BE (Informatio n technology)				60	55
		5.BE (Mechanica l Engineerin g)				180	127
2	Post-Graduate	1.ME (Computer Engineerin g)	02 Years	# Engg Graduate # Any Graduate	English	114 60 60	14
		2.ME (Electronics - Digital Systems Engineerin g)					08
		3.ME (Mechanica l Design Engineerin g)					14
		4.ME (Mechanica l Heat Power Engineerin g)	04				
		5. MBA	03 Years				58
		6. MCA					24
3	Integrated	-	-	-	-	-	-

4	Research	Ph. D. in Mechanical Engineering	03-05 Years with 2 years extension	PG in Mech Engineering	English	08	05
5	M.Phil.	-	-	-	-	-	-
6	Ph.D	-	-	-		-	
7	Certified courses	-	-	-			-
8	UG Diploma	-	-	-	-	-	-
9	PG Diploma	-	-	-	-	-	-
10	Any Other (specify and provide details)	-	-	-	-	-	-

13. Does the college offer self-financed Programmes?

YES

NO

✓

If yes, how many?

14. New programmes introduced in the college during the last five years if any?

Yes	✓	No		Number	1
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15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Faculty	Departments (eg. Physics, Botany, History etc.)	UG	PG	Research
Science				
Arts				
Commerce				

Engineering	1. Department of Computer Engineering	1] BE [Computer Engineering].	1] ME Computer Engineering.	Ph.D. in Mechanical Engineering
	2. Department of Electrical Engineering	2] BE [Electrical Engineering].		
	3. Department of E&TC Engineering	3] BE [E&TC Engineering]	2] ME [Electronics – Digital Systems]	
	4. Department of Information Technology Engineering	4] BE [Information Technology].		
	5. Department of Mechanical Engineering	5] BE [Mechanical Engineering].	ME [Mechanical Engineering – 4] Design Engineerng. 5] Heat Power Engineering.	
	6. Department of Business Administration		6] MBA.	
	7. Department of Computer Application		7] MCA.	

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA, M.Com...)

- a. annual system
- b. semester system
- c. trimester system

17. Number of Programmes with

- a. Choice Based Credit System1
- b. Inter/ Multidisciplinary Approach
- c. Anyother (specify and provide details)

18. Does the college offer UG and/ or PG programmes in Teacher Education?

Yes No

If yes,

- Year of Introduction of the programme(s).....(dd/mm/yyyy)
and number of batches that completed the programme
- NCTE recognition details (if applicable)
Notification No.....
Date: (dd/ mm/ yyyy)
Validity:
- Is the institution opting for assessment and accreditation of Teacher Education Programme separately?
Yes No

19. Does the college offer UG or PG programme in Physical Education?

Yes No

If yes,

- Year of Introduction of the programme (s)..... (dd/ mm/ yyyy)
and number of batches that completed the programme
- NCTE recognition details (if applicable)
Notification No.....
Date: (dd/ mm/ yyyy)
Validity:
- Is the institution opting for assessment and accreditation of Physical Education Programme separately?
Yes No

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching faculty						Non-teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC/University/ State Government	14	6	28	12	84	36				
Recruited	14	6	28	12	84	36	69	15	28	5
Yet to recruit										

Sanctioned by the Management/ society or other authorized bodies <i>Recruited</i>										
<i>Yet to recruit</i>										

*M-Male*F-Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	-	-	-	-	-	-	-
Ph.D.	12	2	-	-	-	-	14
M.Phil.	-	-	-	-	02	-	02
PG	01	01	10	07	86	63	168
Total							184
Temporary teachers NIL							
Ph.D.							
M.Phil.							
PG							
Part-time teachers - NIL							
Ph.D.							
M.Phil.							
PG							

22. Number of Visiting Faculty/ Guest Faculty engaged with the College

No

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	AY 16-17		AY 15-16		AY 14-15		AY 13-14	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	19	12	27	4	34	10	32	14
ST	0	0	2	1	2	0	4	0
OBC	111	40	125	28	113	31	114	38
General	131	56	160	50	130	61	192	78
Others	-	-	-	-	-	-	-	-
Total	261	108	314	83	279	102	342	130

24. Details on students enrollment in the college during the current academic year (2016-17):

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the college is located	767	8	NA	0	775
Students from other states of India	28	3	NA	0	31
NRI students	NA	NA	NA	NA	NA
Foreign students	NA	NA	NA	NA	NA
Total	795	11	-	0	806

25. Dropout rate in UG and PG (average of the last two batches)

UG PG

26. Unit Cost of Education

(Unit cost= total annual recurring expenditure (actual) divided by total number of students enrolled)

a) Including the salary component

Rs. 1,06,108.93

b) Excluding the salary component

Rs. 31,450.85

27. Does the college offering any programme/s in distance education mode (DEP)?

Yes No

If yes,

a) Is it a registered centre for offering distance education programmes of another University

Yes No

b) Name of the University which has granted such registration.

c) Number of programmes offered

d) Programmes carry the recognition of the Distance Education Council

Yes No

28. Provide Teacher-student ratio for each of the programme/ course offered

AY 2016-17			
Sr. No.	Program	UG	PG
01	Computer Engineering	15:1	12:1
02	Electrical Engineering	13:1	-
03	E&TC Engineering	14:1	12:1
04	Information Technology	13:1	-

05	Mechanical Engineering	15:1	12:1
06	MBA	-	15:1
07	MCA	-	15:1

29. Is the college applying for

Accreditation: Cycle1 ☒ Cycle2 ☐ Cycle3 ☐ Cycle4 ☐

Re-Assessment: ☐

(Cycle 1 refers to first accreditation and Cycle2, Cycle3 and Cycle4 refers to re-accreditation)

30. Date of accreditation* (applicable for Cycle2, Cycle3, Cycle4 and re-assessment only) **NA**

Cycle 1:.....(dd/ mm/yyyy) Accreditation Outcome/Result.....

Cycle 2:.....(dd/ mm/yyyy) Accreditation Outcome/Result.....

Cycle 3:.....(dd/ mm/yyyy) Accreditation Outcome/Result.....

**Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.*

31. Number of working days during the last academic year.

279

32. Number of teaching days during the last academic year

(Teaching days means days on which lectures were engaged excluding the examination days)

192

33. Date of establishment of Internal Quality Assurance Cell (IQAC)

02/ 03/ 2016 (dd/ mm/yyyy)

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC: **NA**

AQAR (i) (dd/ mm/yyyy)

AQAR (ii) (dd/ mm/yyyy)

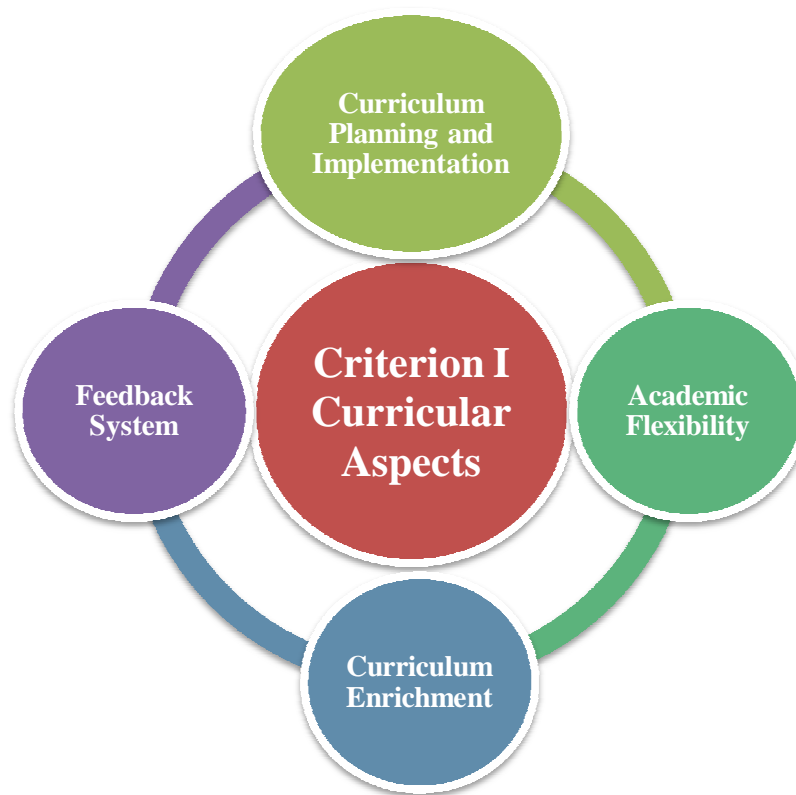
AQAR (iii) (dd/ mm/yyyy)

AQAR (iv) (dd/ mm/yyyy)

35. Any other relevant data (not covered above) the college would like to include.(Do Not include explanatory/descriptive information) **No**

CRITERION- I

Curricular Aspects



5. CRITERIA WISE ANALYTICAL REPORT**CRITERION I - CURRICULAR ASPECT**

Cr. No.	Key aspects	Assessment indicators	Outcomes
1.1	Curriculum Planning and Implementation	The vision, mission and objectives of the institution, are communicated to the students, teachers, staff and other stakeholders.	<ul style="list-style-type: none"> • Dissemination to Internal stakeholder: information brochure, website, magazine, notice boards etc. • Dissemination to External stakeholder: Meetings, website, e-mail etc. (1.1.1)
		The institution develop and deploy action plans for effective implementation of the curriculum	<ul style="list-style-type: none"> • Curriculum development in FDP to achieve institute goal, objectives and quality policies in line with 12 graduates attributes. • Curriculum Deployment according to Academic schedule and implemented, analyzed for enhancement. (1.1.2)
		Teachers receive support (procedural and practical) for effectively translating the curriculum and Improving teaching practices .	<ul style="list-style-type: none"> • Institute provides well equipped laboratories, Virtual classroom, Digital library, Virtual laboratories. • Institute supports faculty to attend and organize FDPs, workshops, seminars and conferences for translating the curriculum to cope with recent technology trends. (1.1.3)
		The institution ensures effective curriculum delivery and transaction .	<ul style="list-style-type: none"> • Virtual Classroom, Digital Learning facility is available where experts share their knowledge. • Originative Facile Approach (OFA), an innovative teaching learning model is adopted. • Guardian Faculty Member (GFM) to bridge the gap between slow learner and fast learner. (1.1.4)
		The institution interacts with beneficiaries such as industry,	<ul style="list-style-type: none"> • Collaboration of Institute with industry and research bodies through regular HR meets, MOUs to provide skillful

		research bodies and the university for effective operationalization of the curriculum.	<p>graduates suitable in their industry.</p> <ul style="list-style-type: none"> Institute has ongoing research projects funded by ISRO, DST, BCUD of Rs. 70 lacs for research development. (1.1.5)
		Staff members contribute to the development of the curriculum by the University. (No. of Staff / Departments represented on the Board of Studies, Records of feedback obtained from stakeholders and suggestions made to the University)	<ul style="list-style-type: none"> Institute contributes to the development of SPPU curriculum with active support of 2 BOS members, 31 Chairman. (1.1.6)
		Institution has mechanisms to analyze /ensure that the stated objectives of curriculum are achieved in the course of implementation	<ul style="list-style-type: none"> IQAC and PAC analyze the achievement of stated objectives by monitoring curriculum implementation as a regular practice. IQAC suggests modifications for continuous improvement to ensure stated objectives.(1.1.8)
1.2	Academic Flexibility	The institution offers a number of program options leading to different degrees, diplomas and certificates (UG/ PG/ PG Diploma/ Diploma Certificate).	As per the Industry need, Institute offers Skill development certificate programs.(1.2.1)
		The curriculum offers a number of elective options / Choice Based Credit System (CBCS).	<ul style="list-style-type: none"> The institution follows a semester system as prescribed by SPPU. Elective subjects are offered to BE Semester I and II. Choice based credit system is available in MBA department. (1.2.3)

		A number of new programs and program combinations are available to meet the needs of the students and the society.	No
		Options are available to students for acquiring additional skills and supplementary / enrichment courses along with their regular curricula. (Eg. UG degree + a Certificate, PG degree + a diploma and so on).	To nourish the students with additional skills , Institute conducts Skill development programs at UG and PG regularly. (1.2.5)
		The institution provides for inter-institutional credit transfers.	Not Applicable
		The institution follows a semester system.	Institute adopts semester pattern of SPPU.
1.3	Curriculum Enrichment	The institution takes initiative and supplement the University's Curriculum	<ul style="list-style-type: none"> • Experts from industry, research organization and academia endow inputs for enrichment of curriculum • Institute design Curriculum which improves attainment of course which inculcates graduate attributes in students.(1.3.1)
		Institution integrates the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum	<ul style="list-style-type: none"> • Institute promote/motivate student by conducting various program to resolve cross cutting issues. • Audit course as a part of curriculum makes awareness about Climate Change, Environmental Education • Participation of students in social awareness programs: Tree plantation, Use bicycle save nation, projects on nonconventional energy resources etc.(1.3.3)
		Institution enriches and organizes the curriculum to enhance the	<ul style="list-style-type: none"> • More than 100 workshops organized on awareness of recent trends and technology to cope with the needs of the

		experiences of the students to cope with the needs of the employment market	employment market and enhance the experiences of the students. (1.3.2)
		All learners have access to value-added programmes, including communication skills / soft skills.	<ul style="list-style-type: none"> Institute offered Value added courses like GTT Barclay's, Zensar ESD to ensure employability skills, technical knowledge, communication skills (1.3.4)
		Institution monitors and evaluates the quality of the enrichment programmes being offered.	<ul style="list-style-type: none"> IQAC and PAC monitor and evaluates enrichment program offered by Institute. (1.3.6)
1.4	Feedback System	Structured feedback from stakeholders and students is obtained for enriching the curriculum.	<ul style="list-style-type: none"> Institute has structured feedback mechanism comprising Internal and External stakeholders for enriching curriculum. SPPU modified syllabus as per the outcome of structured feedback. (1.4.2), (1.3.4)
		The institution draws on the feedback from national and international faculty.	Institute draws feedback from professors of reputed National and International institutes: 3 from NIT , 2 from IIT and 1 from International University .
1.5	Any other		<ul style="list-style-type: none"> JSPM digital Education e-learning, FDP, OFA

CRITERION I

CURRICULAR ASPECTS

1.1 Curriculum Planning and Implementation

1.1.1 *State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.*

Following are the vision, mission and objectives of the Institute:

Vision: “To satisfy the aspirations of youth force, who wants to lead Nation towards prosperity through techno-economic development.”

Mission: To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards.

Objectives:

1. To provide quality education to students and nurture them for a professional career.
2. To increase the number of students progressing in higher education and entrepreneurship.
3. To make the students engaged in lifelong learning for accepting socio-economic responsibilities.
4. To promote students for research and adopting recent trends in technology among all disciplines.
5. To enhance the proficiency and excellence of teachers

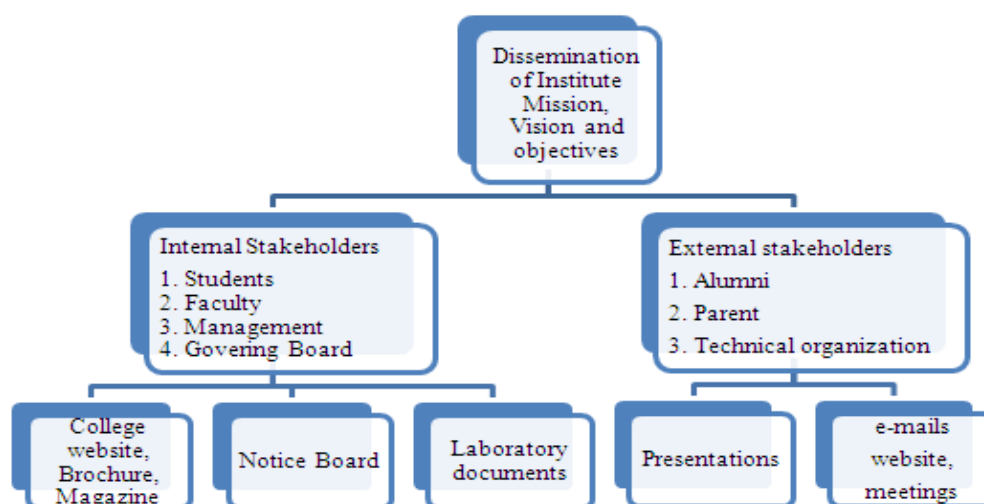


Figure 1.1.1 Dissemination of Vision, Mission and Objectives of Institute

Communication to the stakeholders:

Institute communicates the vision, mission and objectives to their internal stakeholders through college website, brochure, magazine, notice boards and during lab sessions. External stakeholders are made aware of it by the presentations, e-mails; meetings and website (refer Figure 1.1.1).

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through a specific example(s).

The institute has established a well-proven mechanism to **develop and deploy** action plans for effective curriculum implementation.

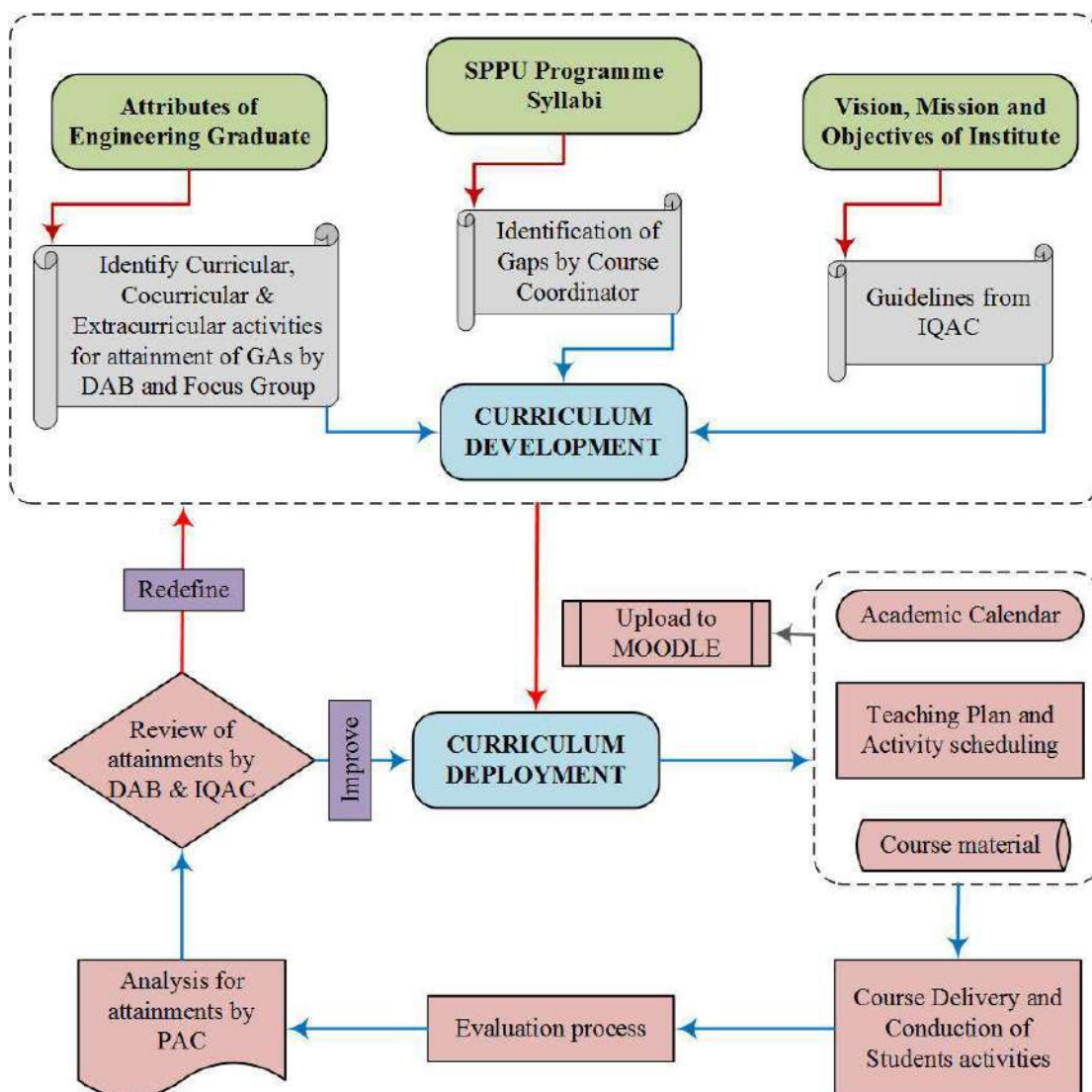


Figure 1.1.2 Curriculum Development and Deployment

This process is aimed at developing the students with successful career and adoption of current trends. All facets of graduates are to be explored to fulfill graduate attributes such as Knowledge, Analysis, Design and development, Investigation, Modern Tools usage, Engineer and society, Environment and sustainability, Ethics, Teamwork, Communication, Project management, and Lifelong learning. Figure 1.1.2 shows curriculum development and deployment process which comprises of IQAC, DAB, PAC and FG which plays a vital role in curriculum design and deployment.

Curriculum Development:

- BoS of SPPU develops syllabus along with course objectives and course outcomes which are freely available to all the affiliated Institutes for implementation. During the course of time, industry requirement continuously changes according to market need till the next syllabus revision. In that case, the course content defined in university syllabus maps weakly with few GA. This gap needs to be bridged. For this, the institute designs its own curriculum.
- At institute level, the curriculum is designed and developed during **FDP** for the attainment of all GA. The course outcomes are formulated for each individual course to bridge the gap. The action is taken for better attainment of Course outcome with GA.

Curriculum Development Process:

- IQAC gives guidelines for curriculum design, which is in line with Institute's Vision, Mission, Quality Policy and Objectives, as depicted in Figure 1.1.2. Institute organizes FDP for effective curriculum design and development. Faculty finalizes curriculum by taking inputs from internal and external stakeholders. Department prepares an exact plan of curriculum deployment. Faculty members observe shortcomings in the deployment of curriculum and provide feedback for next year refinement.

Curriculum Deployment:

For smooth conduction of academics and to satisfy the objectives of the institute, the curriculum is deployed and monitored rigorously as shown in Figure 1.1.2.

- For curriculum implementation, IQAC finalizes academic schedule considering the guidelines given by SPPU about the dates like Commencement of the semester, End of the semester, In Semester, End Semester Examinations, Online Examinations, Oral, Practical Examinations, and Holidays.
- The **Institute academic schedule** also includes Curricular, co-curricular, extracurricular activities like VC Lectures, industrial visits, workshop, seminars, training programs, Tech-Manthan, NSS, IEEE, ISHARE events.
- HoD along with Faculty coordinators of each department prepares **Department Academic schedule** in consultation with subject teachers. It incorporates finer details like subject wise and unit wise detailing which includes each minute activity of department such as Parents Meet, Unit Test Schedule(online and written), GFM Meeting, Workshops, Seminars, Expert lectures, Industrial visits,

Student feedback, Course End Survey and Exit Survey, extra learning aids like assignments quizzes, GD etc.

- Once the academic calendar, teaching plan, student activity scheduling and course material are developed; they are uploaded on the MOODLE and used for effective course delivery and student activity conduction.
- Students are evaluated internally and externally as per the predefined evaluation process which is already disclosed to the students at the beginning of the semester.
- Attainment analysis is carried out by the course coordinator and PAC members. Attainments are further analyzed by DAB and IQAC, which in turn suggest an improvement and help redefine the curriculum development and deployment process.

Effective implementation of the curriculum at IT department as a specific example of development and deployment of the curriculum has been illustrated in Figure 1.1.3. The LO attainment with graduate attributes is compared with that of SPPU. The attainment level of GA1 to GA5 is better as compared to GA6 to GA12 of the SPPU curriculum. LO-GA attainment with SPPU syllabus is less for GA 6 to GA 12 (Environment Sustainability, Ethics, Individual and Teamwork, Communication, Project Management and Life Long learning). To improve the attainment of LOs, IT department develops curriculum (as described in detail below) for every semester regularly, prior to the start of the semester. By deploying the enriched curriculum, the attainment level of LO is improved (refer Figure 1.1.3).

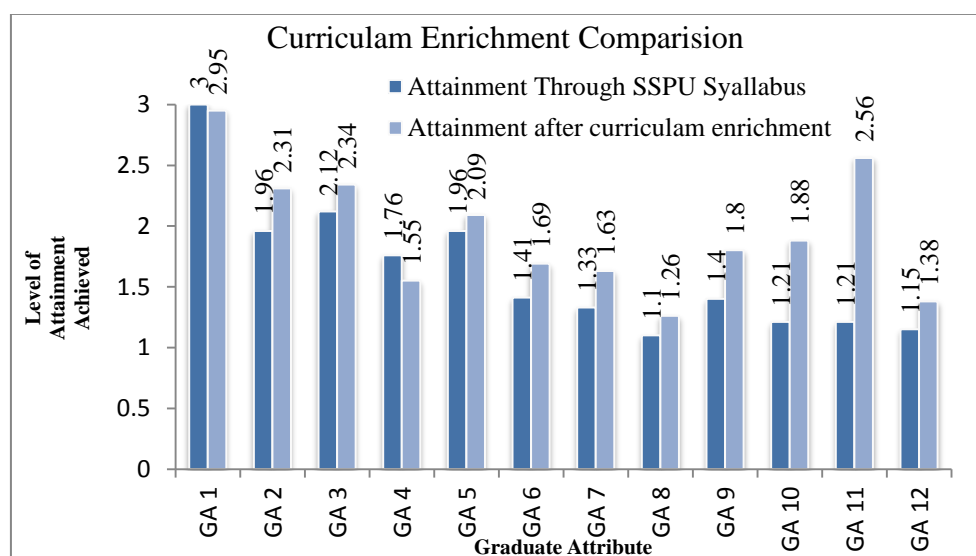


Figure 1.1.3 Curriculum Enrichment comparison

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

Institute motivates and promotes the faculty members for self-development with the know-how of current trends in the industry, which is beneficial for curriculum implementation. SPPU supports faculty by offering funds for research projects, seminars, conferences, workshops etc.

Support from the Institute:

- Institute fully supports and encourages faculty to attend **conferences, workshops, training programs, seminars** organized by other organizations across India and FDP organized by SPPU. This is useful to update knowledge of current technology which is helpful for effective implementation of the curriculum.
- Institute has central level Virtual Lecture Studio where domain experts (internal/external) deliver lectures and it is broadcast to all institutes according to well-planned schedule at centralized JSPM level. **Virtual Classroom** is made available on the campus where anyone can attend broadcast lectures, and have live interaction with the speaker. Records of such lectures are made available at departmental libraries as an e-learning resource of Institute for further reference.
- Institute provides **e-learning platform (MOODLE)** for students and teachers (24x7) as a modern tool.
- Institute has **well-equipped laboratories** along with self-learning laboratories to make the students grasp the practical knowledge up to desired attainment level. To enhance research culture and innovation, the institute has research laboratories with major/modern equipment.
- The library has facilities **like NPTEL video lectures, digital library, print journals, E-journals** etc. which assist the teachers and students to execute teaching learning process effectively in the classroom.
- Institute has well-equipped laboratories, central library, digital library and human resources for various activities like **T&P, JACS and Entrepreneur Cell** etc. for the objective of lifelong learning.

Support from the University:

- University organizes **FDP** for ensuring effective implementation of the curriculum. Domain expert and experienced people from industries deliver sessions to impart the depth and scope of the subject (Theory and practical). The effective teaching practices are finalized through the brainstorming sessions of the members. Hands on training are provided by industry experts for improving laboratory practices.
- University provides the facility of Jayakar Library which contains a catalogue of periodicals and faculty can visit to update their knowledge of the emerging technology in their domain.
- Plagiarism (turnitin) software provided by the SPPU can be accessed by any research scholar, UG, PG students or faculty for their research and

- publication work by means of the login of Guide and research centre.
- SPPU offers research funds through BCUD for innovative projects in all departments.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

For effective curriculum delivery and transaction, Institute contributes by adopting following methods/practices.

- The curriculum is effectively delivered through interactive lectures and practicals, and evaluated with the direct and indirect assessment.
- Institute has **Virtual Classroom** facility for broadcasting experts' lectures. Expert from Industry and research organization share their knowledge with all students and faculty. The main advantage of VC classroom is to make these lectures available for future reference too.
- Institute provides the facility of Language laboratory to enhance communication skills of the students, especially for those students who are coming from the rural area.
- Institute has started an innovative approach in teaching learning process named as **Originative Facile Approach (OFA)** model which is adopted as a pilot initiative in IT department. It is used to impart concepts among the students in an effective way.
- Collaborative learning happens through group discussions in lectures and practical sessions for one course and a batch of 20 students is handled by course coordinator in a day. It helps impart graduate attributes among students.
- Department has the facility of laboratory for the students to make use of teaching-learning technical aids beyond working hours, e.g. NPTEL, Video lectures, e-journals etc.
- The curriculum is enriched by organizing workshops, industrial visits, guest lectures and competitive events.
- Guardian Faculty Member (GFM)** is appointed for a batch of 15-20 students to take care of personal difficulties and academic development.
- Department motivates Students to participate in co- curricular and extracurricular activities which explore their leadership quality and overall personality.(Firodia, Purushottam Karandak, Antarnaad, Techmanthan)

1.1.5 How do the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operationalization of the curriculum?

Institute has network and interaction with industry, research bodies through **HR meet, MOUs**, Training Programs, Industrial Visits, and Consultancy etc.

Industry:

Institute has well established I-I-I cell, which supports students in understanding the current trends and technologies.

The technical challenge, issues faced at Industry are given as a problem statement to UG / PG students as their project, thereby saving time, money, improved efficiency of processes, and improved system performance.

Industry Institute Interaction also helps in training and selecting students for placement activities as per the job profile.

- **HR meet** is one of the parts of industry institute interaction. More than 60 HR Managers from various industries participate every year.
- During placement drive, HR manager presents industry pre-talk speech in which they elaborate specific needs of the industry and work culture. (TCS Pune, VISHAY components, ANSYS Inc Pune, Softus vista Inc., KPIT, Pantech)

Some of MOU's are as follow:

- “Zensar” is in collaboration with JSCOE and under Corporate Social Responsibilities (CSR) activities, Zensar trains students to enhance the skill-set of graduates as per the industry needs.
- The institute has signed MOU with Cosmic Refrigeration Narhe, Pune. Under this MoU, staff and students provide a solution to industrial problems.
- Industrial Visits are frequently organized in the research institutes (TIFR, ISRO) as well as core industries as a regular practice.

Research organization:

- The institute has research committee, which always organizes various seminars for faculty to initiate research activity.
- Dr. V. K. Bhojwani has Developed Research Lab under “ISRO-SPPU Space Technology Cell” for Stirling Cryocooler project for space in the institute and the works on their complex problems are carried out here. ISRO-SPPU has funded Rs. **70 Lakhs** for the development work.
- Institute has IEEE, SAE, ISHARE student chapters to promote students for research activities.

SPPU:

- Faculty members willingly participate in university activities, which help get funds for organizing workshops, conferences and undertake research projects.
- Faculty members contribute for SPPU syllabus setting.
- Faculty members contribute as resource persons in FDP organized by SPPU, where they share their knowledge, teaching methodologies, depth and scope of technical points to cope up with dynamically changing industry needs.

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the University? (Number of staff

members/departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided, specific suggestions etc.

Institute and its staff members contribute to the development of curriculum for the university in following way.

- Institute has two BOS members, Dr. M. G. Jadhav for Mechanical Engineering and Dr. P. M. Patil for E&TC.
- The staff is involved in syllabus designing and revision. For every course, Focus group suggests syllabus gaps considering industry/research need, current technology. Apart from that, Individual Staff gives feedback regarding any changes required to be incorporated in syllabus setting. Staff feedback is recommended through HOD to the BOS.
- We adopt the practical approach in the process of syllabus design. For ex, our TE (E&TC) faculty members and industry experts made some suggestions in one of the subjects (embedded processors) during FDP and those were submitted to University for consideration. After their approval, the required changes are made by SPPU BoS.

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If 'yes', give details on the process ('Needs Assessment', design, development and planning) and the courses for which the curriculum has been developed.

The Institute is affiliated to SPPU and bound to follow all rules and regulations of SPPU in terms of curriculum development. Hence, the Institute does not develop curriculum for offering any course which is not under the purview of the affiliating university.

1.1.8 How does institution analyze/ensure that the stated objectives of the curriculum are achieved in the course of implementation?

Institute has a hierarchical structure to analyze and ensure that the stated objectives of the curriculum are achieved in the course of implementation by the following ways:

- Institute has a focus group in each department. It contains Industry experts, Alumina, Students Representative, Faculty, Parents etc.
- As per the inputs provided by the focus group, gaps are identified in syllabus provided by the SPPU and these gaps are finalized according to industry requirements and current trends.
- The curriculum developed comprises the syllabus provided by SPPU and gap identified.

- CO's and LO's formed according to the course and department respectively to achieve the institute's objectives.
- CO and LO attainment levels are analyzed by different direct and indirect tools.
- **PAC and IQAC** teams evaluate whether the objectives of the institute are achieved or not.
- If not achieved, modifications/improvements are suggested by the PAC and IQAC teams. Figure 1.1.4 depicts the Institute hierarchical structure.

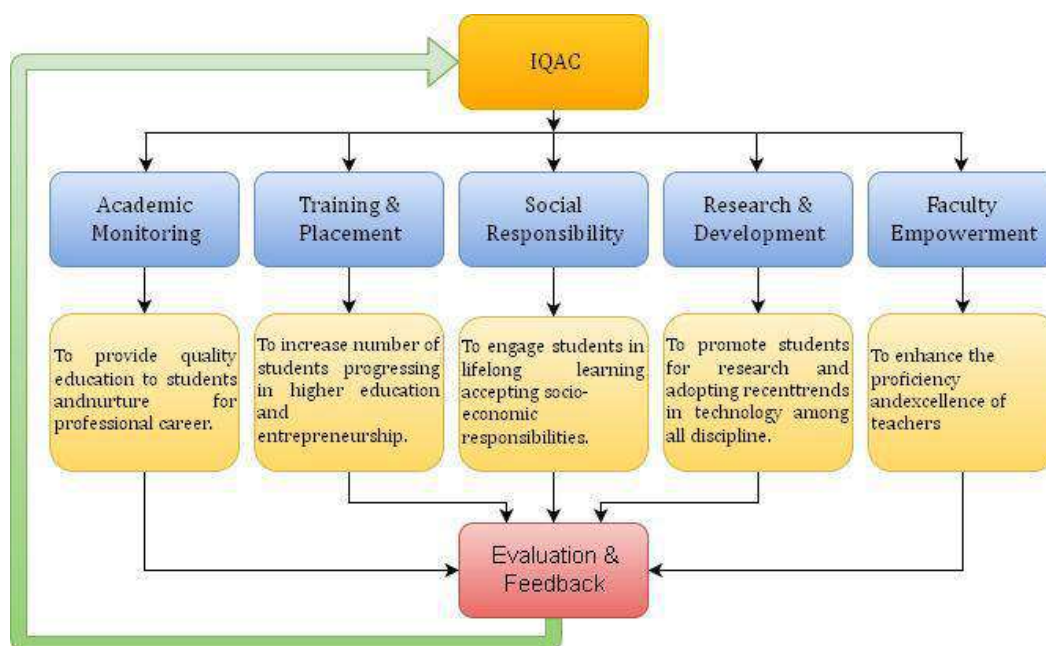


Figure 1.1.4 Hierarchical structure to analyze and ensure attainment of objectives

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/skill development courses etc., offered by the institution.

Keeping in view of Institute's Vision, Mission and Quality policy, the institute follows a systematic approach to identify **skill development and certification courses as per industry needs.**

Goals and objectives for skill development:

- To analyze the needs of the industry as well as the present skills of the students and bridge the gap, Institute takes the effort.
- Nourishment of students with technical skill sets, soft skills, and employability skills.

- Sustaining in dynamic global market needs and to cope with changing trends in technology and current needs of industries.

Soft skill development activity:

Goal: Training and placement.

Objective: To impart soft skills and personality development skills in students as per requirement for placement activity.

The major objective of Central placement unit is to categorize the students on the basis of their inclination towards particular domain and educate them to become competent professionals before they complete their graduation. T&P coordinators of Department identify areas of training & various methods as per the training requirement; formulate a sequence of activities to meet the training schedules for appropriate placement. T&P coordinators play a vital role as a facilitator and counselor to the students for soft skill enhancement which is essential for placement. These activities are supported by renowned agencies **GTT Barclays**, **APART**, **Gyantirth**, **Career Corner**.

Table 1.2.1 Details Skill development program

Department	Name of Organization	Certificate/ Diploma/ Skill Development Courses	Academic Year	No. of Participant	Resource Person
E&TC IT Comp	APART Aptitude Training Institute	A course for Aptitude Training.	2014-15	313	APART Trainer
Mech IT Comp Elect	Barclay's along with partners Global Talent Track (GTT) & NASSCO, Gyantirth Academy	Certification Soft Skill training program	2015-16	300	Ms. Shurti Sahare & Mr. Rahul Mishra
Comp	Career Corner	Aptitude and company specific Training	2015-16	88	Rushikesh Humbe, Anand Dalvi and other Career corner Trainers

- **Certification Program:**

1. Certificate training program of BSNL

In this training program, students handle advance instruments that are currently used in the telecom sector.

Goal: Employability Enhancement

Objective: Communication tools being a most demanding area in E&TC, the institute sends the students to BSNL to make them have hands on experience of handling the required tools.

Table 1.2.2 Detail contents during BSNL Course

Sr. No	Name Of Certificate	Academic Year	No. of Participant	Recourse Person from BSNL
1.	BSNL Silver Certified Engineer	2012-13	20	Mr. M.G. Bhosale
2.	BSNL Gold Certified Engineer	2013-14	20	Mr. M.G. Bhosale
3.	BSNL Platinum Certified Engineer	2013-14	20	Mr. M.G. Bhosale

- **Silver certificate** - Digital Switching System (**DSS**), Digital Transmission System (**DTS**) and Telecom Support Infrastructure (**TSI**).
- **Gold certificate** - Broadband Technology (**BB**) & Optic Fiber Technology (**OFT**)
- **Platinum Certificate** – IP networking & cyber security (**IPC**) & Mobile communication. (**Mobile**)

2. PLC Workshop

Now-a-days, PLC and SCADA Systems are an emerging technology in every field of automation including power stations, distribution plants, large scale industries, automobiles etc. PLC subject is included in the curriculum but there are no practicals included in the Elective syllabus, thereby the students are not exposed to practical knowledge. The course exclusively contains 12 hrs. onsite training for real time problem exposure in the automation industry. Some students have opted this field as a career after the course.

Goal: To enhance practical skills of students in PLC as an allied domain.

Objective: To make the students acquainted with the conceptual as well as practical knowledge of the PLC- Automation & latest technologies being used to achieve industrial automation.

Table 1.2.3 Details of PLC Workshop

Name of Certificate	Academic Year	No. of Participant	Resource Person from Kadam Associates
PLC & SCADA	2014-15	90	Sachin Kadam, Chairman

3. Training Courses on CAD/CAE Software's

Goal: Employability Enhancement in core domain

Objective: Keeping in view the spread of automated tools in the design, it is essential for the student to have hands on experience of CAD/CAE software. Students are trained with CATIA & ANSYS software which is mostly used in Industry, research & development. Also, it helps increase research & consultancy work at undergraduate level.

Table 1.2.4 Details of CAD/CAE program

Sr. No.	Name of training program	Academic Year	No. of Participant	Resource Person
1.	CATIA	2015-16	19	Prof. S. M. Shinde
2.	ANSYS	2015-16	19	Prof. S. M. Shinde, Prof. A. P. Kokare

4. Workshop on Automobile Mechanics & IC Engine

Goal: Employability & Research work in automobile sector

Objective: To expose the students to the allied domain of mechanical engineering namely, automobile engineering since it is having wide scope for selecting this area for their future career. This workshop covers the Introduction of Automobiles, Details of IC Engine and hands-on experience of Engine dismantling & assembling of IC engine.

Table 1.2.5 Details of Automobile Mechanics & IC Engine workshop

Sr. No.	Name Of workshop	Academic Year	No. of Participant	Resource Person from Robosapiens India.
1.	Automobile Mech. & IC Engine	2015-16	60	Manali Kshirsagar, Branch head.

5. HADOOP

It helps students enhance practical knowledge of recent technologies in database management.

Goal: To impart knowledge of current trends in database handling technology.

Objective: Objective of this workshop is to facilitate students to respond to current trends in technology such as big data HADOOP, advanced Java and various web technologies. These technologies also serve as a platform for implementing final year project.

Table 1.2.6 Details of HADOOP workshop

Course Content	Academic Year	No. of Participant	Recourse Persons
Advance Java concepts-Java Servlet, JSP, Struts, Web technology- Client side, server side, Perl, Big data HADOOP	2015-16	50	Steven, Utkarsh and Atul Fadfrom Clay System

6. Zensar ESD Program

The agenda of this training program makes it possible to attain the level of training of students as expected by IT industry. As a result of collaboration, Zensar is conducting ESD program in our campus to give students the opportunity to work in an industry-like environment.

Goal: To enhance technical and vocation skills.

Objective: Institute has collaborations with Zensar Technology Ltd, Pune to promote special education and employment enhancing vocation skills among student under the guidance of corporate trainer from Zensar experts during their final year of the academic tenure.

Table 1.2.7 Details of Zensar ESD program

Dept.	Company Name	Skill development courses	Academic Year	No. of Participant	Resource Person
IT Comp	Zensar	Campus Readiness Training Program	2016-17	33	Zensar Trainer
IT Comp	Zensar	Campus Readiness Training Program	2015-16	30	Zensar Trainer

The selection criterion of the student is decided by Zensar and institute. Zensar trains the students to give them exposure on core software skills and thereby to improve their basic concepts through real-time case studies and assignments in technologies like Java, .NET, SQL, Testing, IM etc. Impart training to the students through a mix of virtual and physical classroom setup as per the program design. The training is

tailored in such a specific way that the students are directly eligible to be selected in Zensar Ltd without any selection steps.

Workshops like Embedded RTOS, LINUX, Computer networking, RASP berry Pi, RF VLSI Design are organized in Institute.

1.2.2 Does the institution offer programmes that facilitate twinning/dual degree? If 'yes', give details.

No. SPPU doesn't have provision for dual degree for "U" category Institute.

1.2.3 Give details on the various in situational provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability. Issues may cover the following and beyond:

- *Range of Core/Elective options offered by the University and that opted by the college*
- *Choice Based Credit System and range of subject options*
- *Courses offered in modular form*
- *Credit transfer and accumulation facility*
- *Lateral and vertical mobility within and across program and courses*
- *Enrichment courses*

Institute uses flexibility offered by SPPU to develop students as per the need of changing the global market. **SPPU offers semester system** to cover a large number of courses in short time and modular learning.

After every four years, the syllabus of SPPU is revised. Feedback from stakeholders is taken into account. The process is supported by industry and research activity which gives more strength to Elective subjects.

Range of subject options / Elective subject

The Institute follows syllabus offered by Savitribai Phule Pune University. It has core subjects from the first year to final year and offers the four choices of subjects for final year students called "Elective". Students can opt four elective subjects of their preference according to their domain interest. Elective subjects are offered based on current and future trends and industry requirement. SPPU offers four electives, two per semester, Flexibility to choose any one open elective is also offered.

Open Elective

- The syllabus also provides an open elective option for final year student, wherein the faculty and stakeholders design their own course as per the industry requirements or market needs. Open elective has the flexibility to design modules based on customized need.
- **Business intelligence** in computer department is one of the open electives which comprises of database management, big data analysis, and intelligence machine learning.

A Large number of electives covering almost all the domains of engineering are offered by the university.

Choice Based Credit System:

SPPU offers choice based credit system only for MBA program from academic year 2013. The MBA program of institute comprises of four Semesters and adopts the Choice Based Credit System (CBCS) and Grading System. SPPU provide 18 specializations Marketing Management, Financial Management, Information Technology Management, Operations Management, Human Resources Management, International Business Management and Supply Chain Management for the MBA program in second year for the choice of students and for their interest. The course also offers the elective subject.

SPPU offered a Credit system for ME programs from the academic year 2013 and for BE program from academic year 2015. The intention of this system is to offer flexibility to the students for choice based learning.

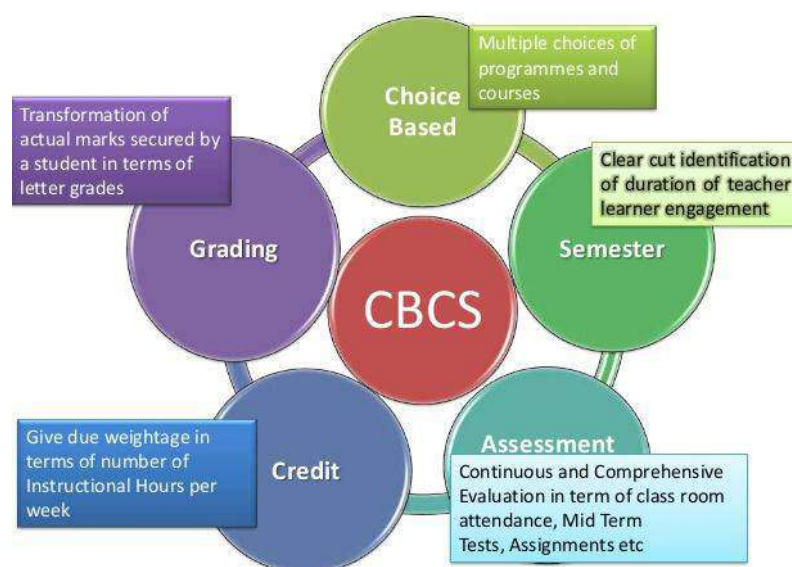


Figure 1.2.1 Details of Choice-based Credit System

Flexibility in Practical Conduction offered by SPPU

In practical conduction, the university offers a practical list having the flexibility to choose practical from group A & B. In addition, the technology platform is also not constrained.

Lateral and vertical Mobility

DTEMS provides vertical mobility facility of changing the branch after successful completion of the first year, students can opt any branch at the second year as per their choice, based on their merit and availability of seats.

DTEMS also provides mobility facility for lateral entry students at the time of admission to respective allied branches. After successful completion of the diploma, the student can opt any allied branch at the second year on the basis of their merit and availability of seats.

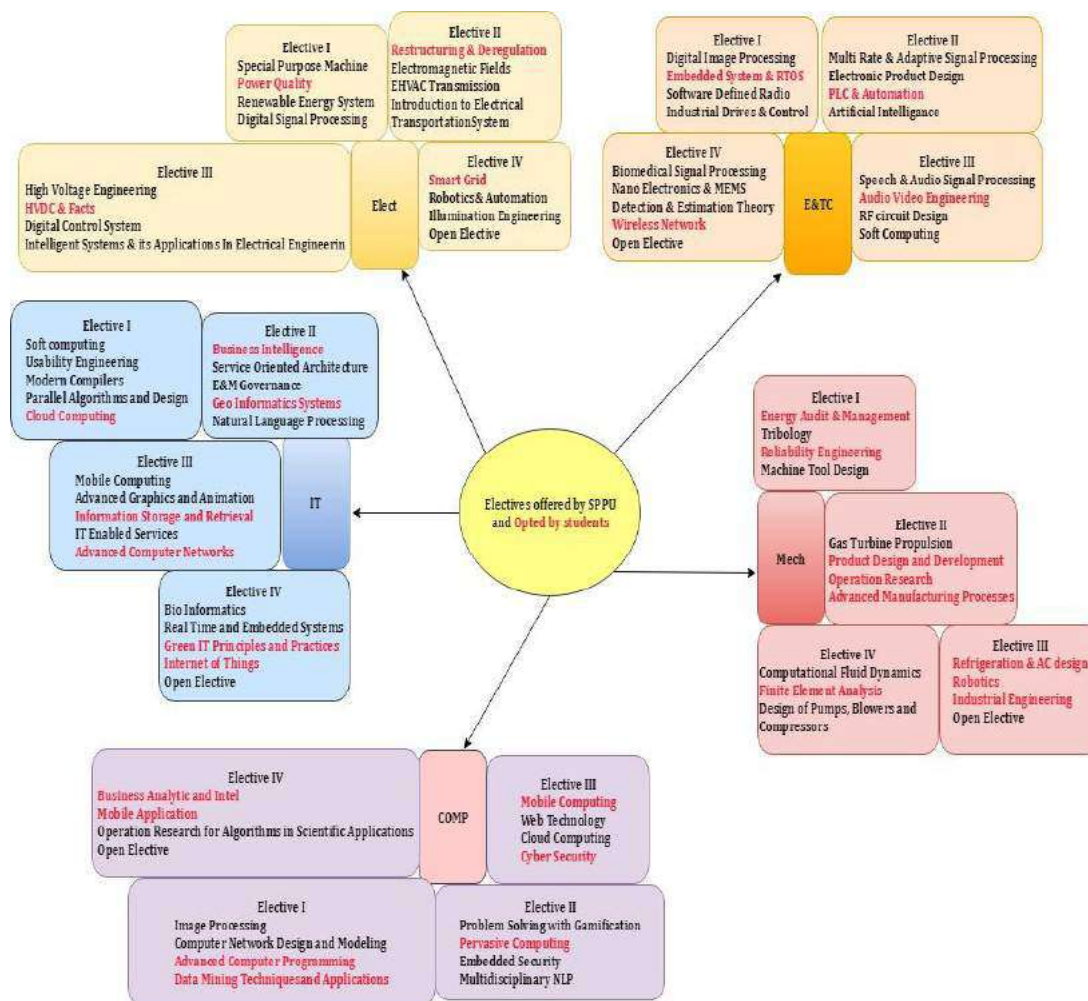


Figure 1.2.2 Details of Electives offered by SPPU and opted by Students

1.2.4 Does the institution offer self-financed programmers? If 'yes', list them and indicate how they differ mother programs, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

The Institute itself is a self-finance academic Institute affiliated to SPPU, DTE Maharashtra State and AICTE, New Delhi. Hence the Institute does not offer any self-financed program on its own.

1.2.5 Does the college provide additional skill oriented programs, relevant to regional and global employment markets? If 'yes' provide details of such program and the beneficiaries.

Yes, the institute provides additional **skill oriented programs**, as per regional and global employment markets. Institute is aware of the current trends in technology and

changing needs in the industry through industry institute interaction, hence we provide additional skill oriented programs for the students to cope up with regional and global employment market.

Global Employment Development

- Institute serves additional skill development programs which direct students towards global and local employment market. Various workshops/ skill development activities are conducted in every department by the faculty members as well as through external professional agencies such as APART, GNYANTIRTH, Career corner etc.
- Also, Orientation programs are conducted for the third year and final year students to motivate them to become an entrepreneur, institute invites successful entrepreneurs for such programs. One of the prominent activity was conducted i.e. a certification course “Entrepreneurship Development Program (E-learning Module)”. This certification was initiated by the central government. Students were engaged in the course for 21 days in which examination was conducted and successful students were awarded with a certificate under Ministry of MMSE, Government of India.

Table 1.2.8 Skill development programs conducted

Sr. No	Program Name	Need	Achievement
1	EDC Cell	According to Central Government policy, Making Entrepreneur is need of nation	Students are certified by Ministry of MMSE, Govt. of India and learned all know how for becoming successful Entrepreneur.
2	LINUX	LINUX is adopted as an Operating system by any industry.	The student got trained even for development their own application with the new platform.
3	CATIA, ANSYS	Among CAD and CAE tools CATIA and ANSYS, specific software used by industry.	Students became ready to work in this domain
4	HADOOP	Today's age is information age, need to handle big databases. HADOOP is good alternative for handling big data issues efficiently	Demand of professionals for HADOOP is abruptly increasing
5	RF IC Design	RF IC technology is advanced trend In telecommunication for chip designing.	Students are employable in RF IC design industry

Sr. No	Program Name	Need	Achievement
6	RASP berry Pi	To design a standalone system, RASP berry Pi Embedded forum is current trend as all functionalities for any application is integrated	Many industries adapted this platform for Product development, hence good opportunity to the student
7	IoT	In Wireless sensor network, Internet of Things domain is applicable.	Huge demand for Trained Professionals in this area
8	BSNL	In Network handling issues, switching network hardware as well as software is essential.	Students grasped profound knowledge, hence employable in any communication industry
9	RTOS	To design and analysis of real-time operating systems, Embedded forum is useful.	Many industries adapted Embedded system for their automation Product
10	PLC	For industry automation, PLC and SCADA are basic needs.	Certification made students employable in PLC (Allied Domain)
11.	Robotics	It is intended to nourish the multi-disciplinary technical skills	Design of various Robots like Line Follower, Obstacle avoider, Time control Robot

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice? If 'yes', how does the institution take advantage of such provision for the benefit of students?

As Institute is governed by SPPU and the parent University does not offer any such courses.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the institution to supplement the University's Curriculum to ensure that the academic programs and Institution's goals and objectives are integrated?

Institute follows the syllabus prescribed by SPPU (Savitribai Phule Pune University). University provides a revised syllabus after every three to four years. Faculty members goes through the syllabus and decide which additional inputs are required to achieve institutional goals, objectives and quality policy. Institute has adopted Outcome-based Education system which ensures that academic programs and Institute goals and objectives are integrated. Experts from industry, research organization and academia endow inputs for the **enrichment of curriculum**.

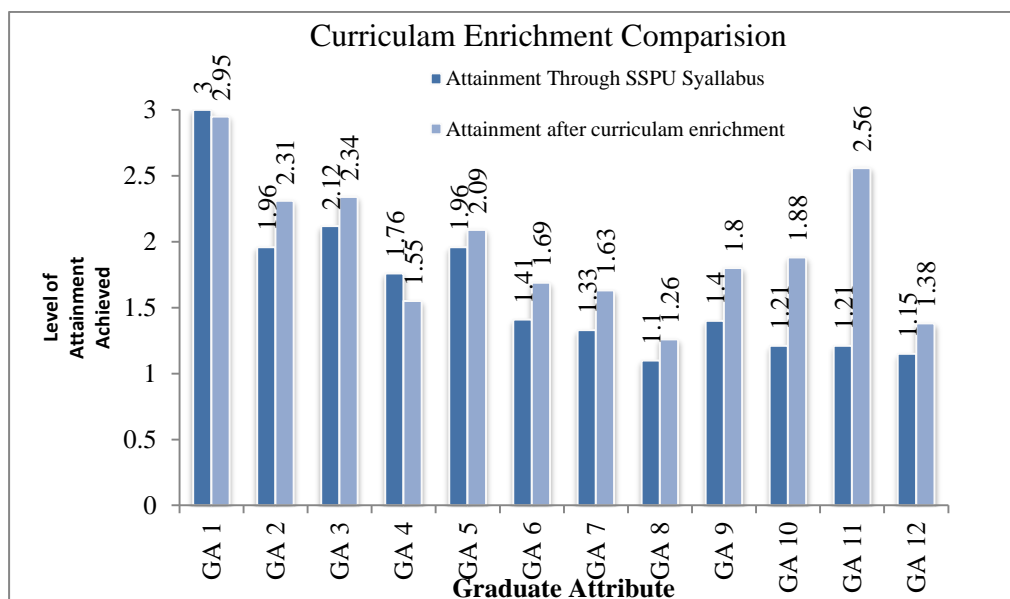


Figure 1.3.1 Institute and SSPU Curriculum CO-LO attainment

Institute takes the initiative and conducts the central level Faculty development program (FDP) where the strategy is decided to enrich the curriculum through planning for different activities with schedule, domain-wise expert lectures, exact tools and means for assessment. Institute design Curriculum in FDP which improves **attainment of the course** inculcating graduate attributes in students. The attainment of LO's has been improved with new revised CO's as depicted in the graph. Figure 1.3.1 shows improvement in CO-GA attainment. GA 6 to GA 12 attainment has been improved by increasing Modern Tools usage in the curriculum, handling societal issues like Environment and sustainability, working in Teamwork, improving Communication skills.

1.3.2 What are the efforts made by the institution to enrich and organize the curriculum to enhance the experiences of the students so as to cope with the needs of the dynamic employment market?

To cope up with needs of the industry for employment, institute organizes following activities suggested by Focus group in FDP to enrich the curriculum.

Guest lecture/expert lectures, Workshops and seminars, VC lectures.

More than **100** workshops are organized on **awareness of recent trends and technology** to cope up with the needs of the employment and enhance the experiences of the students

- On campus soft skill training to the student to improve their communication skills.
- EDC also contribute to enhance the experience of the student so as to cope with the needs of the dynamic employment market.

- Institute support for Internship and Industrial Visits for the students.

To enhance the experiences of the students further, institute organizes co-curricular activities such as:

- Paper presentation, e-poster presentation, project competition.
- “Tech-Manthan” is a national techno-social event to explore the talent of students in various technical skills where the students from other colleges are also promoted to participate and “Winners” get awarded with certificates and prizes.

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

Institute promotes/motivates students by conducting **various programs** to **resolve cross-cutting issues** such as Gender, Climate Change, Environmental Education, ICT.

Gender Issues:

- “Vidyarthini Prabodhani to address the Mental, Physical and Social issues of Girls during studying in the institute, which is powered by SPPU.
- Beti Bachao Beti Padhao: Institute organizes various events to empower girls which include “Stage drama-Save Girls, Save Nation” in annual gathering, poster presentation on women’s day etc.
- Institute organizes health checkup camp for girls and lady Faculty members regularly.

Environmental issues:

Participation of students in social awareness programs: Tree plantation, Use bicycle to save the nation from pollution, projects on nonconventional energy resources etc.

- **Tree Plantation:** The NSS Unit of JSCOE organizes Shramadan and Tree Plantation programs in premises and nearby villages.
- **“Use Bicycle, Save Petrol, Help Nation” Movement:** To create awareness among the students about conventional energy source and pollution, the staff of the institute use to go for “Bicycle Rally” on the holiday. The Photographs are sent on Staff and Student Groups along with the motivational message.
- NSS members regularly help Pune traffic police during festival season.
- Various projects are undertaken by the students to tackle environmental issues (refer Table 1.3.1).
- **Green Technology for Better tomorrow (GTBT March 2012):** GTBT conference was organized by Computer and IT department for PG students and staff members in March 2012 to create awareness regarding latest technological advances in the use of non-conventional energy sources.

- **Audit course:** A value added course named Audit Course included in the curriculum to tackle **Climate Change, Environmental Education** which includes audits on various topics (refer Table 1.3.2).

Table 1.3.1 Projects undertaken by Institute

Sr. No.	Project Title	Academic Year
1	Masonic solar still	2016-17
2	Bricks Manufacturing from Waste Plastic	2016-17
3	Improved efficiency Wind Mill	2015-16
4	Automatic Waste Segregator (Waste Management)	2015-16
5	Fully Automated Solar Grass Cutter	2015-16
6	Smart street light using Hybrid Energy	2015-16
7	Mobile air pollution monitoring using Wireless network	2015-16
8	Biometric based Ration Dispensing System	2015-16
9	Green House Pesticide Spraying Robot	2014-15
10	Waste & Sediment Management system	2013-14
11	Advanced Irrigation system in agriculture	2012-13

Table 1.3.2 Audit Courses

Sr. No.	Audit Course Topic	Department
1	Road Safety Audit and Ten enlightenment points for Good Citizenship by Dr. A.P.J. Abdul Kalam	Mechanical
2	Energy Conservation	Electrical
3	Environmental Study (Global Warming), Road Safety	Computer
4	Road Safety, Smart city.	IT
5	1.Road Traffic control survey for smooth to reduce pollution and streamline traffic 2. Cyber Crime law Guest lecture	E & TC

ICT: Institute having ICT facilities like VC hall, Moodle software, a digital library for enhancing teaching & learning experience.

1.3.4 What are the various value-added courses/enrichment programs offered to ensure holistic development of students?

- **Moral and Ethical Values,**
- **Employable and Life Skills,**
- **Better Career Options,**
- **Community Orientation**

Following **value added courses/enrichment** programs are offered to ensure holistic development of students.

Moral and Ethical Values:

Moral and ethical values training is given to the students by value added audit courses.

Employable and life skills:

- Institute organizes HR meet every year. During this meet information is collected about demands and expectation of the industry which helps in identifying training needs. Training and placement cell uses this information to organize professional training for students to help them in writing resume, facing interviews and improving their soft skills.
- **“Awareness of Personality Development and Soft Skills”** guest lecture was organized by Mr. Staney Anttony, Founder, ADVENT TRAINING INC.
- Institute organizes Zensar ESD program every year for third-year students to develop employability skills among students.

Better career options:

- **“Career Opportunities in Mainframes”** organized in collaboration with the “TechRel Technologies” for the aspirant's students for latest career opportunities in Mainframe Technologies.
- Institute organizes career guidance seminars on GATE, GRE, Toffel, MPSC & UPSC. For example **“Guiding the Indian student community on admissions in the US for MS program.”** by Dr. Sunil Kulkarni, Ph.D. from North Carolina university US and an alumnus of College Of Engineering, Pune.
- Institute has its own cell **“JACS”** for providing guidance for MPSC and UPSC.
- Training programs on technical subjects are conducted at the institute as well as department level, depending upon the career options in respective branch. e.g. One week **‘PLC and SCADA’** workshop is conducted in Electrical and E and TC department which adds value to their knowledge in Automation.

Community Orientation:

- Institute has its NSS branch which runs various programs **like blood donation, Tree plantation** etc. Every year one village is adopted by NSS branch and students engage the community in identifying their problems and provide technology-based solution.
- **Social Program by Smile Foundation:** To build awareness towards the community, students of JSCOE organized Sindhutai Sapkal Speech on the occasion of women's day in the college premises. Her life story has been captured in a biopic - **'Mee Sindhutai Sapkal'**. The fund of Rs. 50,000/- was collected by self-motivation for the people of drought affected area.
- Social issues are handled through Final year projects which help to build awareness towards the betterment of society.

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

The institute has various means to collect and analyze responses on curriculum from different stakeholders, such as students, parents, Alumina, industry and faculty.

Feedback is taken from stakeholders during:

- IQAC meetings for obtaining feedback from Parent, alumni, faculty, industry persons and research organization.
- Course coordinator meetings by module coordinator.
- Alumni meetings by alumni coordinator.

Table 1.3.3 Feedback from stakeholders to enrich curriculum

Sr. No.	Stake holder	Feedback	Action Taken	Outcome
1	Industry	1. Training on PLC and SCADA is required 2. Training on HADOOP is required	1. One week Workshop arranged 2. Practical Hands-on training arranged	Majority of BE projects on PLC, SCADA, HADOOP
2	Alumni	1. Indoor Training on aptitude part, GD, PI is needed for Placement. 2. Most of the industry work on JAVA platform	1. Aptitude training sessions by GTT Barclay, APART, Career corner and Gyanthirth running at different departments. 2. Aptitude tests are conducted at the department as part of T&P activity. 3. JAVA training sessions organized.	Increase of Placement
3	Student	1. Training of RASP berry Pi is required for project work. 2. RF IC Design technique 3. Training on multi-disciplinary approach for final year students. 4. Training on "LATEX" 5. Training on Foreign Language 6. The demand of students for Technical Event by the institute other than Departmental events.	1. Workshop conducted on Raspberry Pi by MYC Technologies 2. Workshop on RF IC digital and analog design by SM Technologies 3. Students are involved in a Multidisciplinary Satellite Project 4. "LATEX" training organized by Prof. Swati Badhe 5. German Language courses running for interested students 6. Tech-Manthan, a National technical event, is arranged every year with budget of 20 Lakhs this year	A number of multidisciplinary projects as final year projects. Increased the chances of placement

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programs?

The Institute has the policy to monitor and evaluate the quality of enrichment program. Institute has IQAC cell at Institute level and DAB, PAC and FG along with module coordinator, course coordinator and subject in-charge at department level to monitor and evaluate the quality of curriculum and teaching-learning process. These committees evaluate the academic and take the feedback through internal and external stakeholders.

Institution Monitoring for Enrichment of programs:

IQAC defines the quality policy of the Institute for the best curriculum practices in line with Vision, Mission and Objectives of the institute directing the enrichment of different programs.

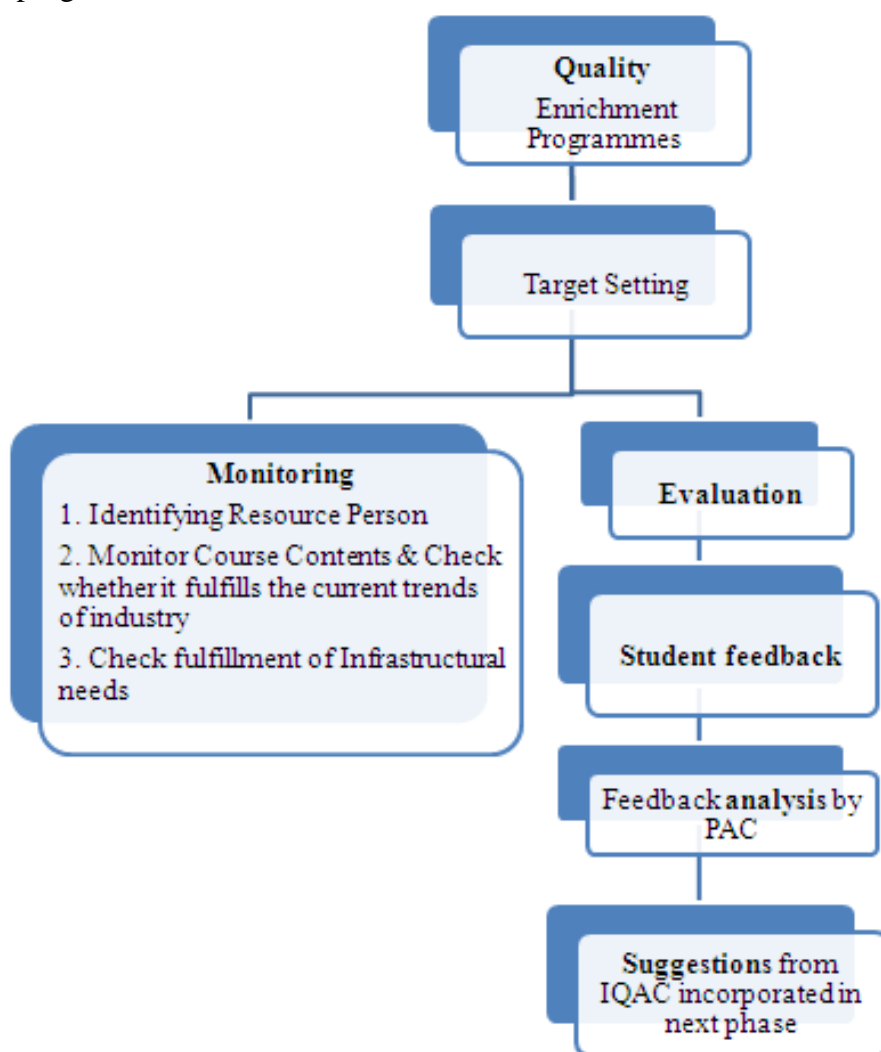


Figure 1.3.2 Monitoring of Enrichment program

Institution Evaluation for Enrichment of programs:

IQAC ensures attainment of above stated planning to evaluate the quality of program enrichment at institute level through following actions:

Academic Evaluation:

IQAC team also ensures whether the runtime curriculum is contributing to National development, nurturing global competencies among students, endorsing the use of technology and pursuit for excellence, through

- Practical/Tutorial/Assignment assessment
- Internal Test assessment
- Rubrics assessment
- Assessment through Indirect tools used for student quality enrichment

Evaluation through Feedback:

For the quality evolution, feedback is a therapeutic tool. Feedbacks from internal and external entities are also roped into bridge the gap for Program enrichment. Evaluations for such development is carried through, Student-Faculty Feedback, Course End Survey, Seminar/Workshop feedback, Alumni feedback, Stakeholders feedback and Interactive (Indirect) feedback/suggestions from different entities (Like GFM, Parent meet etc.)

Table 1.3.4 Enrichment Evaluation

Sr. No.	Type of Curriculum Enrichment Program	Activity to Monitor the Event	Feedback
1	Identification of curriculum gap	Focus Group	Stakeholders
2	Seminar/ Workshops	Course Coordinator	Students
3	Industrial Visit	Course Coordinator	Students
4	Expert Lectures	Course Coordinator	Students
5	Techmanthan	IQAC	Students

1.4 Feedback System**1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?**

Institute contributes to the design and development of the curriculum prepared by the University in the following manner:

- Institute has **two BoS** members, Dr. M. G. Jadhav in Mechanical Engineering and Dr. P.M. Patil in Electronics and Telecommunication Engineering. The major role of BoS is to form the syllabus along with a structure that satisfies the need of industry and includes the recent trends in technology.

- For every change in the **syllabus by University**, faculty attend a meeting for syllabus setting and gives valuable suggestions.
- Faculty members are invited as a resource person in **FDP** organized by the university for various revised subjects.
- Preparation of online question bank, which is useful for setting SPPU online exam, which satisfies all the attributes of the curriculum. Faculty members from different departments are playing the lead role in design and development of the curriculum prepared by the University (see Table 1.4.2).

Table 1.4.1 BoS members

Sr. No.	Faculty worked as BOS	Department
1.	Dr. M. G. Jadhav	Mechanical
2.	Dr. P.M. Patil	E&TC

Table 1.4.2 Contribution of faculty in curriculum design of SPPU

Sr. No.	Faculty worked as resource person in FDP	Department	Subject
1	Prof. M. B. Tadwalkar	E&TC	Computer Networks
2	Dr. A. P. Rao	E&TC	Industrial Management
3	Dr. S. B. Mohite	E&TC	ES & RTOS
4	Dr. P. A. Patil	Mech	Fluid Mechanics Refrigeration & AC Advanced Fluid Mechanics Advanced Heat Transfer Advanced Refrigeration & AC
5	Dr. V. K. Bhojwani	Mech	Basic Mechanical Engineering Thermodynamics Applied Thermodynamics
6	Prof. Suneeta Phadkule	Mech	Strength Of Material

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If 'yes', how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programs?

Institute has **structured feedback mechanism** comprising **Internal and External stakeholders** for enriching the curriculum. Once the curriculum is designed by University, institute collects a feedback from internal and external stakeholders about the curriculum. At Institute level Curriculum is updated as per the feedback.

The feedback is also sent to SPPU and **SPPU modify syllabus** as per suggestions. Figure 1.4.1 depicts the feedback mechanism. Once the curriculum is designed by University, our Faculty members give suggestions for a particular subject and can send to BOS or subject chairman. As an example suggestions regarding the subject “Embedded Processor” have been given to BOS regarding the addition of practical hands on to study applications of Embedded Processor. This part is added to the curriculum by BOS, E&TC.

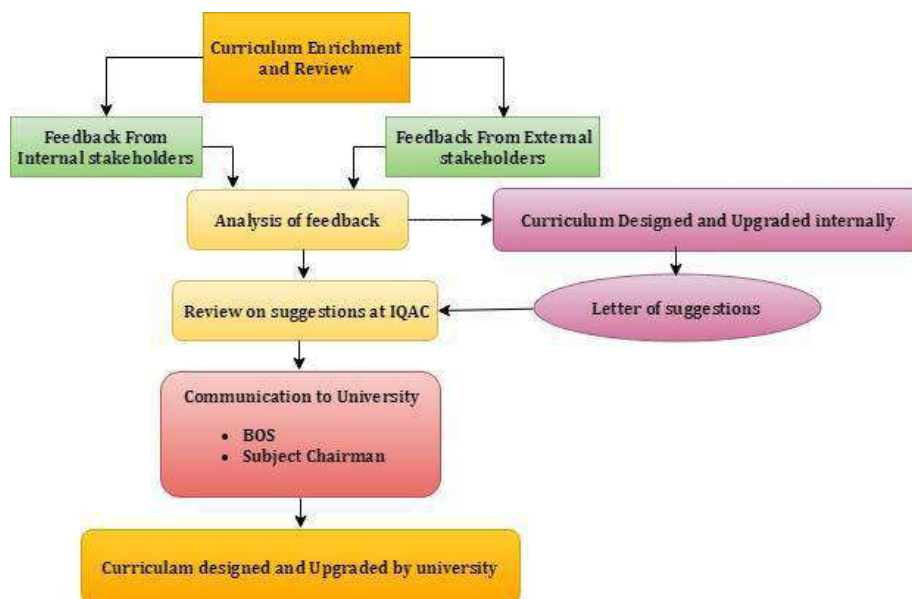


Figure 1.4.1 Curriculum Feedback Mechanism

1.4.3 How many new programs/courses were introduced by the institution during the last four years? What was the rationale for introducing new courses/programs?)

The institute has recognized the need of the national scenario for increasing postgraduate and research scholar to cater the needs of the industry and society. With this perspective, the institute has introduced the following PG and Ph.D. Programs courses.

Table 1.4.3 New programs introduced by the Institute

Sr.No	Specialization	Intake	Rationale
1	Ph.D. Program (Mechanical Engg.) Established in Year 2013	8	The demand of increasing research scholars to cater to the needs of the industry and society for strengthening the national policies and to inculcate scientific temper amongst them, the institute introduced Ph.D. Program in Mechanical department from 2013.

1.5 Any other relevant information regarding curricular aspects which college would like to include.

Yes, the Institute is using Learning Management System namely MOODLE, NPTEL, and innovative learning methods like OFA, Lab as a museum effectively for the development of the nation, fosters global competencies amongst students, essential and desirable values are being inculcated along with the quest for excellence.

Curricular aspects for enhancing Teaching-learning Process:

To keep pace with the developments in all spheres of human endeavor, Institute has developed e-learning tools to enrich the learning experiences of students by providing them with State-of-the-Art educational technologies. For effective curriculum implementation and transaction, Institute contributes by adopting following practices.

- **“JSPM Digital Education”** portal assists for the effective teaching-learning process to provide quality education to students and nurture their professional career. To make use of Information and Communication Technology (ICT) optimally, Institute provides **e-learning platform (MOODLE)** for students and teachers (24x7) with modern tool usage.
 1. All the e-resources required for curriculum tools, placement information, higher education and entrepreneurship guidance are made available on MOODLE for students through their own login.
 2. Institute facilitates and conducts the JSPM’s central level **Faculty Development Program (FDP)** where a group of faculty members of all the JSPM institutes interacts with each other for strategic plan to bridge the gap between Industry and Institute. For attainment of program outcome and fulfilling the needs of industry, curriculum is designed with the inputs of industry expert and planned for extra-curricular and co-curricular activities.
 3. **Teaching-learning process** is enhanced by means of power point presentation, lecture notes, practical simulations with virtual laboratories and design software, physical models of different knowledge concepts, topic wise workbooks, topic wise survey sheets, list of standards, product brochures for respective subjects, case study, research papers related to topic, list of industries related to subject, list of recommended MOOC.
 4. Institute has **Virtual Classroom** facility for broadcasting expert lecture by Industry persons and researchers to share their knowledge with all students and faculty.
 5. Self-learning laboratory has facilities **like NPTEL video lectures, digital library, print journals, e-journals** etc. to assist the teachers and students for effective execution of teaching learning process.
- Institute implemented the innovative approach in teaching learning process named as **Originative Facile Approach (OFA)** model in IT department. The main Goal of OFA is to enhance student learning and achievement by complementing the traditional model of a classroom, focusing class time on student understanding rather than on lecture. To accomplish this, six hours class at a stretch is scheduled once in a week for a course. This allows class time to be devoted to expanding on

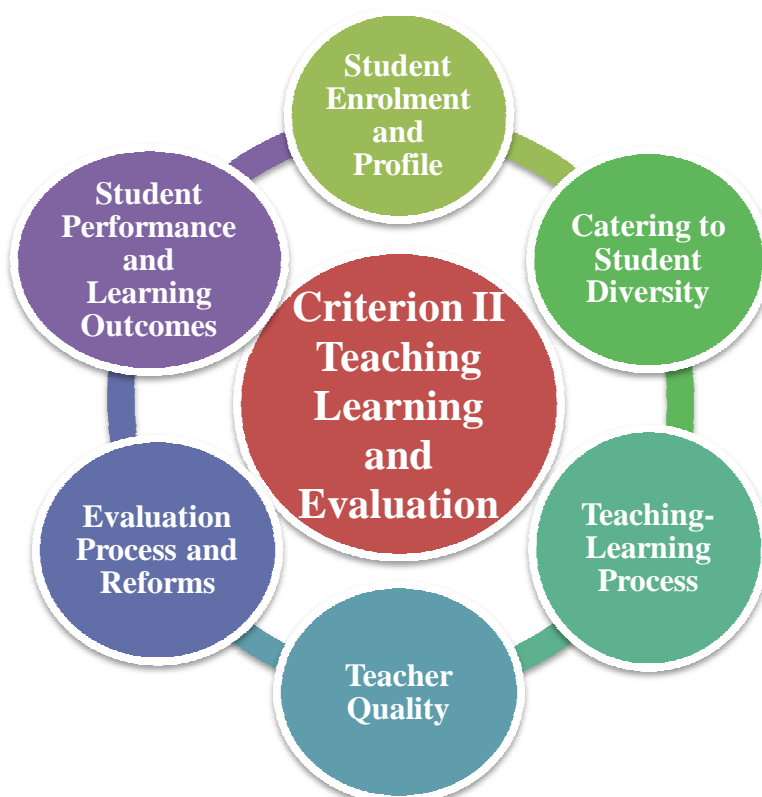
and mastering the material through collaborative learning exercises, projects, and discussions. Also, dividing a class of 60 students into group of 20 and one faculty is teaching only one subject throughout a day.

Advantages of OFA:

- Project Based Learning
- Current Models operates as Antagonists
- Teaching Concepts Not Facts
- Forms Team and Networks
- Concept Mapping
- Self-Directed Learning
- Independent Study
- Maintaining the uniformity and effective utilization of S6
- Attainment of Learning Outcomes
- OFA model increases student's interest to attend sessions. Student experiences more excitement, fun in learning and no boring lectures. Continuous brainstorming sessions leads to generate innovative ideas and projects.

CRITERION- II

Teaching Learning and Evaluation



CRITERION II - TEACHING-LEARNING AND EVALUATION

Cr. No.	Key Aspects	Assessment Indicators	Outcomes
2.1	Student Enrolment and Profile	1. The admission process of the institution is widely publicized and is transparent.	<ul style="list-style-type: none"> • UG admission process: Merit obtained based on entrance test and counseling round conducted by DTE and institute. (2.1.1) • PG admission process: Merit obtained based on entrance test and counseling round conducted by DTE.(2.1.1) • Ph.D. admission process: Merit obtained based on entrance test cum interview held at research centre affiliated to SPPU. (2.1.1)
		2. The institution has periodic reviews of its enrolment profile and the outcomes are used for improvement of the process.	<ul style="list-style-type: none"> • At institute level, admission committee reviews the admission process and student profiles annually. (2.1.4)
		3. The institution has an inclusive admission policy catering to diverse student groups.	<ul style="list-style-type: none"> • First year engineering 86 students got benefit under TFWS in last four years and first year engineering 15 students got admission under J&K quota in last four years. (2.1.5)
		4. The institution implements the statutory reservation policies.	<ul style="list-style-type: none"> • In last four year, FE-756, DSE-614, ME-88, MBA-72, MCA-40 & Ph.D. – 1 student got admission as per reservation category laid down by DTE, Government of Maharashtra. (2.1.5) • Management has given Fees Concession of Rs. 1,74,7,008 to 15 students in last eight years. (2.1.5)

			<ul style="list-style-type: none"> In last four years 2356 students got benefit under EBC with a sum of Rs. 97, 71, 271. (2.1.5) In last four years 92 students got benefit under Minority with a sum of Rs. 23, 00, 000. (2.1.5)
2.2	Catering to Student Diversity	1. The institution organizes orientation programmes / induction fresher's programmes	<ul style="list-style-type: none"> Orientation program are arranged by institution for First Year and Direct Second Year Engineering students. (2.2.2)
		2. The institution assesses the learning levels of the students, after admission and designs programmes for advanced learners and slow learners.	<ul style="list-style-type: none"> The institution assess the student's needs in terms of knowledge and skills by conducting a survey that enables us to know the academic background of the student based on their score for PCM, JEE, MHCET. (2.2.2) The institute encourages advanced learners to undergo internships in industry, inter disciplinary projects, sponsored projects, participate in technical events held at national and international level, promotes for GATE, GRE, TOFEL, GMAT, CAT, JRF, JTO and PSU. (2.2.5) Institute has developed Self Learning Lab at each department for students to cover up the portion missed by them due to their sick leave or technical event. (2.2.3) Each department plan and organize remedial lectures for DSE students. Even subject/lab coordinators plans extra practical sessions on every Saturday / after college hours. (2.2.3)
		3. The Institution analyses the academic growth of differently-	<ul style="list-style-type: none"> Institution provides career guidance and counseling regarding government policies, scholarship and other

		abled students and provides tutorials for needy students.	<p>facilities to rural and differently abled students who seek admission at UG and PG level.(2.2.1)</p> <ul style="list-style-type: none"> Each department plan and organize remedial lectures for DSE students. Even subject/lab coordinators plans extra practical sessions on every Saturday / after college hours.(2.2.3)
		4. The institution fosters an inclusive academic ambience.	<ul style="list-style-type: none"> No gender discrimination is made while delivering the course or conduction of extracurricular activities, seating arrangement of students in class rooms and laboratories.(2.2.4)
2.3	Teaching-learning Process	1. The institution meticulously plans and organizes its teaching schedule.	<ul style="list-style-type: none"> Based on SPPU academic calendar, IQAC and DAB members prepare Institute academic calendar. Institute academic calendar incorporates curricular, co-curricular and extra-curricular activities along with examination schedule. Teaching schedule meticulously planned and organized by the institution. (2.3.1)
		2. Student centered methods are an integral part of the pedagogy adopted by the faculty.	<ul style="list-style-type: none"> All the departments of Institution have adopted Outcome Based Education (OBE). Hence students become the integral part of OBE system. Under OBE system all the curriculum are design in favour of student learning. (2.3.3)
		3. Experiential learning, participative learning, problem solving methodologies are used for enhancing learning experiences.	<ul style="list-style-type: none"> At the Institute, interactive learning, collaborative learning independent learning, Project based learning Originative Facile Approach and Case based approach are adopted to create student-centric learning. (2.3.3)
		4. The institution has formal linkages with national agencies like	<ul style="list-style-type: none"> Institute take efforts to expose faculty and students to gain the advanced level of knowledge and skills

		NMEICT to promote blended learning.	through blended learning, expert lectures, seminars, workshops, and field visits. (2.3.6)
		5. Latest technologies are used by the faculty for effective teaching. (e-learning resources OER's, NPTEL etc.)	• In addition to traditional chalk & talk teaching, the following teaching and learning aids are made available for effective teaching and evaluation processes . The Institute has MOODLE LMS. (2.3.5)
		6. The learning environment is conducive for critical thinking, creativity and scientific temper.	• To augment critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators , Institute organizes different activities. (2.3.4)
		7. The institution follows a system of mentor-mentee to meet the academic and personal needs of students.	• In each department Guardian Faculty Member (GFM) is appointed for a batch of 20 students , who take care of these students and helps the students to get over their difficulties. (2.3.7)
		8. The institution gives due recognition to innovative & creative contributions of its faculty and students.	• Recognition to faculty and students by Founder Secretary.
		9. Projects / field experiences are integrated into the learning programmes.	• Institute take efforts to expose faculty and students to gain the advanced level of knowledge and skills through blended learning, expert lectures, seminars, workshops, and field visits. (2.3.6)
		10. Feedback on the evaluation of teachers is leveraged for improvement of the quality of teaching-learning process.	• Institute monitors and evaluate the quality of teaching learning and performance of the students through PAC at department level and IQAC at institute level. (2.3.11)
2.4	Teacher Quality	1. The institution has adequate, well qualified faculty.	• Institute has 184 well qualified faculty members out of which 15 are with Ph.D. (2.4.1)

		2. Diversity in the recruitment of faculty is encouraged.	<ul style="list-style-type: none"> Institute recruit faculty members from different parts of the country, this shows the diversity in recruitment of faculty members. (2.4.1)
		3. The institution facilitates the participation of its teachers in teacher recharge programmes.	<ul style="list-style-type: none"> Institute has been proactive in organizing lecture series/workshops, which focus on overall professional growth and development of faculties. (2.4.3)
		4. The institution ensures that teaching positions against sanctioned posts are filled in reasonable time.	<ul style="list-style-type: none"> Human resources required for teaching are planned as per the academic requirements from time to time. (2.4.1)
		5. The institution adheres to UGC/ State Govt. norms for faculty recruitment and promotion.	<ul style="list-style-type: none"> The institution adheres to UGC/ State Govt. norms for faculty promotion. (2.4.1)
		6. The institution organizes induction and in-service academic development programmes for its faculty.	<ul style="list-style-type: none"> Institute arranges Faculty Development Programs to upgrade the skills of faculties as per need of the curriculum. (2.4.2)
		7. The institution attracts distinguished faculty for appointment as emeritus / distinguished professors. (for Universities and Autonomous Colleges)	NA
		8. The faculty are encouraged to demonstrate creativity and innovation in teaching.	<ul style="list-style-type: none"> Institute constituted research committee consisting of senior faculty members of all departments. Institute has established an IP cell which assists in drafting and filing of patents. (2.4.4)
		9. The institution facilitates mobility	<ul style="list-style-type: none"> Institute provides required training on the basis of

		of its faculty through exchange programmes.	inputs from feedback and TNA . (2.4.3)
2.5	Evaluation Process and Reforms	1. The institution disseminates the evaluation processes to all its stakeholders.	<ul style="list-style-type: none"> Institute aware to the stakeholders about evaluation processes. (2.5.1)
		2. The institution adheres to the academic calendar for conduct of examinations.	<ul style="list-style-type: none"> Institution adheres to the academic calendar prescribed by university for conducting university exams and all external evaluation processes. For internal evaluations and assessments, institute and departmental academic calendars are strictly followed.(2.5.3)
		3. The institution ensures timely declaration of results. (for Universities and Autonomous Colleges)	<ul style="list-style-type: none"> University (SPPU) takes care for timely declaration of results.
		4. Reforms in the examination procedures and processes have positively impacted the examination management system. (for Universities and Autonomous Colleges)	<ul style="list-style-type: none"> Reforms in the examinations procedures and process implemented by the institution at regular time as per University guidelines.
		5. Transparency and security of evaluation system is ensured.	<ul style="list-style-type: none"> Assessment scheme is explained to the students to bring in transparency.(2.5.5) Institute has well equipped infrastructure. CCTV cameras are installed for monitoring the online examinations and in QPD. Also Generator/UPS backup is available for smooth conduction of online exams.(2.5.3)
		6. Technology is effectively used in the examination management	<ul style="list-style-type: none"> Institute designs the curriculum in such a way that for the practice of online exams, each department

2.6	Student Performance and Learning Outcomes	process.	conducts mock online examination on the available e-platform provided by institute like MOODLE/ MyExamo / IntellTest. (2.5.2)
		7. The institution has an effective mechanism for redressal of grievances pertaining to examinations.	<ul style="list-style-type: none"> For any grievances regarding examination at Institute level and University level, Institute has established student section, headed by Office Superintendent (OS) in-line with University Examination Section. (2.5.7)
		1. The graduate attributes of the institution are clearly defined /articulated	<ul style="list-style-type: none"> The Institute has clearly stated learning outcomes. (2.6.1)
		2. The institution ensures that its various programmes and activities help achieve the stated graduate attributes.	<ul style="list-style-type: none"> Institute ensures by planning, organizing and implementation of various activities such as academic, co-curricular and extra-curricular activities that helps to achieve the stated graduate attributes. (2.6.3)
		3. The institution encourages all its departments to clearly state the learning outcomes of its programmes.	<ul style="list-style-type: none"> The institution encourages all its departments to clearly state the learning outcomes of its programmes. And the institute has a well-defined process for collecting and analysing the learning outcomes. The program outcomes are the competences of graduating student which are categorized in terms of knowledge, skill and attitude of the students. (2.6.5)
		4. The achievement of intended learning outcomes is central to the pedagogical and assessment processes of the university.	<ul style="list-style-type: none"> The teaching, learning and assessment strategies of the institution are in line with the university structure to facilitate the achievement of the intended learning outcomes. (2.6.3)
		5. The institution has mechanisms in	<ul style="list-style-type: none"> By adopting the well-defined mechanisms

		place to analyze short falls in achievement of learning outcomes and suggest improvement measures.	<p>Institution analyze short falls in achievement of learning outcomes and take up the improvement measures. (2.6.6)</p> <ul style="list-style-type: none"> • Result analysis is made available at departmental level to analyse the student performance. (2.6.2)
		6. New technologies are deployed by the institution to enhance student learning.	<ul style="list-style-type: none"> • To enhance learning experiences of students, Institute has employed new learning methods such as Interactive Learning, Collaborative Learning, Independent Learning, Project Based Learning and Originative Facile Approach. (2.6.6)

CRITERION II

TEACHING-LEARNING AND EVALUATION

2.1 Student Enrollment and Profile

2.1.1 How does the college ensure publicity and transparency in the admission process?

Institute follows the admission process as per the guidelines, rules and regulations laid by **Directorate of Technical Education (DTE)** Government of Maharashtra. Details regarding UG and PG courses offered by our Institute and intake capacity are published by DTE. The DTE website **www.dte.org** provides the all necessary information regarding the admission process. Description of the admission process, eligibility criteria for admission, college fees, hostel fees and documents to be submitted during the admission etc. are published on the Institute website too. **Centralized admission process (CAP)** of DTE is followed for the first year, direct second year and PG programs. The institute does not have any control on admission criterion and process for UG and PG.

In case of admission to PhD program, the institute follows the guidelines, rules and regulations laid by **SPPU, Pune**.

Institute ensures **publicity** and **transparency** in the following manner:

- Institute **prospectus** provides the entire academic, administrative and approved fees structure information related to admission.
- Institute **website** displays the prospectus along with the description of the admission process, eligibility criteria for admission, college fees, hostel fees and documents to be submitted during the admission.
- Advertisement in local as well as National, State and Local newspapers is notified related to admission.
- Institute has **admission helpline number** for addressing the admission related queries of students.
- Institute display roadside hoardings/banners.
- Institute has **facilitation center recognized by DTE**, with FC Code 6145, Office Order No. 2AI AUM/2016-17/DSE/ 840 dated 27.06.2016.
- Institute participates in **educational fairs** organized by different agencies to provide necessary information regarding programs, changes in the admission process, government scholarships and documents required for such admissions.

2.1.2 Explain in detail the criteria adopted and the process of admission (Ex. (i) merit (ii) common admission test conducted by state agencies and national agencies (iii) combination of merit and entrance test or merit, entrance test and interview (iv) any other) to various programs of the Institution.

Institute follows all **admission rules, regulations, and guidelines set up by the DTE**, Maharashtra State Government. The **eligibility criteria** for the selection of students to all the courses of the first year, direct second year and master's level program are **governed by Centralized Admission Process of DTE**.

Admission to **Ph.D. program** follows the rules and guidelines given by **SPPU**. The eligible candidates have to appear for an **entrance exam** conducted by SPPU. The successful candidates have to appear for an interview at research centers allotted by SPPU.

2.1.3 Give the minimum and maximum percentage of marks for admission at the entry level for each of the programs offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

Minimum and maximum marks for admission to the first year of all undergraduate programs offered by the college from **AY 2013-14 to 2016-17** is comprehensively given in the below Table 2.1.1.

Table 2.1.1 Minimum and Maximum Score

Sr. No.	AY	2013-14		2014-15		2015-16		2016-17	
	Branch ↓	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks
1	Mechanical (1 st Shift)	36.66	137	16.94	81.888	16.565	85.402	30	144
2	Mechanical (2 nd Shift)	36	99	11.245	68.607	15.269	70.6	40	77
3	IT	15	82	19.263	95.172	19.172	68.419	40	97
4	E&TC	23	107	10.399	95.222	8.519	102.98	41	85
5	Computer	35	107	7.9126	77.351	15.567	84.961	39	105
6	Electrical	39	98	21.201	80.159	11.566	86.216	42	108

Table 2.1.2 Comparison of Minimum and Maximum Score with other Colleges

S r. N o	AY	2016-17											
	Branch ↓	Min Marks						Max Marks					
		JSC OE	SAE	IOIT	Zeal	KJ	Keys tone	JSC OE	SAE	IOIT	Ze al	KJ	Keys tone
1	Mechanical (1 st Shift)	30	46	----	34	32	38	144	128	----	114	80	104
2	Mechanical (2 nd Shift)	40	38	----	---	---	----	77	99	----	----	---	---
3	IT	40	66	52	41	---	----	97	117	120	106	54	109
4	E&TC	41	39	33	18	43	54	85	105	106	99	82	99
5	Computer	39	47	61	44	31	47	105	129	126	93	54	-
6	Electrical	42	---	49	33	48	----	108	----	109	106	54	109

Table 2.1.2 provides the comparison of minimum and maximum marks for admission to the first year of all undergraduate programs offered by the college of **AY 2016-17 with other five colleges** within the city affiliated to the same university (SPPU).

2.1.4 *Is there a mechanism in the institution to review the admission process and student profiles annually? If 'yes' what is the outcome of such an effort and how has it contributed to the improvement of the process?*

Yes, there is a mechanism in the institution to review the student profiles annually which helps to understand student background and plan the teaching learning process accordingly. At institute level, Admission Committee comprises of eight senior faculty members and is headed by the principal. Student's information is collected to analyze their **educational background** (State Board, CBSE / ICSE), **economic background, rural/ urban, gender representation** and a number of admissions in **reserve category**.

Outcomes:

- Analysis helps to understand the **aspirations of youth**.
- Analysis helps to know the **academic quality and medium of education** of the admitted students.
- Get to know about the **student's geographical region**.
- Get to know about the number of **reserve category students admitted**.

Contribution to the improvement of the process:

- **Additional counseling** is provided to the needy and category students about government scholarship and procedure to avail the same.
- **Career Guidance Programs** are conducted to encourage 12th science students career for contribution towards nation building.

2.1.5 *Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion*

- *SC/ST*
- *OBC*
- *Women*
- *Differently abled*
- *Economically weaker sections*
- *Minority community*
- *Any other*

Institute adheres to the rules and regulations laid down by the DTE, Government of Maharashtra regarding the admission of students in various categories. In last four year, **FE-756, DSE-614, ME-88, MBA-72, MCA-40 & Ph.D.-01** students got admission as per reservation category laid down by **DTE, Government of Maharashtra**.

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase/decrease and actions.

Table 2.1.3 depicts the various programs offered by the institution during last four years with the **demand ratio**.

Table 2.1.3 Details for various programs offered by the institution

Sr. No.	Year of Admission	Programme	Number of applications (X*)	No. of Students Admitted (Y)	Demand Ratio (Y / X)
1	2013-14	BE (Computer)	Since our institution is affiliated to SPPU and approved by AICTE & DTE, the students do not directly apply to the college but apply for admission to centralized admission process (CAP) conducted by DTE Government of Maharashtra, therefore the mentioned demand ratio is computed by using the intake of seats sanctioned to the institute for various courses.	116	NA
		BE (E&Tc)		77	
		BE (Electrical)		50	
		BE (IT)		83	
		BE (Mechanical)		180	
		MBA		2	
		MCA		0	
		ME Computer (1 st shift)		18	
		ME Computer (2 nd shift)		24	
		ME Mechanical Design		24	
		ME Mechanical Heat Power (2 nd shift)		16	
		ME E& TC Digital Systems		24	
2	2014-15	BE (Computer)	Since our institution is affiliated to SPPU and approved by AICTE & DTE, the students do not directly apply to the college but apply for admission to centralized admission process (CAP) conducted by DTE Government of Maharashtra, therefore the mentioned demand ratio is computed by using the intake of seats sanctioned to the institute for various courses.	108	
		BE (E&TC)		33	
		BE (Electrical)		45	
		BE (IT)		64	
		BE (Mechanical)		163	
		MBA		17	
		MCA		0	
		ME Computer (1 st shift)		18	
		ME Computer (2 nd shift)		24	
		ME Mechanical Design		24	
		ME Mechanical Heat Power (2 nd shift)		24	
		ME E& TC Digital Systems		23	
3	2015-16	BE (Computer)	Since our institution is affiliated to SPPU and approved by AICTE & DTE, the students do not directly apply to the college but apply for admission to centralized admission process (CAP) conducted by DTE Government of Maharashtra, therefore the mentioned demand ratio is computed by using the intake of seats sanctioned to the institute for various courses.	109	
		BE (E&TC)		23	
		BE (Electrical)		47	
		BE (IT)		74	
		BE (Mechanical)		166	
		MBA		60	

4		MCA	27
		ME Computer (1 st shift)	18
		ME Computer (2 nd shift)	21
		ME Mechanical Design	24
		ME Mechanical Heat Power (2 nd shift)	18
		ME E& TC Digital System	19
		Ph.D Mechanical Engg.	05
	2016-17	BE (Computer)	95
		BE (E&Tc)	40
		BE (Electrical)	55
		BE (IT)	55
		BE (Mechanical)	127
		MBA	59
		MCA	24
		ME Computer (1 st shift)	09
		ME Computer (2 nd shift)	05
		ME Mechanical Design	14
		ME Mechanical Heat Power (2 nd shift)	04
		ME E& TC Digital System	08
		Ph.D Mechanical Engg.	05

Analysis is carried out to understand the admission trends for each program, in case of decrease in admission appropriate actions such as enhanced Industry institute interaction, enhanced infrastructure, improved teaching learning process, etc.

The reasons for the increase or decrease in admissions are as follows:

- **Employment scenarios** at national and global level.
- **Increase in the number of colleges** every year and increase in the intake for various programs in Maharashtra.
- **Fast change in technology.**

Actions initiated for improvements:

- Participation in **education fair**.
- Counseling students.
- Providing **value added courses** and **training** in consultation with industries.

2.2 Catering to Student Diversity

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

As per the guidelines of AICTE required infrastructural facilities are made available for differently abled students.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the program? If 'yes', give details on the process.

Institute is well known for the enrolment of all types of students such as Rural or Urban area, Vernacular or convent educated, slow and quick learner along with the different economic background. Institute takes **special efforts** to assess student's need in terms of knowledge and skill by following ways:

1. The **orientation program** is arranged on the first and second day after commencement of the program where the principal and senior faculty members guide students for the course and introduction to the institution and Engineering. The institution assesses the students' needs in terms of **knowledge and skills** by conducting a survey that enables us to know the academic background of the student based on their score for **PCM, JEE, MHCET**. At every department, **induction program** is organized on the very first day of the commencement of **DSE** course to get familiar with the department faculty members and facilities.
2. Institute has a best practice of **Guardian Faculty Member (GFM)** activity executed to consider and understand the educational background of the students and providing support to student's need.

2.2.3 What are the strategies adopted by the institution to bridge the knowledge gap of the enrolled students (Bridge/Remedial/ Add-on/ Enrichment Courses, etc.) to enable them to cope with the program of their choice?

Every department at the institute has administrative setup which comprises of Department Advisory Board (DAB), Program Assessment Committee (PAC), focus Group (FG) and Module coordinator (MC) who plays a vital role in bridging the knowledge gap of the enrolled students. Following are the strategies adopted by the various committees and the same is depicted by the Figure 2.2.1;

- MC is the senior faculty member of the particular module who monitor the implementation of the curriculum of the subject concerning to the module.
- FG comprises of industry expert, alumni, course coordinators and student representative. Course coordinators arrange the workshop, seminar, industrial visit, guest lecture, enrichment and add-on as suggested by focus group to bridge the knowledge gap.
- PAC assesses the curriculum according to the benchmark set during the curriculum planning stage. Course coordinators plan and organize the remedial lectures as suggested by PAC to achieve the set benchmark.
- DAB monitor and evaluates the above activities and report to IQAC.

Bridge:

1. Institute organizes **two orientation programs** by the concerned department HoD along with FG members for students to highlight the current engineering technology and market needs. The first orientation program is

arranged by first-year HoD at FE level to make aware students about rationale and scope of engineering, whereas second orientation program is organized by concerned HoD at SE i.e., department level to get acquainted with branch and department.

2. Course coordinators arrange the workshop, seminar, industrial visit and guest lecture after college hours and on Saturday & Sunday.
3. To build **collaborative learning**, an equal distribution of the student in each class. This helps the student to learn and share knowledge amongst them. This also provides a platform to improve the **slow learners**.

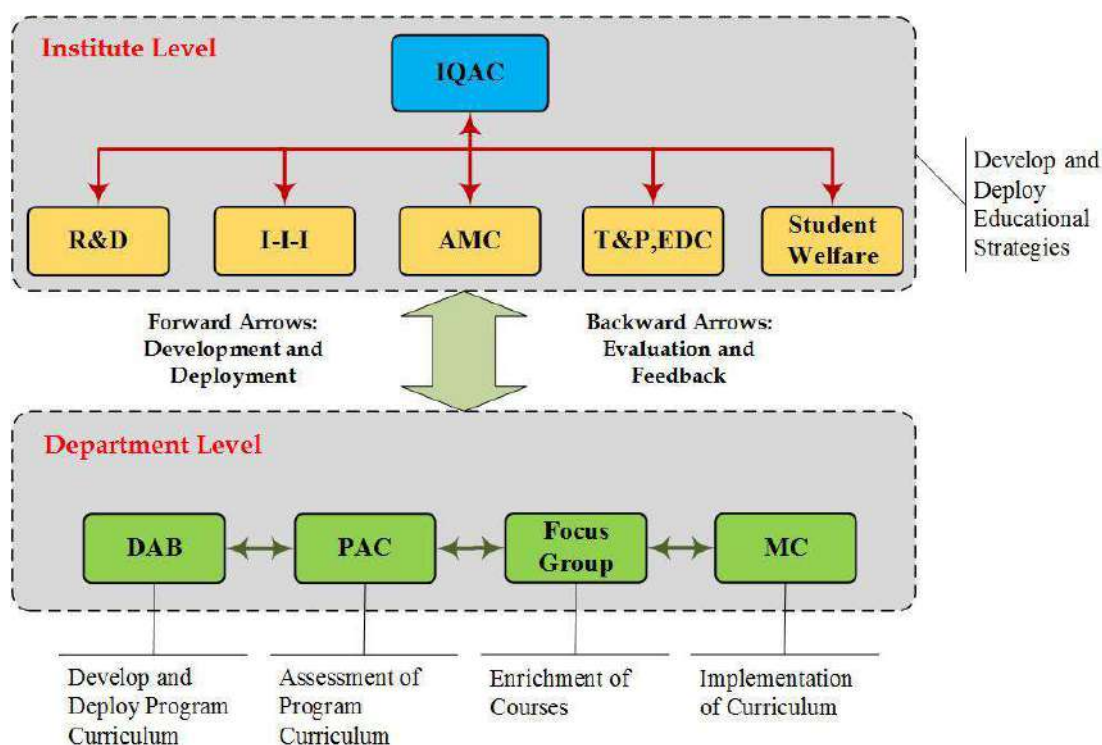


Figure 2.2.1 Administrative setup of IQAC cell

Remedial:

1. **Remedial lectures** are arranged for **weak students** which are identified by class and course coordinators based on performance in class test and continuous assessment in the lab. Even **remedial lectures** are arranged for the students who have got backlogs in the previous semester.
2. Each department plans and organizes **remedial lectures** for DSE students. Even subject/lab coordinators plan extra practical sessions on every Saturday / after college hours.
3. Institute has developed **Self-Learning Lab** at each department for students to cover up the portion missed by them due to their **sick leave or technical event**.
4. Laboratories are open late night for lab practices.

5. A good initiative taken by the Institute is that faculty members visit **Library** after college hours to address the **student's technical problems** that are encountered during their self-study at the library.

Add-On:

1. Institute/department organizes workshop and seminar by **industry experts** for students to know about a current or recent trend or technologies in the market.
2. Institute promotes students to participate in **extracurricular** and **co-curricular** activities which are organized by the institute or outside the institute.
3. **EDC cell** arranges training sessions for students to enhance their **entrepreneurship skill**.
4. Faculty motivates students to participate in **value added courses, sponsored projects, and internship**.
5. Institute organizes **industrial visits** and **technical site visits** to understand industry culture with hands-on sessions for new technology.

Enrichment:

1. Enrichment program is organized through Zensar, GTT Barclay's, PLC/SCADA, CAD/CAM etc.
2. Institute also organizes enrichment program through professional student chapters such as IEEE, ISHARE, SAE, student associations, etc.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

Gender equality is related to the development and globally accepted as a necessity for the promotion of **human rights**. Gender equality is critical as women and men face different challenges in full participation, representation, and decent work opportunities. Institute takes a step towards the measures that ensure equal access to resources and basic services.

1. Institute/department allocates work to teaching and supporting staff regardless of their gender and/or social and religious background.
2. **No gender discrimination** is made while delivering the course or conduction of extracurricular activities or various student representative appointments.
3. The class representative appointment is done on the basis of strength and ability instead of gender.
4. Though not a single complaint of harassment is reported till date still institute has
 - **Ladies Grievance committee** to address the issues of female staff and students.
 - **Anti-ragging committee** to protect any type of physical and mental harassment.

The overall ambience is healthy for learning.

2.2.5 *How does the institution identify and respond to special educational/learning needs of advanced learners?*

Institute undertakes exercise for classifying the student into various categories based on predefined criteria. In addition student performance in internal and external examination, continuous assessment, co-curricular and extra-curricular activities is taken into account. Special assignment are offered to advanced learners, recommended various self-learning activities and material, preferred for internship, R&D activities exposers to current and future trends etc.

Institute **identifies advanced learners** in the following ways:

1. Student performance in internal and university examination.
2. Advance learner identification by GFM activity.
3. Leadership qualities of student are identified by the department at various levels.
4. Technical events such as quiz, seminars are organized on MOODLE and likewise software to assess the student in the terms of interest and ability.
5. From the sincerity in attending and consistency in performing practical sessions and continuous assessment through the curriculum.

Respond to special educational/learning needs of advanced learners:

1. The institute encourages advanced learners to undergo **internships** in **industry** and **sponsored projects**.
2. Institute promotes advance learners by organizing and participating **technical events** held at national and international level.
3. '**JACS**' formed at institute level to encourage student for civil service examinations such as **UPSC** and **MPSC**.
4. EDC cell has been formed at institute level to aware students about Entrepreneurship.
5. Promoting students for **GATE, GRE, TOFEL, GMAT, CAT, JRF, JTO and PSU**.
6. Promoting **interdisciplinary** projects at BE level, PG level as well as interdisciplinary competition such as ROBOCON and GO-Karting.

2.2.6 *How does the institute collect, analyze and use the data and information on the academic performance (through the programme duration) of the students at risk of drop-out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc. who may discontinue their studies if some sort of support is not provided)?*

Institute collect and analyzes student's academic performance in following manner to identify the probable **dropouts** and can take corrective & preventive measures.

1. **Course coordinator feedback.**
2. **Counseling of students** during the academic progress.

3. **Pass-class students** obtained from analysis of results of internal and University exams.
4. Through **continuous evaluation** and interactions of course faculty with the students during class, laboratory and tutorial sessions.
5. Through interactions in **GFM meeting** with the students held every week and class teacher meeting held every month.

Action taken to avoid dropouts:

1. The information obtained from analysis is used to plan the remedial actions for improving academic performance of such candidates.
2. Arrange remedial classes, and practical sessions after college hour.
3. Design relevant learning material, separate question bank.
4. Organize seminars from expert on time management and stress management.
5. Department organizes **Parent Teacher meeting** to discuss student's academic performance and difficulties and take measure to improve their performance.
6. Making students aware of different **government scholarship** and the procedure to apply for obtaining such **financial support**.
7. For **economically weak students** institute provide provision of paying fees in installment.

2.3 Teaching-Learning Process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blueprint, etc.)

Jayawantrao Sawant College of Engineering, Hadapsar, Pune is affiliated to Savitribai Phule Pune University (SPPU), Pune and follows the syllabi prescribed by SPPU. The content of each theory course are well defined and experiments are specified for each laboratory. Assignments, viva-voce, projects and seminar are part of syllabi and liberal use of the modern tool is encouraged. The Institute enriches the curriculum by conducting Faculty Development Program (FDP). Institute has adopted **Outcome-Based Education (OBE)** system.

On the basis of academic calendar issued by SPPU institute formulates its calendar in consultation with all departments. The calendar includes scheduling of teaching duration, curricular and extracurricular activities and evaluation. While formulating schedule availability of resources is taken into account. Development of academic schedule comprises:

- Savitribai Phule Pune University (SPPU) prepares academic calendar, which includes commencement and end of teaching, and examination schedule namely, in-semester and end semester examinations.
- Based on **SPPU academic calendar**, Institute prepares its academic calendar. **Institute academic calendar** incorporates curricular, co-curricular and extra-curricular activities along with examination schedule.
- Then this calendar is circulated to all departments. **Teaching schedule** is meticulously **planned** and **organized** by the institution.

- **Teaching load distribution** is done well in advance based on the faculty specialization, work experience, preference and student feedback.
- Faculty development program are organized prior to commencement of semester, where in details about curriculum planning, development of teaching learning material, evaluation methods and schedule are discussed and finalized. If required faculty members are trained on identified domain for effective implementation of planed activities.

2.3.2 How does IQAC contribute to improving the teaching-learning process?

IQAC plays vital role in improving teaching learning process. It sets the benchmarks for the processes and corresponding outcomes. To strengthen the faculty, Training Need Analysis (TNA) is carried out by IQAC and corresponding training is offered to faculty members. It uses the information available from student performance for suggesting corrective actions and appropriate methodologies leading to better results.

IQAC contribute to improving the teaching-learning process in the following ways:

- It sets the benchmarks for various academic and administrative activities of the institution and every department will adhere to achieve the same.
- It facilitates learning management system (MOODLE) which is a learner-centric environment conducive to quality education.
- Plan FDP to train the faculty members on identified domain for effective implementation of curriculum.
- Every semester IQAC takes feedback from students, parents, industry, alumni and other stakeholders on quality improvement processes.
- Dissemination of institute quality policy, vision, mission and objectives at various locations and college website.
- Organization technical events, conference, workshop, seminars, and FDP at institute and JSPM level.
- Regular checking of various documents related to curriculum enrichment, faculty empowerment and techno-social activities leading to quality improvement.
- Acts as an apex at institute level and helps in adopting and dissemination of best practices. IQAC implement two best practices namely, industry-institute-interaction at institute level and originative facile approach at IT department as a pilot project.

IQAC ensures quality enhancement at institute and develop quality culture in the institution. Ensure enhancement and coordination among various activities of the institution and disseminate good practices. Build an organized methodology of documentation and internal communication.

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive

learning, collaborative learning and independent learning among the students?

Institute has adopted Outcome-based education (OBE) system, where the prime focus is on what students will be able to do. OBE system provides a platform for student-centric learning with a continuous process of improvement in the learning of students. At the Institute, **interactive learning, collaborative learning, independent learning, Project based learning, Originative Facile Approach and Case-based approach** are adopted to create **student-centric** learning.

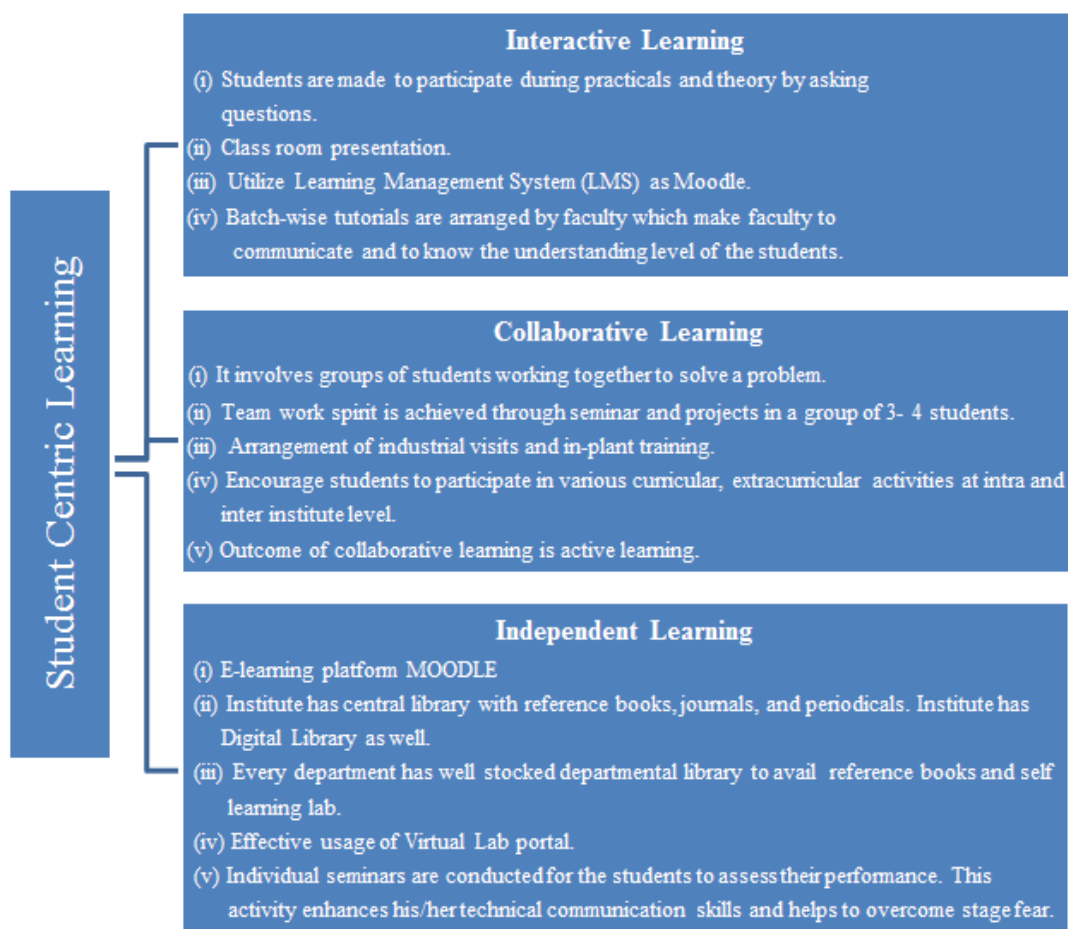


Figure 2.3.4 Student-centric learning methodology

- **Originative Facile Approach (OFA)** model is started with one program in the institute as a pilot project as a new learning method. This model is used to impart concepts among the students in an effective way.
- **Project-based learning:** Students are also involved in funded research projects namely DST, Kraft Powercon India Pvt. Ltd, Pune, ISRO-UoP STC and BCUD so

that they obtain experience of working on live, challenging projects given by industry and research organizers.

- **Case Study based approach:** In the case of study approach active learning strategies are implemented in our institute. Case studies are prepared with focus on student-centric activities based on topics that demonstrate theoretical concepts in an applied setting. This covers the variety of different teaching structures ranging from short individual case studies to longer group-based activities.
- **Brainstorming sessions** for electives offered for MBA I and MBA II students in regular and proxy lectures along with group discussion, role plays, quizzes.

Details of **support structure** and systems available:

1. Infrastructure Support:

- Classrooms and tutorial room are equipped with projector, computer system and internet connection.
- For preparing innovative learning material necessary hardware and software are available.

2. Training Support:

- Institute organizes **Faculty Development Program** for curriculum design in each semester.
- For faculty enrichment, Institute encourages faculty members to attend **STTP/ FDP/ Seminars/Workshop/ Conference organized** by Institute and also by other Institutes.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

To augment **critical thinking, creativity** and **scientific temper** among the students and to transform them into **life-long learners** and **innovators**, Institute organizes **different activities**. Few of them are listed below:

- **“Tech-Manthan”** is a national level annual event organized by the Institute. This is a platform created to promote awareness of advancements in the respective fields and showcase technical expertise and talent of students. It is a means for building scientific culture, team spirit and tapping creative minds. The highlights of the events include various competitions viz: Project, Paper presentation, Poster presentation, Programming skills, Auto Quiz, Model making, Technical Quiz, troubleshooting for industrial problems, photography, games, logo design, Ad-Mad show and Clash of Coders, etc.. Moreover, Blood Donation Camp is also a part of it.
- Students are encouraged and financially supported to participate in the competitions like **BAJA, SUPRA, GOKART**.

- The faculty encourages the students to participate in different technical paper and poster presentation in conferences organized by the Institute and by other Institute.
- Institute **Entrepreneur Development Cell (EDC)** organizes skill development activities to encourage promising entrepreneurs. To name few of them are “Entrepreneurship Excellence” by Sh. Vinod Shankar, Chairman Orlando Foods Pvt. Ltd. “Government loan schemes for potential Entrepreneurs” by Industrial Inspector, Shri K.B. Shinde, S. B. Patil, Industrial Inspector, D.I.C. , Govt. of Maharashtra, Pune. “Entrepreneurs Ethics” by Mr. Sharad Tandale. “Design of Solar PV System” by Mr. Mohit Ajmera, and Mr. Om Bapat, Mumbai.
- Different project competitions and model making competitions are organized to nurture and support critical thinking and creativity. Seminars on cutting edge technology are organized to help the students to understand the fast changes in technology through JSCOE **IEEE** Student Branch and **ISHARE**.
- **Industrial visits** and **internships** are organized for students to get the exposure of industrial work culture.
- Students are encouraged and guided to undertake industry sponsored projects.
- Students are also involved in funded research projects namely **DST, Kraft Powercon India Pvt. Ltd, Pune, ISRO-UoP STC and BCUD** so that they obtain experience of working on live and challenging projects given by industry and research organizers.
- Institute has initiated a **Satellite program** which is an interdisciplinary activity undertaken by faculty members and students of different departments.
- Department **newsletter and wall magazine** are published on regular basis.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? E.g.: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

Learning Management System (MOODLE) provides opportunity to student as well as faculty to have one to one discussion on various aspects including learning styles and evaluation. Identifying the drawbacks of large class size the innovative approach OFA is adopted on experimental basis for one of the program. Students are motivated to make use of facilities like virtual laboratories, self-learning laboratories, MOOCs, etc. In addition the facilities like NPTEL and SWAYAM are used by faculty members for effective teaching learning process. Due care is taken to nurture critical thinking, creativity and scientific temper among student by offering various platforms to them. The following **teaching and learning aids** are made available for **effective teaching** and **evaluation processes**:

- Institute central library has ample numbers of reference books and access to open journals as well as subscribed journals.

- Institute has set up virtual laboratories for the thorough understanding of practical through visualizations, animations, and simulations. It is an experimental set up available for students on the Internet to understand the concepts of different practical. It contains a pool of Internet accessible experiments with a wider range of laboratory resources.
- The Institute has **MOODLE** software. Every faculty member and students have access to it via user accounts. Faculty members upload course materials, question bank, solved university papers, **NPTEL** video links, assignments, etc. The students can access this and refer the e-contents uploaded by respective faculty members. There are regular online examinations conducted at the department using MOODLE software.
- **SWAYAM** is a program initiated by Government of India and is used for self-actualisation providing opportunities for a life-long learning. **SWAYAM** is used as a unique educational opportunity to expand the horizons of knowledge.
- Faculty members make use of development and simulation software such as **MATLAB, Catia, Creo, Ansys, Java, Python, Android** etc. and **NPTEL** videos & animations to make the subject easy to understand. Institute owns legalized licensed software required for all courses of engineering and institute regularizes this software in a timely basis.
- **Multimedia teaching aids** like projector are used in each classroom.
- To encourage e-learning institute has provided access to **Wi-Fi** and internet connections to all computers for staff and students.

2.3.6 How are the students and faculty exposed to an advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

Institute take efforts to expose faculty and students to gain the **advanced level of knowledge and skills** through **blended learning, expert lectures, seminars, workshops and field visits**.

Blended learning:

- The faculty has started using the information and communication technology facilities, NPTEL video lecture series, virtual laboratories, learning management systems (Moodle), free and open source software technologies in the classroom, which has resulted in implementing the blended learning process for the students. Classroom teaching is supplemented with the computer assisted learning and digital course materials available to the students.
- Students are encouraged to participate in the technical competition, paper presentations, project competitions, poster presentations, quizzes. Students are also encouraged to take up industrial and R&D projects.

- Institute has a digital library which provides faculty and students with the latest available technical information through memberships of reputed journals.
- Institute also has student chapters and membership of professional bodies like IEEE, ISHARE, etc.

Expert lectures:

All departments of the Institute organize expert lectures on latest technologies by renowned personalities such as scientists, academicians, entrepreneurs and industry personnel for faculty and students.

Seminars/ Workshops:

Each department organizes training programs/conferences / seminar/workshops where faculty and students get exposed to the advanced level of technologies.

Field Visits:

To gain an advanced level of knowledge and skills industrial visits are organized by each department for students and faculty members. Labor Court Visits/Educational visits to the manufacturing and service industries.

2.3.7 Detail (process and the number of students benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advice) provided to students?

To provide academic, personal, psycho-social support and guidance services to the students, the institute has adopted the following process:

FE Induction:

First year engineering student's induction program is organized by the Institute every year to make students aware of engineering academics and curriculum. The induction program is addressed by Institute Head i.e., Principal where all new students are informed about institute's infrastructural facilities, teaching-learning pedagogy, opportunities to participate in co-curricular and extra-curricular activities and training and placements.

Personal Support:

Role of faculty is multifaceted; help is extended to student on academic, personal, psychosocial front. Major role is played by GFM.

- In each department, **Guardian Faculty Member (GFM)** is appointed to provide personal and academic support for a batch of 20 students, who take care of these students and helps the students to get over their difficulties. GFM conducts the meeting of the students allotted to him/her on regular basis and tries to understand their academic as well as personal problems. GFM try to sort-out the problems and if required forward it to the Head of Department,

Vice Principal and Principal. The students can approach the respective GFM for discussions any time and discuss their difficulties.

- Effective counselling is provided by GFM. The attendance is monitored by GFM on daily basis and the closely monitor the academic performance as well. GFM continuously motivate students to improve their performance. GFM takes the necessary action according to the need of students. The progress and observations are conveyed through telephonic conversation, SMS, email and personal meeting with parents of the students regularly in order to resolve issues if any. GFM maintains student records namely, personal information, previous and present academic performance, co-curricular and extra-curricular activities etc.

Professional Counseling by Training and Placement Department:

- Training and placement department offers professional counselling to the students with respect to create industry awareness, necessary corporate skill sets. Special emphasize is given on general aptitude, soft skills by reputed trainers.

Psycho-Social Support:

- Student's behavioural problems are identified through GFM session and timely informed to their parents. If necessary, psychological counselling by psychologists is done.
- NSS activity also gives social and ethical awareness among the students.

Parents teachers Meeting:

- PT meeting bridges the gap between faculty and students by developing a rapport with parents.
- It serves as a platform for parents to discuss the student's academic progress, remedy and behavioural problems if any.
- During every academic year, parents teachers meet has been conducted at the department level to get fruitful output.

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faculty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

Institute encourages teachers to provide the students a comprehensive, innovative and value based educational environment and every effort is made for maintaining such an environment in the campus. The innovative approach of OFA which has provided opportunity to change the system from teacher centric to student centric, methodologies like problem based learning, interactive learning, experiential learning are practiced. Opportunity of self-assessment for student has shown positive impact on academic performance and behavioral of students. Collaborative projects between

student and faculty represents one of the innovative practices in domain of research and development.

Originative Facile Approach (OFA):

To maintain consistency in improvement of quality education, Institute has introduced innovative approach Originative Facile Approach (OFA) teaching learning Approach. This new teaching learning approach is adopted by Department of Information technology as a pilot project to increase student's interest and excitement in learning. The main Goal of OFA is to enhance student learning. To accomplish this, we have 6 hours class once in a week for a course. This allows class time to be devoted to expanding on and mastering the material through collaborative learning exercises, projects, and discussions. Also, dividing a class of 60 students into group of 20 and one faculty member is engaging them throughout the day.

This model follows facile approach for 6 hours class known as S⁶ cycles. S⁶ cycles of OFA:

1. **Start:** Starts activity for a batch of students for a scheduled course as per timetable
2. **Sign-on:** This Activity promotes students involvement in new topic in new excited way.
3. **Seek it:** This activates student's prior knowledge.
4. **Spilt out:** This activity directs Instructions/Active Learning experiences, summarizations that implements content Knowledge.
5. **Stretch It:** This activity requires students to apply their understanding in new context and develop new ideas based on learned concept.
6. **Size up:** This activity experience enables both students and teachers to assess changes in ideas and development of new skills.

Advantages of Using S⁶ Cycle:

- Project Based Learning
- Current Models operates as Antagonists
- Teaching Concepts Not Facts
- Forms Team and Networks
- Concept Mapping
- Self-Directed Learning
- Independent Study

Impact:

Use of **student-centric teaching-learning pedagogy** resulted in improved student attendance in the class, student participation in the class and student's concept understanding has increased. This reflects in their **project, academic result, and participation in co-curricular activities, extra-curricular activities and placements.**

2.3.9 How are library resources used to augment the teaching-learning process?

Institute has employed the following strategies to augment the teaching-learning process and effective utilization of **library resources**:

Assignments demanding use of various resources available in the library are given to students. Once a while open book examination is planned and organized by the faculty member with venue as library. As policy decision it is mandatory for all the students to refer online subscribed journals while preparing seminars and projects.

- Efforts are made to make the library **self-sufficient** and provision is made every year for the purchase of books. Standard textbooks as well as reference books as prescribed in university syllabus.
- A section called as **Digital library** is specially made available with the required facility. In this digital library, the students, as well as faculty members, can access open access journals as well as few subscribed journals. The digital library also serves the purpose of access to soft material like NPTEL Notes, NPTEL Videos, Educational Videos on YouTube, Animations, PDFs, PPTs, etc.
- The library is open for 10 hrs. per day and is open for 24 hours during the examination period. Library provides spacious, comfortable, calm atmosphere where students can study effectively.
- Besides central library, each of the **individual department** is having its own departmental facility where department-specific material like books, codes, standards, charts, catalog, etc. is made available readily within the department. Staff members do donate some out of print books from their own collection or make a Xerox copy of such books available for the department library.
- Three of the departments namely Mechanical, Computer and Electronics & Tele-Communication run PG Course and text and reference books for PG courses are also available in ample with Departmental Library as well as Central Library.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If 'yes', elaborate on the challenges encountered and the institutional approaches to overcome these.

Yes, the Institute faces some **minor challenges** in completing the curriculum within the planned time frame and calendar due to unavoidable circumstances with the regulatory bodies like court stay on the issues of stakeholders. These are explained as follows:

Challenges:

- Simultaneous conduction of academic activities for regular students and students through lateral entry poses problem with respect to resource and time management. Also the aspect of cultural change management from diploma education to degree comes in to picture. Proper planning and execution helps to overcome these challenges.

- SPPU provides ninety days in a semester for completion of the syllabus which is just sufficient to complete the syllabus but insufficient to provide in-depth knowledge of the subject.
- The academic structure recommended by SPPU and recently adopted a system of continuous evaluation of students by **In-semester** and **Online Examinations** make the academic schedule very rigid.
- Although lesson plans are prepared by faculty as per teaching scheme mentioned in SPPU syllabus, some subjects require more time depending upon the difficulty level of the subject.
- For overall development of the student, Institute organizes extra and co-curricular activities.
- In addition to these activities, value-added training programs are also essential for enhancing the employability of the students.
- Final year students also miss their academic sessions due to placement activities.
- Industrial visits, educational excursions, student workshops, etc. are another reason in lagging behind the completion of syllabus.

Institute Action Plan:

- Institute urge the students to attend the classes right from the first day of academic commencement
- Extra lectures are planned (more lecture hours than prescribed in SPPU syllabus) and conducted in idle slot of the regular timetable as well as on weekends, if necessary
- Institute gives the freedom to conduct additional hours of working a Saturday and Sunday.
- There is always a need to go beyond the syllabus and give extra inputs to bridge the gap amongst related units. These often necessitate the readjustments in the teaching plan.
- To overcome the challenge of teaching the subject within the time frame, teachers give home assignments, seminar topics on a course which promote self-learning for a few selected topics.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

The existing mechanism through IQAC takes due care for ensuring quality of teaching learning at various stages such as preparation of teaching material, laboratory preparation, preparation of faculty members, implementation of academic plan and execution of remedial measures.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum.

Human resources required for teaching are planned as per the **academic requirements** and **recruits** as per guidelines of **AICTE**, New Delhi and **SPPU**. Every department analyzes the revised curriculum and maps the skill and competency of existing faculty members with it. If drastic change in curriculum observed then the faculty for corresponding domain are recruited as adjunct or emeritus basis. However if it is difficult to recruit such faculty member then existing faculty members are trained. In case of minor change in curriculum faculty are asked and supported to equip them-self for the change. Provisions like purchasing book of choice, support for research activity, provision to use infrastructure beyond schedule time helps to retain the faculty. The provision of providing 100% financial gains through consultancy to the participating faculty members is highlight of the policy. Faculty and student can enjoy the benefit of 100% financial aid to apply for patent.

Table 2.4.1 Faculty Qualification

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teachers							
D.Sc./D.Litt.							
Ph.D.	11	*	2	2	*	*	15
M.Phil.	*	*	*	*	2	*	2
PG	*	*	10	6	71	80	167
Temporary Teachers							
Ph.D.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
M.Phil.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
PG	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Part-Time Teachers							
Ph.D.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
M.Phil.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
PG	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total							184

Retention of faculty and staff at JSCOE is due to:

- **Transparent policies** and decisions of the management.
- The **institution** adheres to **UGC/ State Govt. norms** for faculty **promotion**.

- Freedom and transparency in every department because of which **ownership feeling** in every faculty and staff.
- **Innovative ideas** given by any faculty or staff are well appreciated by the management.
- The ideal **working environment** in the campus with great respect and value for teachers and staff.
- **Allocation** of theory and practical subjects as per their area of specialization and preference.
- Faculty is **encouraged** to write and **publish articles, books, as well as research papers** based on research findings which are very well supported by the institute.
- Institute encourages faculty members to attend **QIP, Conferences/ Workshop /Seminar FDP** at national and international level.
- **FDPs are organized** to enable the teachers to adapt to changing needs of society.
- **Guest lectures** by experts from various sectors are arranged to motivate faculty and staff.
- Payment / Salary are paid as per AICTE norms.
- Leaves and vacation given as per government rules and regulations.

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programs/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

The Institute **appoints highly qualified faculty** to handle **new** and **emerging** subjects as proposed in the curriculum of SPPU. The institute has taken following steps to cope with growing demand/ scarcity of qualified senior faculty to teach new programs.

- Encouragement is given to faculty to do **research** in new emerging areas and **percolate** the same among the students.
- Institute arranges **Faculty Development Programs** to upgrade the skills of faculty members as per the need of the curriculum. (refer Figure 2.4.2)
- Freedom and **transparency** in system encourage staff.
- Encourage the faculty members for **higher education** by considering the need of growing demand in a particular field.
- In addition, the college invites experts to **deliver guest lectures** in selected areas of interest. Guest faculty members are invited on regular basis to update the knowledge of faculty and students on special subjects such as Cloud Computing, Automation, Robotics, VLSI design etc.

- Faculty members are supported for attending the national and international seminars, conference workshop, training programs by partially sponsoring the registration fees.
- Institute is having **recognized research center**, thus facilitating means for quality research in various domains such as Cryogenics, Vibrations, Acoustics, Refrigeration and Air Conditioning, IC engine etc. helpful for pursuing Ph.D. as well as PG.

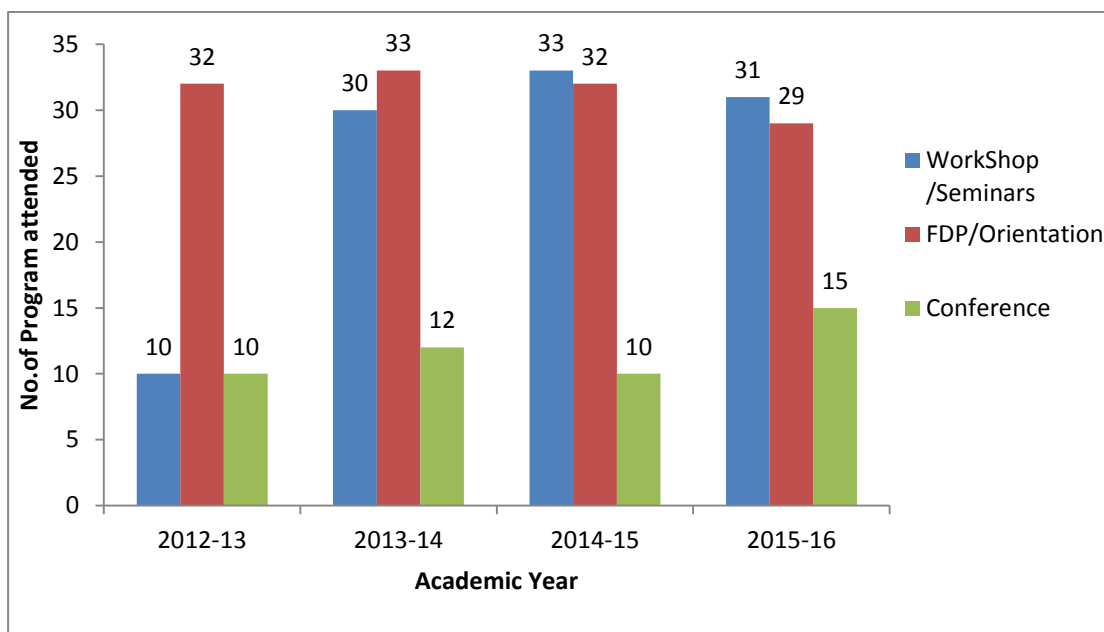


Figure 2.4.2 Faculty participated in Training and Workshops

The **outcome** of all these **efforts reflects** in

1. Higher faculty **retention**
2. Improvement in the faculty **qualification**
3. Increased number of the **research project, patents filed, publication** in reputed conference and journal. Increased student publication and awards.
4. **Research** topics in **Computer** include Network Security, Wireless Sensor Networks, and Image Processing.
5. **Research** topics in **E&TC** include Speaker Identification within Whispered Speech, Implementation of AC Converters using Matrix Topology, Network Security, Wireless Sensor Networks, Image Processing and Natural Prosody Generation in Marathi Text to Speech and Development of Brain Tumor Detection Algorithm based on MR Image.
6. **Research** topics in **IT** include Big Data Analytics, Search Engine and Wireless Sensor Networks.
7. **Research** topics in **Mechanical** include Cryogenics, Vibrations, Acoustics, Refrigeration and Air Conditioning, IC engine etc.

2.4.3 Providing details on staff development programs during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

Input from the feedback and TNA establishes the basis for training of the faculty. Institute makes attempt to provide required training at right time to the faculty members, the training can be either in-house or on site. In case the need for training get highlighted during regular academics then faculties are asked and supported to attend online trainings. The scheme of mentor-mentee exists in institute. The newly recruited faculties are made to attend the induction training program. Table 2.4.2 shows the faculty members nominated for staff development programs.

Table 2.4.2 Nomination for Staff Development Programs

Academic Staff Development Programs	Number of faculty members nominated			
	2013-14	2014-15	2015-16	2016-17
Refresher courses	*	*	*	*
HRD programs	*	*	*	*
Orientation programs	27	28	24	21
Staff training conducted by the univ.	5	5	8	8
Staff training conducted by other institutions	10	30	33	31
Summer/winter schools, workshops, etc	*	*	2	*

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programs industrial engagement etc.)

Institute **supports** the research activity by providing various **facilities** like equipment, software, e-resources for research publications, library books etc. Institute has a positive attitude for the professional development of the faculty in acquiring the knowledge of **recent developments** and engaging them in the **research activities**.

The institute believes in **promoting research** in all departments. Institute constituted **research committee** consisting of senior faculty members of all departments. The main role of this committee is to **encourage research** in all departments and motivate **interdisciplinary project** activities and ensure active participation of the UG / PG / Ph.D. students. Research committee supports for **enhancing the research capabilities**, technical infrastructure, helps faculty members for applying for grants from various agencies, filing patents, and publications. Institute has established an **IP cell** which assists in **drafting and filing of patents**.

The following are some of the highlights:

1. Research grants: Institute encourages and provides support along with infrastructural help to avail the research grants from the external funding

agencies like **ISRO-UoP projects, Department of Science and Technology, BCUD-Savitribai Phule Pune University.**

2. Deputation to National/International Conference / Seminars: Institute deputed faculty members for FDP / Workshop / QIP / Conferences / Seminar with on-duty leave. The Institution provides **sponsorship** to the faculty for attending the conference and seminars.
3. In-service training: Faculty is encouraged for **industrial training** and projects through the MOUs.
4. Holding of national/international conferences: The **Institution provides support** for organizing national and international conferences.
5. Study leave: The Institution provides **study leave** for pursuing higher education to faculty and staff.

2.4.5 Give the number of faculty who received awards/recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

Institute has exclusive policy for research and development. The prevailing environment in the institute motivates faculty members to undertake research projects, opt for higher studies, visit institutes of national importance etc. Institutional **culture** and **environment greet** the innovative ideas presented by faculty and Institute wholeheartedly supports it, which eventually contributes to performance and achievement of the faculty. The institution provides **autonomy** to teachers to plan and execute the teaching methodologies with a well-stocked library, e-resources, and fast internet services along with financial support and **encouragement** for pursuing research. These have naturally **paved way** for **faculty** to **outperform**. In total, 24 faculty members have received rewards / awards at institute and national level.

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes, the institute has introduced **evaluation** of **teachers** by the **students** and **external peers**. The provision of teacher evaluation by students helps to understand the student need and the scope for faculty improvement there by improving upon quality of teaching learning process.

- During the semester, **teaching performance** of every faculty is evaluated by the students.
- Students are provided individual online access for giving feedback of faculty members.
- **IQAC** also review the faculty performance.
- In the month of June, respective faculty fills the **self-appraisal** forms. HoD with their remarks on various performance parameters, verifies the forms.

- The institute has a tradition to **appraise** the teachers on **teacher's day** every year. The appreciation certificates are given to the faculty members based on academic results and student's feedback (>90%), significant contribution in research, leadership quality in handling various responsibilities, improvement of qualification etc. These act as a motivation for the teachers to constantly improve their performance level.

This is monitored by IQAC and based on their observations; guidelines are given for improving the quality of **teaching learning process**.

Students Feedback Analysis:

- Feedback** is **analyzed** by a committee consisting of HOD and feedback coordinators who identifies the **strengths** and **areas of improvement** of faculty members.
- Appreciation letters** are given to faculty members for their efforts.
- HoD informs the faculty members who have areas of improvements, stating improvement in his weak areas.

Improvements:

- Faculty **having low feedback** work on their issues and they put more efforts in weak areas.
- Technical know-how** and confidence of faculty members have enhanced.
- Faculty attends FDPs on teaching skills.

2.5 Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

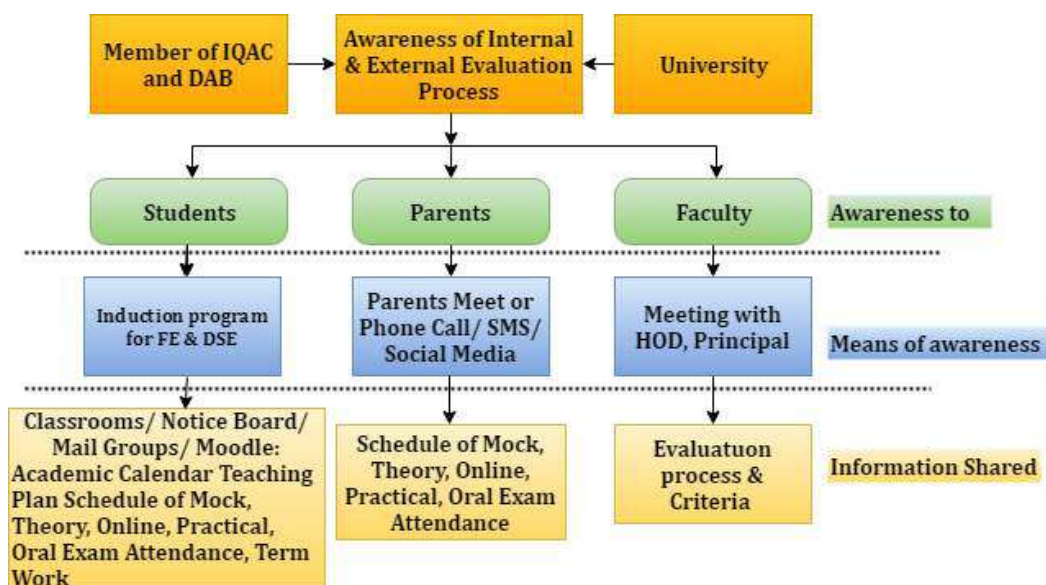


Fig. 2.5.1 Awareness of the evaluation processes

Institutes ensure that its stakeholders are made **aware of the evaluation process**, Figure 2.5.1.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

Evaluation reforms of the university that the institution has adopted:

- College Examination Officer (CEO): **Examination Committee** is formed at **institute level** with **Principal** as the **Chairman, CEO** and **senior faculty** members from each department. In accordance with **university rules, institute appoints a senior experienced faculty as CEO.**
- Online Exams: **In 2015**, University has **introduced online exams** for **first and second year engineering students**. The Institute conducts these exams every semester.
- In-semester Exams: From **2014 In-Semester exams** are introduced by the University and Institution started conducting the exam for **Third Year and Final Year** Bachelor of Engineering students.
- **Marks** for term work, practical/oral examination and in-semester exams are submitted online to the **University through individual teacher login.**
- Internal Examiners: **Internal examiners are appointed by Institute** for practical/oral examinations, online examinations, university theory examinations and project examinations etc. as per the **guidelines of the University.**
- **From 2012**, all the **Question papers** send by **University** to the **Institute by an online process with all security measures.**
- **The evaluation process of theory papers for PG is done online** from AY 2015-16.
- Credit system: **University introduced Credit System** from **2015**, for **UG first year students** and **from 2013** for **PG students.**

In addition to university reforms, institute adopted following reforms as a part of the evaluation of students and continuous assessment:

- **Institute designs the curriculum** in such a way that for the **practice of online exams, each department conducts mock online examination** on the available **e-platform** provided by **institute** like **MOODLE/ My-Examo /Intel Test**. Based on result analysis, the remedy for weak students is planned.
- For TE and BE, **internal in-semester examination** of 30 marks is conducted as per the format prescribed by **University**. Based on result analysis, remedial measures are taken for academically weak students.
- **Student's performance is assessed continuously** in **practical sessions** for regular completion and understanding of practical assignments. At the **end of the semester**, submission is taken where the **submission of assignments** is assessed on the basis of **mock practical/oral exams.**

Indirect Assessment:

- **Students** are also assessed through different competitions and events organized like “Tech-Manthan”. **BE students** are guided to **publish papers** in national/international journals based on their **project work**. The **seminar /mini-project** as per university syllabus can be coupled with this activity.
- **Originative Facile Approach (OFA) model** is started with some courses in the institute as a **pilot project** for improving **evaluation process**. This model is used to impart concepts among the students in an effective way.
- **NPTEL** lecture and videos are accessed through website online course.nptel.ac.in; video lectures by faculty, power point presentations are distributed for learning among students. Each student is assessed daily for each subject so as to satisfy desired attainment level.
- To enhance placement activity institute provide portal facility to the students such as **CoCubes** www.cocubes.com, **Pariksha** www.pariksha.co and **TCS** campuscommune.tcs.com.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

The institution ensures effective implementation of the **evaluation reforms** of the **University** and those **initiated** by the **institution** by **appointing exam committee** to accomplish following tasks:

- **Institution adheres** to the **academic calendar prescribed** by the **University for conducting university exams** and all **external evaluation processes**. For **internal evaluations** and **assessments**, **institute** and **departmental academic calendars are strictly followed**.

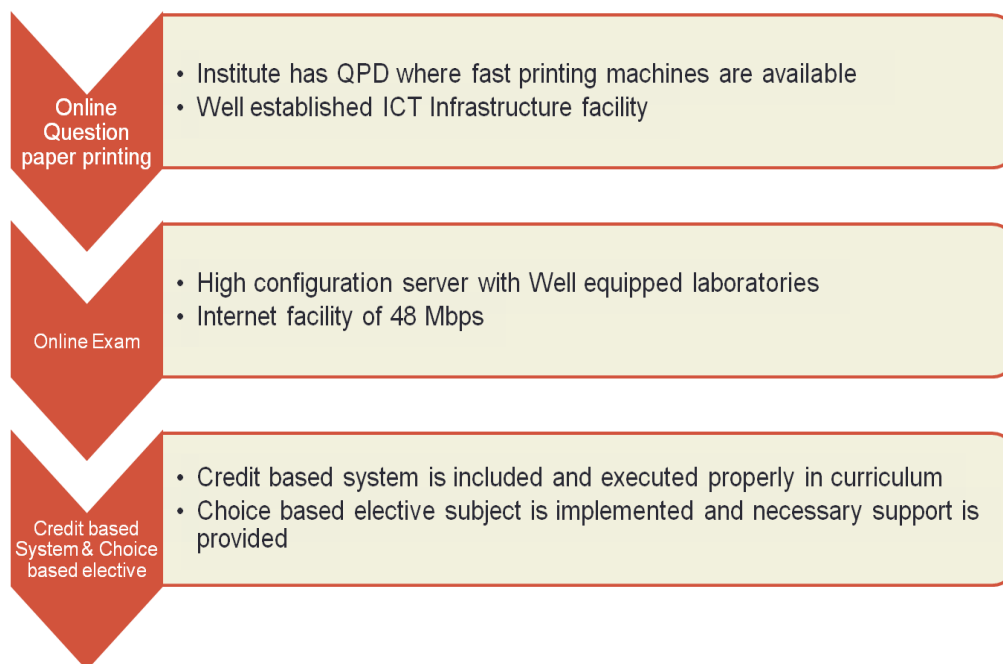


Fig. 2.5.2 Evaluation reforms of the university

- **Exam committee** makes sure **in-time completion** of term work assessment, mock theory and practical exams, supervision duties and the participation of staff in CAP.
- All the exams scheduled by the university are conducted by the institute. For that, the **Institute** has **well-equipped infrastructure**. **CCTV cameras** are installed for monitoring the online **examinations** and in **QPD**. Also **Generator/UPS backup** (7.5 KVA) is available for **smooth conduction of online exams**. The **examination** conduction is effectively monitored as guided by University. Figure 2.5.2 depicts the online question paper printing, online exam, and credit based system & choice based elective.
- The **Institute appoints exam coordinator** from each department for smooth conduction of the **theory** and **practical examination**. Exam committee conducts a meeting to give guidelines on all the exam related matters like rules and regulations defined by the University for Exam Conduction.
- **Final year** term work is jointly evaluated by **internal** and **external examiners** based on evaluation sheet as per university guidelines.
- **Internal theory exams** are conducted and students can see their evaluated **answer** sheets and discuss the same with concerned faculty for improvement in their performance and to prepare them for university exams.

2.5.4 Provide details on the formative and summative assessment approach adapted to measure student achievement. Cite a few examples which have positively impacted the system.

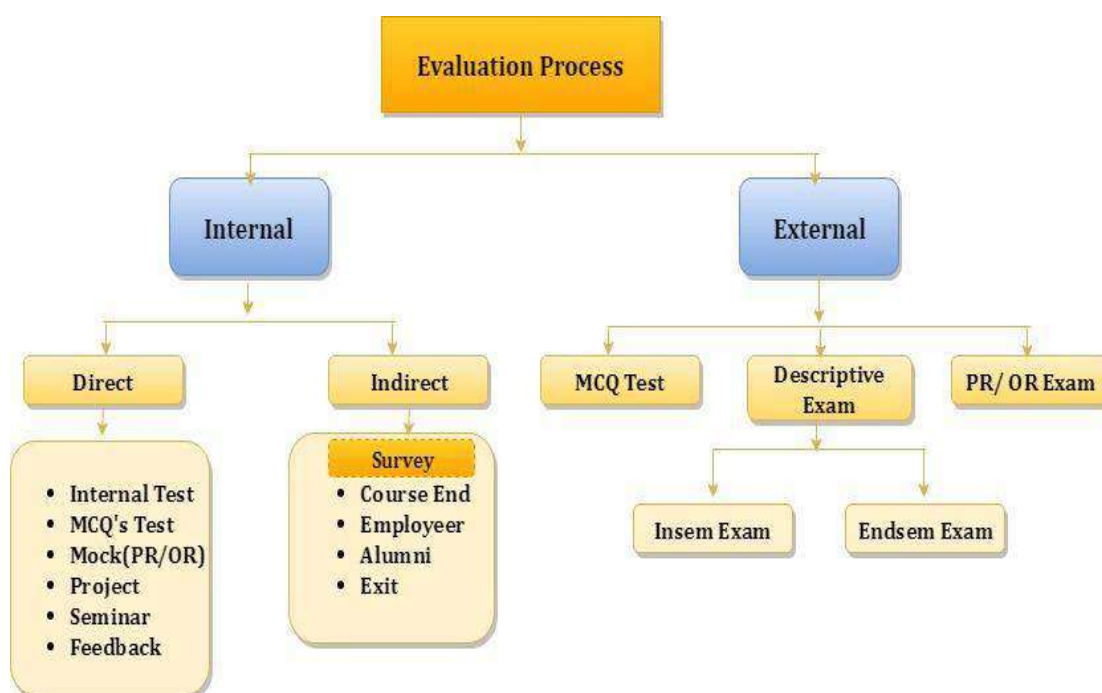


Figure 2.5.3 Evaluation process

The **formative** and **summative assessment** approaches adopted by the Institute to measure **student achievement** are as follows:

Formative Evaluation Approach:

- **Continuous assessment** of each student is done by faculty during practical sessions.
- **Unit wise assignments** are given to students and key points for answers are discussed by faculty in the classroom.
- **Mini project, major project, seminar work** are used for formative evaluation of various subjects.
- **Seminars** are conducted for TE students and demonstration/presentation of Projects by BE students for formative assessment.
- **Attendance** of **theory** and **practical sessions** is continuously monitored by faculty members and if improvement is needed, defaulter students are warned and parents are also informed of the same.
- As Institute has adopted **OBE system, attainment of TLOs** is analyzed by asking questions to students after completion of the topic.

Summative Evaluation Approach:

- At the end of the semester, **term work** marks are assessed based on evaluation sheets exercised throughout the semester (project evaluation sheet/continuous assessment sheet/OBE sheet etc., for details please refer 2.5.5)
- **Attendance monitoring** is done throughout the semester for theory and practical sessions.
- **Mock theory** and practical's examinations are conducted periodically.
- **Online Examinations** and **In-Semester examinations** are conducted.

Examples which have positively impacted the system:

One of the best practices followed by the institute is that **dissemination** of names and scores of **toppers** are at various places and **felicitation** of these students are done during the **annual gathering** this motivates all other students to improve their performance.

Following are few significant achievements of students:

- **14** students are university rankers since **2010**.
- **20** students presented a paper as their technical and communication skill improves through the formative assessment process.
- **20** students grabbed awards/prizes in the technical competition.

2.5.5 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightage for behavioural aspects, independent learning, communication skills etc.

Direct and **indirect tools** are used to **internally assess** and **evaluate learning outcomes** based on **independent learning**, **behavioral aspects**, **communication skills** etc. The outcome of this assessment is discussed with students. Each department in the Institute assesses **the term work** continuously as an internal assessment tool. **Assessment scheme** is explained to the students to bring in **transparency**. They are assessed on the basis of following criteria:

- Timely submission (Behavioural aspect)
- Presentation / Quality of write-up (Communication skill)
- Understanding (Independent learning)
- Implementation and Attendance (Behavioural aspect)

Faculty also discusses **short comings in performance** with students to enable them to enhance their **learning's** and overcome the shortcomings. In each department, **final year projects** are evaluated continuously and students are given inputs on their progress, the direction of work and scope for improvement. Students maintain **logbooks** or '**project progress books**' with records of their project progress. These books are **checked** by **guides** on a **regular basis**. As can be seen in this evaluation sheet, it is checked if the students present the review on scheduled date or no which helps in assessing behavioural aspect. With the **presentation** and **question-answer session**, the communication skills of the students are assessed. Even though the student does the work in a group, still evaluation is done for an individual to judge his/her contribution in the work. A weekly progress report is maintained by students wherein task performed by each student during that week is mentioned (independent learning).

Due to **rigorous simple mentation** and **transparency kept in the internal assessment**, improvement of students in the following areas is noticed:

- 1) Less complaint of students in learning
- 2) Improvement in the student's result
- 3) Improvement in the quality of results
- 4) Practical knowledge gained
- 5) Each student is exposed to the assessment process on continuous assessment sheet where he/she signs after going through the distribution of marks on the sheet. Due to transparent processes, students get more confidence and have no fear of partiality in the assessment process.

2.5.6 What are the graduate's attributes specified by the college/ affiliating university? How does the college ensure the attainment of these by the students?

Graduate attributes specified by the Institute / affiliating university are as follows:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization for the solution of complex engineering problems.

2. **Problem analysis:** Identity, formulate, research literature, and analyzes complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** The problems that cannot be solved by the straightforward application of knowledge, theories, and techniques applicable to the engineering discipline that may not have a unique solution. For example, a design problem can be solved in many ways and lead to multiple possible solutions. That requires consideration of appropriate constraints/requirements not explicitly given in the problem statement (like cost, power requirement, durability, product life, etc.). This need to be defined (modeled) within the appropriate mathematical framework. That often requires the use of modern computational concepts and tools.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with the society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader of a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Life-long learning: An ability to recognize the need for, and have the ability to engage in independent and life-long learning.

Institute has defined the process to measure the **attainment** of **graduate attributes** by use of various **direct and indirect assessment tools**.

- A direct approach to ensure attainment:

1. Internal assessment tests
 2. Seminar/projects/mini projects
 3. Presentations by students
 4. Group discussions and mock interviews
 5. Performance rubrics
- An indirect approach to ensure attainment:
 1. Technical events
 2. Workshops based on subjects to acquire practical knowledge
 3. Cultural and social activities
 4. Survey / Feedback

2.5.7 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

Redressal of grievances is permitted by **University** only for **end semester examinations** and not for the online exam, in-sem exam, term work/oral/practical, project, seminar examination. The mechanisms for redressal of grievances with reference to evaluation are as follows:

Institute Level:

- Students are made aware of the assessment methods at the beginning of the semester and whenever necessary.
- The assessed answer sheets of internal tests are given to the students and performance is discussed by the course faculty.
- Students having grievances with the internal evaluation process can directly discuss their doubts individually with respective faculty members. Students can approach the **Head of the Department**, in the case of any grievances.
- During University theory exam, if students face any problems, they are solved by **Senior Supervisor** in coordination with **CEO** appointed by the institute.
- The grievances during the conduction of online/theory examinations are considered and discussed in consultation with the Principal and if necessary forwarded to the University by examination section.

University level:

University has defined following procedure to amend grievances with reference to evaluation:

- For any **grievances regarding** examination at Institute level and University level, Institute has **established student section, headed by Office Superintendent (OS)** in-line with University Examination Section.
- Online exam form filling, exam seat number allotment, distribution of results, photocopy, evaluations etc. are coordinated by office superintendent (Student section in-line with examination section) with University. The result queries, printing mistakes in mark sheets, corrections if any are handled at **University examination section** after forwarding such quires through the **Institute**

examination section. Queries related to errors in mark sheets, evaluation, photocopy are totally handled by University in which the role of Institute is to take the follow up with university till the **student satisfies**. Further details can be obtained through web link <http://exam.unipune.ac.in/Pages/results.html>.

2.6 Student Performance and Learning Outcomes

2.6.1. Does the college have clearly stated learning outcomes? If, “yes” give details on how the students and staff are made aware of these?

Yes, the **Institute** has clearly **stated learning outcomes**, following are the learning outcomes for the graduate students:

Figure 2.6.1 (a) shows the process of defining engineering graduates **learning outcomes**.

The faculty members are made aware of the learning outcomes by following **methodologies** which are employed at the institute and department level:

1. The **vision** and **mission** statements are displayed on the college website and at various positions such as department notice boards as well as in the laboratories.
2. At the beginning of the semester in faculty development program, the staffs are made aware of the **CO** and **LO attainment**.
3. Training sessions are conducted by **IQAC** cell regarding CO and LO refinement and attainment.
4. The new faculty members are also made aware about the CO and LO by the peers of the department.
5. Program Specific Outcomes (PSO) and Course Outcomes (CO) are defined by all departments and displayed in the **department laboratories** and **notice boards**.

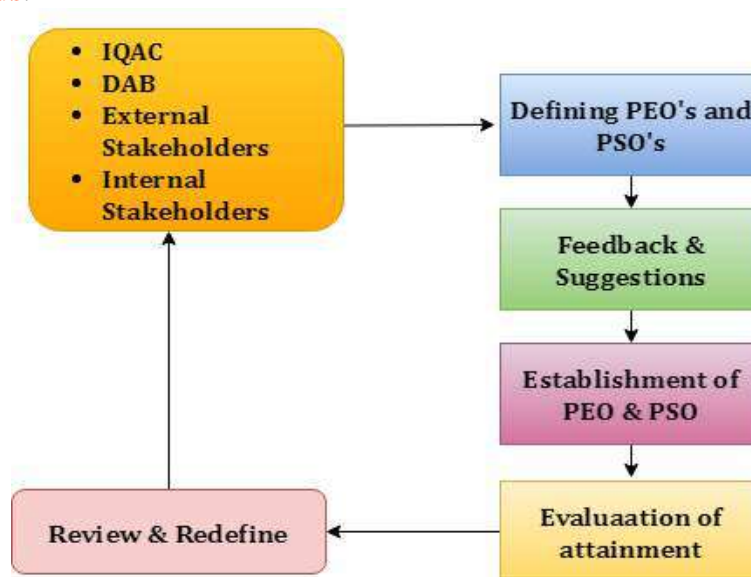


Figure 2.6.1 (a) Process of defining PEOs / PSOs

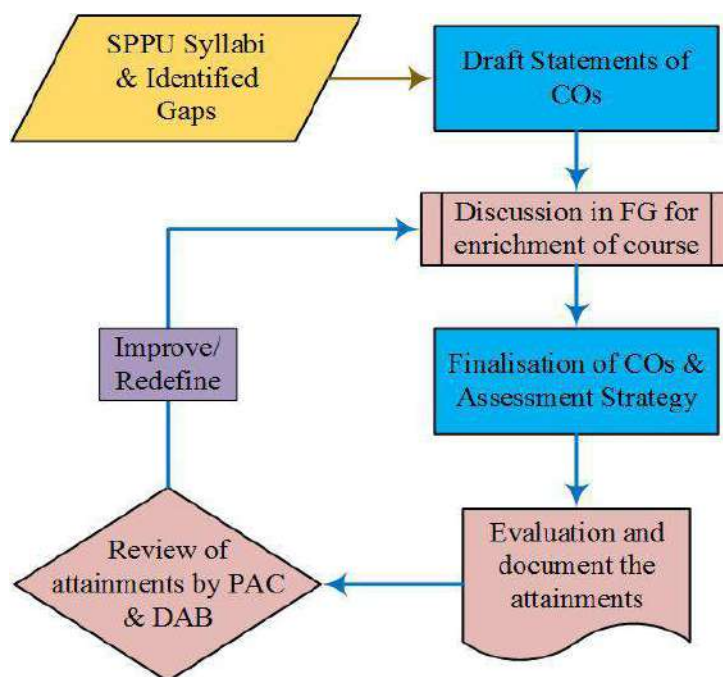


Figure 2.6.1 (b) Process of defining course outcomes

The vision-mission statements, LO, PSO and CO are also available on the e-learning software like “**MOODLE**”.

The students are made aware of LO, PSO, CO by following methodologies which are employed at the institute and department level:

1. The vision and mission statements are displayed on the college website and at various positions such as department notice boards as well as in the laboratories.
2. Learning Outcomes (LO), Program Specific Outcomes (PSO) and Course Outcomes (CO) are displayed in the department laboratories and notice boards.
3. The LO and PSO are discussed with the students by the faculty in the beginning, **during the semester** as well as at the **end of the semester**.
4. The course outcomes are stated while the introduction of the unit during the lecture along with its importance and implementation is also discussed at the same time.
5. The course outcomes are also available on **MOODLE** software.
6. The LO, PSO and CO are also shared through electronic media such as email and social media.

2.6.2 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/program? Provide an analysis of students results/achievements (Programme/ course wise for last 4 years) and explain the differences if any and patterns of achievement across the programs/ courses offered.

Institution **monitors** and **communicates** the **progress** and **performance** of students by following activities:

- 1) Guardian Faculty Member: **GFM meetings** are conducted by respective faculty of each student every fortnightly in which family background, previous academic record and internal test marks, university exam results, **co-curricular** and **extra-curricular activities**, special achievements are recorded throughout the duration of the course.
- 2) The academic performance is monitored by observing the student's performance in the **classrooms** through class tests, interactions, group discussions, assignments and observing their performance in final semester examinations taking both theoretical and practical aspects into consideration.
- 3) The **parent-teacher meetings** are conducted once per year and students are counseled in addition to their parent's advice.
- 4) The **regularity** and **punctuality** of the students are monitored by recording attendance in the classrooms and practicals.
- 5) The **students** and **parents** are **communicated** about the progress through telephonic discussion, e-mail, letters, notice board, SMS and by arranging parent teacher meeting.

Result analysis is made available at the **departmental level** to analyse the student performance. Figure 2.6.2 (a), (b), (c), (d) gives the details of BE, TE, SE, FE result analysis respectively.

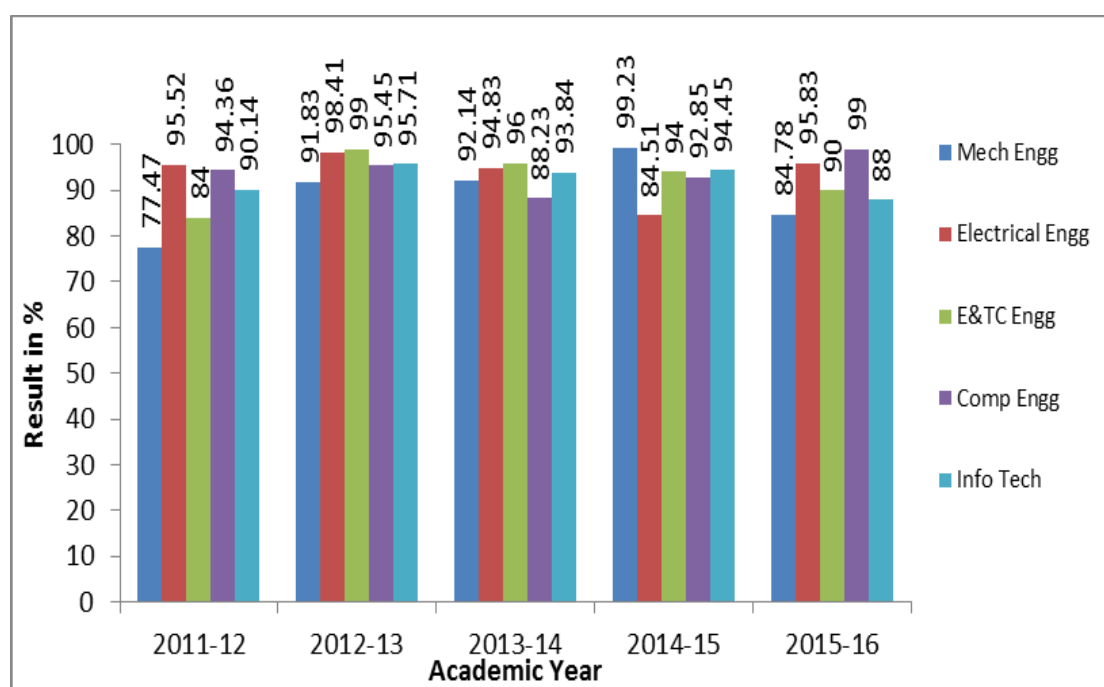


Figure 2.6.2 (a) BE result analysis department wise

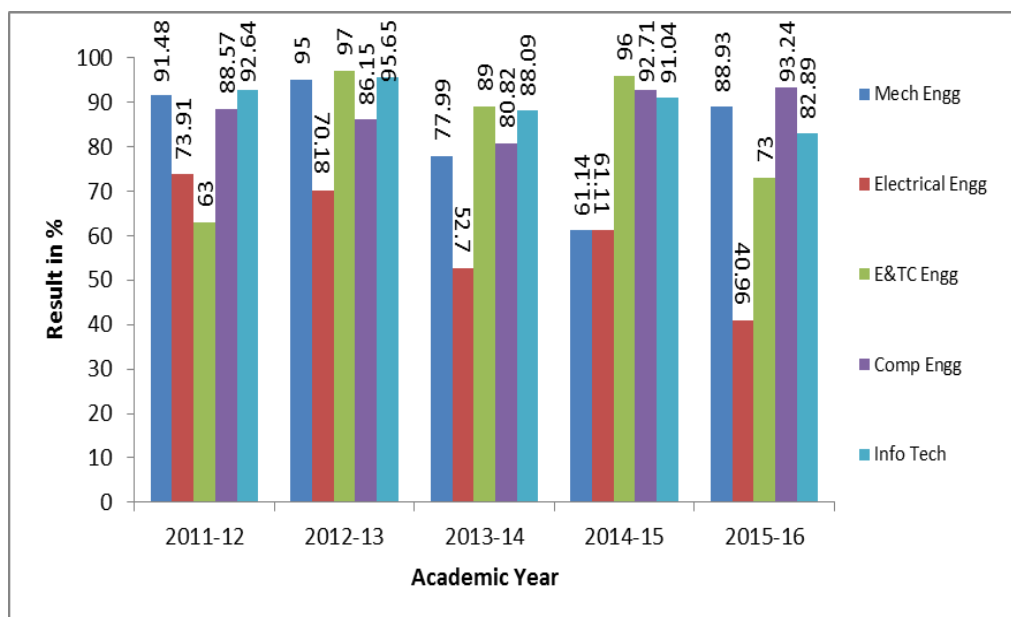


Figure 2.6.2 (b) TE result analysis department wise

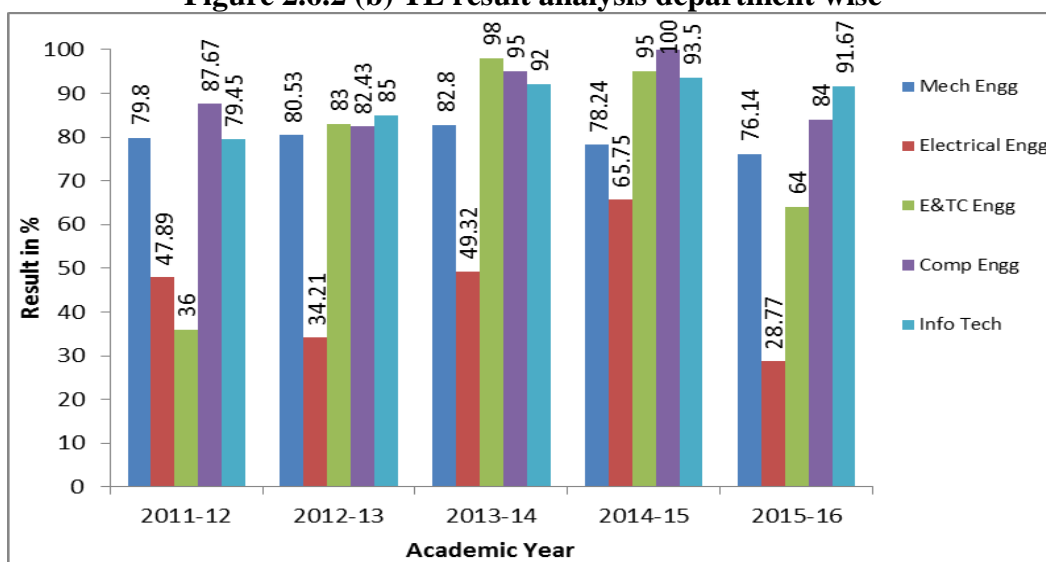


Figure 2.6.2 (c) SE result analysis department wise

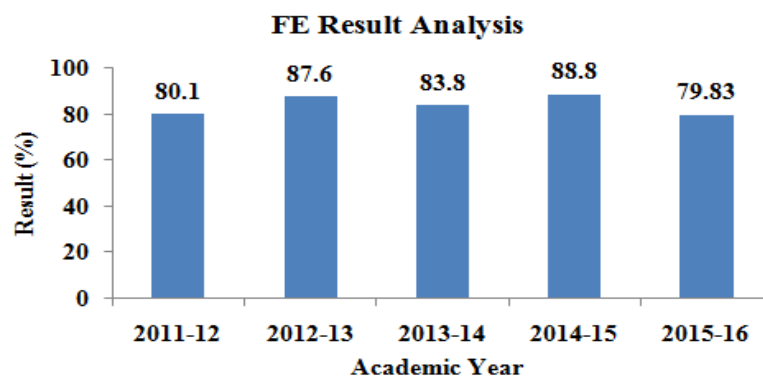


Figure 2.6.2 (d) FE result analysis

2.6.3 How are teaching, learning and assessment strategies of the institution structured to facilitate the achievement of intended learning outcomes?

Following are the **teaching, learning** and **assessment** strategies of the institution which are structured to facilitate the **achievement** of the **intended learning outcomes**. Institute ensures by **planning, organizing** and **implementation** of various activities such as **academic, co-curricular** and **extra-curricular** activities that help to achieve the stated graduate attributes.

Teaching:

- Each **department** prepares detailed **calendar** for each semester with reference to Institute and University **academic calendar**.
- Then each department prepares **timetable** which includes theory and practical along with tutorial, GFM and library period.
- Every staff member prepares **teaching plan** which includes lecture wise topic plan, planning for assignment, internal test, expert lecture and industrial visit.
- Each department has **administration system** consisting of a class coordinator, GFM, a lab in charge and coordinators for time table, internal exam, and industrial visit.
- To **enhance** teaching learning process institute organizes the **industrial visit, seminar, VC lecture and workshop**.

Learning:

Every subject teacher plans **various modes of delivery** such as chalk and talk, PPTs, case study, tutorials, quiz, projects, seminars, self-learning, industry visits, internships etc. for achieving desired learning outcome.

Assessment Strategies:

Two types of assessment strategies are adopted, one is **direct assessment** and another is an **indirect assessment**. Direct assessment tools include internal test, assignment, viva-voce, online exam, seminar and tutorial, which will help to judge the student's problem-solving ability and in-depth knowledge about the subject. Indirect assessment techniques include student feedback, course end survey, alumni feedback, and parent feedback.

2.6.4 What are measures/initiative taken up by the institution to enhance the social and economic relevance (student placements, entrepreneurship, innovation and research aptitude developed among students etc.) of the courses offered?

Institute organizes NSS, Training & Placement, Entrepreneurship and Research aptitude building activities to **enhance the social** and **economic relevance** of the courses offered.

NSS:

Institute **NSS committee** organizes various residential camps in rural area addressing various social issues, along with activities like blood donation camp. Students are advised to get connected with the social issues through their mini projects and other activities.

Training and Placement:

- **Training and Placement Cell** provides training to the students for **aptitude tests** including verbal, logical, mathematical, analytical, and general aptitude.
- Training & Placement cell organizes **soft skill** sessions and **guest lectures** of industry persons so that the students are aware of present market scenario.

Entrepreneurship development cell:

Entrepreneurship development cell plan and execute awareness about self-employment among students by organizing skill development activities. Few of them are listed below:

- i) Expert Speech by Sh. Vinod Shankar, Chairman Orlando Foods Pvt. Ltd. On “Entrepreneurship Excellence” on 15th Sept. 2015.
- ii) Expert Lecture on “Government Loan Schemes for Potential Entrepreneurs” conducted on 15th Sept. 2015 by Industrial Inspector, Shri K.B. Shinde, S. B. Patil, Industrial Inspector, D.I.C., Govt. of Maharashtra, Pune.
- iii) Expert Lecture on “Embedded System” by P.B. Shitole, Design House, Hadapsar on 13th Sept 2016.
- iv) Workshop on “Design of solar PV System” by Mr. Mohit Ajmera and Mr. Om Bapat, Mumbai 24th to 26th Sept. 2015.

Innovation and Research

- Institute has structured **research committee** with the objective to develop research environment to motivate faculty and students to get actively involved in research projects.
- Every year Institute organizes **Technical Event** ‘Tech-Manthan’ to cultivate research attitude amongst the students.
- Under IEEE student chapter seminars /guest lectures are organized for guidelines for writing research papers.

2.6.5. How does the institution collect and analyze data on student learning outcomes and use it for planning and overcoming barriers to learning?

The institution **encourages** all its departments to **clearly state** the **learning outcomes** of its programs. The institute has a **well-defined process** for **collecting** and **analyzing the learning outcomes**.

- The program outcomes are the **competencies** of graduating student which are categorized in terms of **knowledge, skill** and **attitude** of the **students**.
- **Knowledge** is attained by the students through the **curriculum** and is **assessed** through **direct assessment tools** such as unit test, online examinations, assignments, quiz, mock oral, mini project and major project evaluations. Data collected using these tools are analyzed at department and institute level. **IQAC analyses** this data and **plan** for **improvement required** for student performance and learning.
- **Skills** attained by the students consist of **teamwork, communication, use of modern tools** through laboratory assignments, practical oral examinations, mini projects, major projects, seminars, co-curricular and extra-curricular activities. **Rubrics** are developed to assess the attainment of skill since skills cannot be quantified directly.
- **The attitude** of the student is assessed through participation in **societal work** as well as **ethical practices** followed.
- The learning outcomes are **mapped** with POs and PSOs. The **LOs assessment** is carried at a predefined time.
- The **consolidated PO attainment** is presented to PAC and then DAB. The suggestions by PAC and DAB are used for overcoming barriers for the attainment of POs.
- **Feedback on student performance** is taken from the **employers**. During the **HR meet**, the input is taken from the HRs related to current trends and requirements from the industry. After the **analysis** of all the feedback, **training needs are identified** and accordingly training sessions are planned and **conducted**.
- Institute also collects and analyzes data from **other stakeholders** like parent, employer and alumni.
- Consolidated suggestions are used for the **improvement** of teaching learning process and **overcoming barriers** to learning.

2.6.6 How does the institution monitor and ensure the achievement of learning outcomes?

By following means the institution **monitor** and **ensure** the achievement of learning outcomes:

- Student attendance is monitored on regular basis by **GFM** and informed to the respective parent through phone call /SMS.
- **GFM meets** are scheduled with students weekly to share the feedback about subject teaching and personal problems of students.
- During each semester, for each course, sample questions from the papers (In-sem/Prelim/University) and assignments are mapped to respective POs through course outcomes.
- The **degree of attainment** of each course is evaluated by taking the average of attendance, viva and a passing percentage of the class for the course to categorize as high, medium and low levels of attainment.

- Expert lectures are arranged for **difficult subjects** and **remedial classes** are organized for the students having poor performance.
- Feedback obtained from alumni as well as **industry experts** are taken as input for further improving the teaching-learning process.
- **PO attainment** is also evaluated by specially designed seminar and project **rubrics**.
- **Module coordinator** consolidates the attainment of POs from all the courses and prepares the final attainment report.
- The consolidated **PO attainment** is presented in front of **PAC** and then **DAB**. Their suggestions are used for the **improvement of teaching-learning process** and to overcome the **gaps** between **industry** and **academia**.
- The **corrective measures** are decided for planning in the next semester.
- By adopting the well-defined **mechanisms** Institution analyzes **shortfalls** in the achievement of **learning outcomes** and **takes up** the **improvement** measures.
- To enhance learning experiences of students, Institute has employed new learning methods such as **Interactive Learning, Collaborative Learning, Independent Learning, Project Based Learning** and **Originative Facile Approach**.

2.6.7 Does the institution and individual teachers use assessment/ evaluation outcomes as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

Yes, the institute, as well as individual teacher, uses **assessment/evaluation** as an indicator for evaluating **students' performance, achievement of learning objectives and planning**.

- **Vision and Mission** of the institute are highly correlated with the Programme Educational Objectives (PEOs) of each department, which in turn are mapped to Program outcomes. Therefore, **PO** and **PEO** attainment indicate the **alignment** of academic activities with the vision and mission of the Institute.
- POs are also aligned with the **Graduate Attributes** that a student is expected to develop on completion of the program. Their attainment or lack of it helps in aligning the activities of the department.
- Results of **formative** and **summative assessment** methods are the major indicators for evaluating student performance.
- Results of test and assignment assessment formats are the major indicators for evaluating student performance for the **capability** of **creative** and **independent thinking**.
- Results of test and assignment are used by the respective course teachers as a feedback on student performance during the semester.
- **Non performing** students are identified and proper corrective and preventive actions are planned so that students can improve their performance in **SPPU**

exams. For example, if the performance of particular course is not satisfactory, course teacher analyses reasons behind it and accordingly plans the contents and sessions for the next batch.

- Mock test **written/online** helps in deciding further evaluation of students like the sense of humor, self-confidence and how challenges and adverse situations are managed effectively.
- **Interview**, feedback from T&P department is to modify learning objectives.
- Students participate in different **academic activities** viz. tutorial, mini-projects, a solution of numerical problems, quiz, seminar, oral etc. These activities help to assess the proficiency of students in the application of mathematical & engineering concepts and effective communication skills.
- As mentioned in 2.6.6, every **course coordinator** determines the contribution of their course in PO attainment in terms of high, medium and low category. The scope for improvement of **student performance** is low to the medium level contribution of course in PO attainments. Accordingly, an action plan is implemented by the course coordinator. This process is carried out in each semester by course coordinator and monitored by Module coordinators. **Module coordinator** consolidates the PO attainment for respective modules which is monitored by PAC. **Report** of **PAC** on the achievement of POs is presented to DAB which gives suggestions for improvements if required.

2.7 Any other relevant information regarding Teaching-Learning and Evaluation which the college would like to include.

Yes, Institute would like to highlight the best practice of using e-learning management system in Teaching-Learning and Evaluation. It provides an opportunity to students to be actively involved in the teaching learning process inside and outside the classrooms. Thereby, the interaction between teacher and student is not restricted to the classroom. E-learning has become popular because of its potential for providing more flexible access to content and instruction at any time, from any place. In addition, an e-learning system is integrated with the standard procedures such as lecture scheduling, registration, evaluation, quality assessment, etc. Institute uses e-learning platform such as MOODLE, NPTEL and innovative teaching-learning methods namely OFA and Lab as a Museum in Teaching-Learning and Evaluation, as depicted from Figure 2.7.1.

MOODLE: The name Moodle is an acronym for Modular Object-Oriented term Developmental Learning Environment and is a course management system (Course Management System - CMS) through the Internet, also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). Moodle has three levels of use namely administrator (the manager of the platform), teacher (who may also have other designations, for example, trainer, facilitator, promoter) and the student (learner, participant, among others).

Administrator: Manages the whole environment.

Teacher: Generate events, courses or subjects according to the thematic areas defined. Generate training or events which are designated.

Students: Accesses and interacts with a specific event and participates in the subjects they are subscribed.

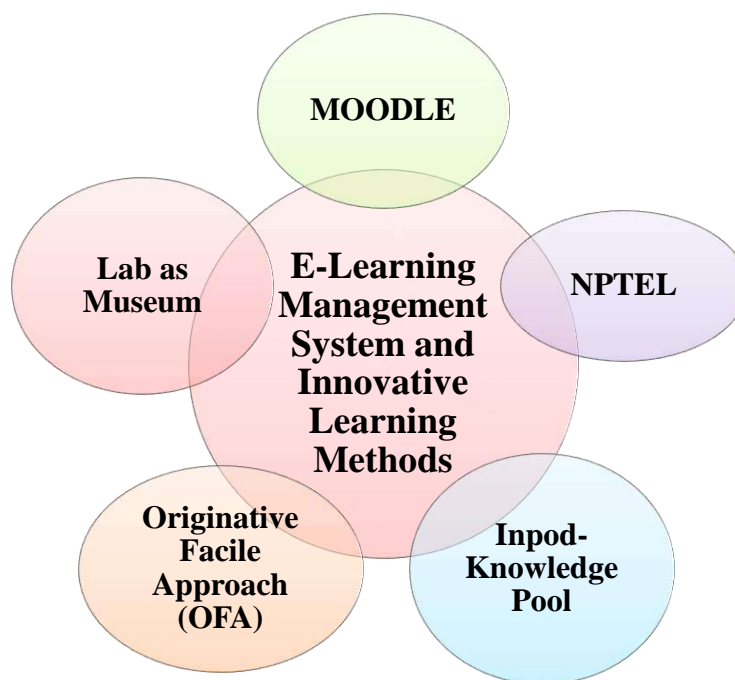


Figure 2.7.1 Institute E-learning Components

At all departments of the Institute teacher uses MOODLE for uploading unit wise Teaching-Learning material such as lecture notes, PPTs, NPTEL video / PDF, models and simulations, list of web link of online resources, list of web link of virtual laboratories, list of IS standards, product brochure, assignment along with solutions, objective type questions, unit wise question bank, list of case studies for self-study with respect to each topic, list of research papers with respect to each topic, topic wise list of recommended books, list of mini projects allocated to students and corresponding record, details of competition organized by the subject, list of quiz, debate, brainstorming etc. planned and organized for the subject, list of recommended MOOC (web links), presentations of invited experts, list of industries related with subject, In Semester examination question papers along with solution and marking scheme (TE/BE only) and SPPU exam question papers along with solution and marking scheme.

Teachers use the chat module to have a real-time synchronous discussion with the students. Teachers and/or students use the database module to build, display and search a bank of record entries about a topic. Students and teachers post comments in a central place to simulate (and stimulate) discussion, known as a forum. Forums are used for asynchronous online discussion. Questionnaire module in Moodle is used to create a survey or questionnaire for students, for instance, a course evaluation or a reading response survey. Assignments module is used by students to submit work online, including uploading any file type (Word document, PPT, video clip etc.). And

teachers grade and give feedback online. Teachers use quiz module to design and set quiz tests with a range of question types and reporting options. Teachers create different question types, randomly generate quizzes from pools of questions, allowing students to retake quizzes multiple times, and have the computer score.

MOODLE is one of the modern tool and technological innovation in teaching-learning and evaluation, which helps to address the program outcomes of graduating student in terms of knowledge, skill, and attitude.

NPTEL: The name NPTEL is an acronym for The National Programme on Technology Enhanced Learning. NPTEL facilitates the competitiveness of Indian industry in the global markets by improving the quality and reach of engineering education. Make high-quality learning material available to students of engineering institutions across the country, free of cost. Our teachers use these learning materials during teaching process and students use these learning materials during self-study.

NPTEL Online Certification Courses- Massive Open Online Course (MOOC) is essentially a process of teaching using pre-recorded lectures, resource video materials, lecture notes, assignments and quizzes which are usually online and provide the students, self-assessment at regular intervals during learning. Our Institute students are participating in online certification courses through the portal <https://onlinecourses.nptel.ac.in/> for 8-12 week or full-semester online courses, typically on topics relevant to students. The enrolment and learning from these courses involve no cost. An in-person, proctored certification exam is conducted and a certificate is provided. The proctored exam provides a viable means of delivering authentic certification following online education. Students get benefited by receiving quality instruction and education in select topics and skills, thereby improving the knowledge, skills and improved employability.

Originalative Facile Approach (OFA): For improving quality and active learning, OFA is implemented as a pilot project with some courses in the institute. The main goal of OFA is to enhance student learning and achievement by reversing the traditional model of a classroom, focusing class time on student understanding rather than on lecture. In OFA, there is more time available for students to discuss issues, ask questions, and participate. This also allows teacher to cover more topics in greater depth. In OFA, complete class strength is divided into a group of 20 students, thereby establishing classroom environment in such a way that all the resources like computers with internet facility, reference books, should be available to each student. To have effective utilization and fostering innovations by putting curiosity, critical thinking, deep understanding, the teaching sessions were a breakdown in the following manner:

The last session is assessment session. In this, students solve assignment uploaded on Moodle in the form of a workbook. Faculty assesses this workbook for the complete batch and allots marks accordingly. For second year students, instead of the workbook, online tests are conducted on Moodle for which the result is generated directly on Moodle for each student. Learning outcomes are statements that describe what students are expected to know, and be able to do at the end of each course.

These relate to the skills, knowledge, and attitude that students acquire in their matriculation through the course.

Lab as a Museum: It is one type of learning style/experience for the students or visitors visiting labs in the Institute. This will provide the students about the rationale of the field and its significance in engineering. Also, this highlights the historical development, current trends in the field, current industry players, job potentials and the skills required to grab the opportunity. It also throws light on the attainment of program specific outcomes and its mapping with the required skills for the job. This lab is a place of having fun, interactive learning and hands-on experience to explore various tools and techniques that are used in the industry.

CRITERION- III

Research, Consultancy and Extension



CRITERIAON III - RESEARCH CONSULTANCY AND EXTENSION

Sr no	Key Aspects	Assessment indicators	Outcomes
1.	3.1 Promotion of research	1. The Institution facilitates its faculty to undertake research by providing research funds (seed money).	The institute encourages its faculty to undertake research for empowering the faculty and students with technology. Institute has decided to develop its own satellite program. - Institute 100 % funding for Students Satellite mission. (3.2.2) - More than INR. 50 lacs of high end equipment's procured research projects
		2. Provision for research facilities in terms of laboratory equipment, research journals and research incentives are made available to the faculty.	- A Central Instrumentation facility (CIF) has been established for staff and students working on research projects -Library is a member of INDEST- AICTE consortia and subscribes E-resources IEEE, ASME, Elsevier, ASTM, Mc Graw Hill etc. through it. (3.1.3, 3.2.1)
		3. The institution encourages and promotes a research culture (eg. Teaching work load remission, opportunities for attending conferences etc.).	Institute promotes research culture and has taken active steps to encourage its faculties to carry out research. Some of the steps are elaborated as follows, - Institute organizes 3-days state level techno-social event “TECHMANTHAN” (3.1.4). - Faculties involved in Students satellite program have reduced Teaching load (3.1.3). - Institute funded INR 1.1 Lacs for attending conference for the faculties involved in Students satellite Program (3.1.4)

		4. The faculty is encouraged to undertake research by collaborating with other research organizations/ industry.	- The institute has formal Collaboration with (IIT Bombay, VJTI, Mumbai, SAE, Kondhwa, Zensar, Pune, Kraft Powercon India Pvt. Ltd, Pune (3.1.4). - Ph.D. / PG / UG students from other organizations viz. SAE, Kondhwa, SKNCOE, RSCOE etc. have utilized facility in the institute for their dissertation work (3.7.1) -Prof. S. B. Mohite from the institute worked in Kraft Powercon India Pvt. Ltd, Pune for completion of his Doctoral work (3.2.7).
		5. Faculty are given due recognition for guiding research.	- The faculty members with extraordinary contribution in research are felicitated by Founder secretary of the JSPM group on 26th Jan every year (3.2.7).
		6. The institution has research committees for promoting and directing research.	Yes the institute has a research committee for promoting research in the institute.
		7. The institution encourages the establishment of specific research units/ centers by funding agency / university.	Specific research unit working in the domain of Refrigeration / Cryogenics / Combustion / Power generation within the institute (3.1.5)
		8. The institution has a well-defined policy to promote research in its affiliated / constituent colleges (for universities).	-Yes the institute has well defined policy to promote research as a result of which institute has bagged research projects of tune of more than Rs. 70 lacs of research grants. (3.1.5) -25 patents Published. -900 plus publications.
		9. Workshops/ training programs/ sensitization programs are conducted by the institution to promote a research	More than 60 workshop and conferences has been held in the Institute, for details of workshops conducted (3.1.6)

		culture on campus.	
		10. The institution facilitates researchers of eminence to visit the campus as adjunct professors (for universities).	Eminent personalities from IITs, ISRO, VJTI, MSEDCL, IEEE , Pune Chapter, Zensar Executive VP, Cosmic Refrigeration, CEO have visited the institute (3.1.8, 3.7.4)
		11. The institution has a good percentage of faculty who have utilized sabbatical leave for pursuit of higher research in premier institutions within the country and abroad.	Yes the institute has sabbatical leave policy in place for higher studies. The institute was established 12 years back. It has a research centre for Ph.D. In future eligible faculties applying would be permitted for sabbatical leave (3.1.9) .
2	3.2. Resource Mobilization for Research	12. Financial provisions are made in the institution's budget for supporting students' research projects.	5% of the total budget is allocated for supporting students research projects
		13. The institution takes special efforts to encourage its faculty to file patents.	<ul style="list-style-type: none"> - Institute has constituted Intellectual Property (IP) cell to ensure all novel ideas are applied for patent. - The IP cell assists for in-house drafting, patent searching and filing of patents without assistance of any external agency (3.1.2). - 25 patents have been filed till date in the institute. - Two international patents have been granted to Prof. (Dr.) S. B. Mohite.
		14. Projects sponsored by the industry / corporate houses are availed by the institution.	- Kraft Powercon India Pvt. Ltd. Had funded INR 35 lacs for doctoral work of Prof. S. B. Mohite to develop special purpose power supply which has been granted two international patents.

3	3.3 Research Facilities	15. The institution receives quantum of research grants from external agencies for major and minor projects.	- Overall more than INR 70 lacs of research grants have been received for all the ongoing and completed funded projects from Industries, BCUD, DST, Gov. of India and ISRO-UoP STC, Pune (3.1.5).
		16. The institution has recognized Research CenteINR (National and international, eg. UGC, ICSSR, ICHR, ICPR, DST, DBT, UNESCO, UNICEF).	- Yes the Mechanical Engineering department in the institute has a Research Center affiliated to SPPU started in A.Y. 2013. (3.1.1)
		17. Efforts are made by the institution to improve its infrastructure requirements to facilitate research.	- More than INR 50 lacs of high end equipment were released by the institute for improving the research infrastructure in terms of high end equipment's. - Institute 100 % funding for Students Satellite mission for all activities including travel, stay attending the conferences, purchasing equipment's, upgrading laboratories etc. to enhance the interdisciplinary work culture (3.2.2)
		18. Residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research fellows of various academies and visiting scientists (national/international) are available.	Hostel facility for research scholars is available in the Campus with Wi-Fi and Mess provision.
		19. The institution has a specialized research Centre/ workstation on-campus and off-campus to address the special challenges of research programs.	Institute has specialized research facility in the domain of Refrigeration, Cryogenics, Combustion and Power generation (3.1.5).
		20. The institution has centers of	- At present there are no centers of national and

		national and international recognition/repute.	International recognition in colleges in Pune under SPPU. However the Institute has received research grants from DST and ISRO for development of Cryo-cooler for IR sensors.(3.1.3) Institute research lab has developed Linear compressor for refrigerators (Only LG has been able to commercialize the technology) (3.1.5)
		21. Research facilities are enhanced through research projects.	Establishment of Central Instrumentation facility with equipment's more than Rs 20 lacs for utilization of UG/PG/Ph.D. students (Refer 3.2.5).
4	3.4. Research Publications and Awards	22. Significant faculty involvement in research is evident.	The institute encourages its faculties to Publish Papers, apply for Patents and Research Grants. As a result of the institute policy, - More than INR 70 lacs of research grants from Industry / ISRO-UoP-STC / DST, Gov. of India received by the institute. (3.1.5) - 25 patents published with the guidance of IP cell. - 900 plus publications done in the Institute of various domains.(3.4.3) - Book on " Research methodology for engineers " first book published in year 2014 by Dr. R. K. Prasad and Dr. V. K. Bhojwani. - Establishment of Central Instrumentation facility (3.2.5).
		23. The institution has an official Code of Ethics to check malpractices and plagiarism in research.	Turniton software access is provided by the university to the research guides of the institute to check for the Plagiarism of research articles (3.3.5). Institute has a clear policy to discourage its faculties from malpractices and Plagiarism in research
		24. Interdepartmental /	Interdisciplinary Projects between Mechanical and

		interdisciplinary research projects are undertaken.	Electrical, Electronics and IT Department have executed (3.2.4) . Students Satellite Program has been initiated to further enhance the interdisciplinary work culture across the departments in the institute (3.2.4) .
		25. The institution has instituted research awards .	Awards for paper, patents filed, grants received by faculty are conferred to the faculty on 26th January every year during the Sevak Melava by the JSPM group Founder Secretary
		26. Incentives are given to the faculty for receiving state, national and international recognition for research contributions.	The faculty involved in active research are given duty leave for attending National or International Conference . Staff members involved in the satellite project have attended two weeks for International workshop on Satellite and disaster management at Kollam, Kerala (Sept. 2016) and visit to ISRO Bangalore (March, 2017) on duty leave. All the expenses towards travel, stay, food etc were borne by the Institute .
		27. Research awards and recognition are received by the faculty and students from reputed professional bodies and agencies.	Students have received awards and Scholarship from ISHRAE, Pune Chapter, GoKart and prizes at various conferences and project competition
		28. Output in terms of M.Phil, Ph.D. students is significant.	More than 300 PG projects across the departments completed covering range of topics viz. Social, Techno social and technical field during. (3.1.4) And 5 Research Scholars registered for Ph.D. in the approved research center with one of the departments in the institute (3.1.4) .
		29. The institution has received	- 25 patents have been filed.

		research recognition and awards (including patents).	- Two international patents have been granted to Prof. (Dr.) S. B. Mohite (One each from China and Europe)
		30. The institution's research has contributed to the industry's requirements/ productivity.	Doctoral work of Prof. S. B. Mohite funded by Kraft Powercon India Pvt. Ltd , Pune resulted in novel product for the organization and granting of two international patents (3.2.6) . Linear Compressor project funded by DST , Gov. of India, Resulted in design, development and successful testing of linear compressor LG Electronics till date has been able to commercialize the Linear compressor technology for refrigerator application (3.7.3) . Effect of magnetic field on Hydrocarbons project has shown improvement of around 10 % in Automobile performance by simply applying permanent magnetic field to fuel line (3.7.3) .
		31. A significant number of research articles are published in reputed/ refereed journals.	More than 900 plus publications by students along with faculty members of the institute (3.4.3) .
		32. The institution has published books and proceedings based on research work of its faculty.	Book on " Research methodology for engineers " published in year 2014 by Dr. R. K. Prasad and Dr. V. K. Bhojwani.
		33. The institution is acclaimed for its research as evidenced by metrics such as Citation Index, Impact Factor, h-index, SNIP, SJR, etc.	In institute, the faculties are involved in research and it is shared through publications in reputed national/international journals and conferences.
5	3.5. Consultancy	34. The institution publicizes the expertise available for consultancy services.	Brochure of the various research facilities / Expertise available in the institute and significant projects undertaken is communicated to industries via email to

			the industries visiting the institute for placements. The information also reflects on the institute website.
		35. The institution renders consultancy services to industries.	The institute has received project from IIT Bombay ONGC funded project for development of flexure bearing. Prof. S. B. Mohite had developed and patented product for Kraft Powercon pvt. Ltd.
		36. The institution renders consultancy services to Government /Non-Government organizations/ community/ public.	The institute has been proactive in rendering its expertise to industry / GOvt / Non-Govt / Other institutes / Students from other institutes Institute also has been rendering support to ONGC Funded project at IIT Bombay for development of Free piston Stirling Engines (3.7.2) . The institute has received funds from ISRO-UoP-STC for development of Cryocooler for IR sensor cooling. Students from various institutes from and around Pune (SAE, Kondhwa, SKNCOE, RSCOE, Tathawade, Alva Institute, Karnataka etc.) utilize the research laboratory in the institute to complete their dissertation work (3.7.1) . The students from other institutes working in JSCOE have not been charged but the manpower and cost of the man hours involved is of approximately INR 10 lacs.
		37. Resources (financial and material) are generated through consultancy services of the institution.	IITB-ONGC funded project has an outcome of development of fatigue life test setup for flexure bearings. Institute has been collaborated for research work with

6	3.6. Extension Activities and Institutional Social Responsibility		Industry “Kraft Powercon India Pvt. Ltd.” (3.7.3).
		38. Mutual benefits accrued due to consultancy.	Doctoral work of Prof. S. B. Mohite resulted in a product for Kraft Powercon India Pvt. Ltd and two international patents (3.7.3).
		39. The institution has an official policy for structured consultancy.	The Consultancy charges are divided among Institute (50%), Principal Investigator (30 %), administrative and support staff (20 %) (3.5.5).
		40. The conduct of extension activities is promoted by the institution.	The institute promotes extension activities and has dedicated institute level coordinators viz. Sports, Cultural and NSS Coordinators to promote extension activities (3.6.4)
		41. Need-based extension programs are organized.	Institute NSS organized social awareness about Digital payments to encourage cashless transactions. Swach Bharat Abhiyan, Blood donation camp and Free health checkups (3.6.1)
		42. Students and faculty participate in extension programs.	Faculties and students from across the departments participate in NSS activities (3.6.1)
		43. NSS activities are organized.	Yes, Institute has NSS activities and last academic year total participation was 50 students of various departments. Various activities were conducted by the NSS. (3.6.1 and 3.6.2)
		44. Awards and recognitions have been received for extension activities.	Institute has awarded the women helpers on women's day special (3.6.1) and institute has received 1st prize in in Purushottam Karandak (3.6.10)
		45. The impact of extension activities on the community goes through a cycle of evaluation, review and upgrading the extension programs.	Mentors record the student achievement in such extension activities in the respective advisor file and it is reviewed by the NSS coordinator and the Principal
		46. Partnerships with industry,	Participation in Vanmahotav Organized by Gov. of

		community and NGOs for extension activities are established.	Maharashtra – around 4000 trees planted by students (3.6.2) . Students did Traffic duty during Ganesh Festival in collaboration with Wanwadi Police station.
		47.The institution has a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles.	Institute has GFM system and Mentor system where each faculty is allotted with 20 Students of his division and all the record keeping of students / participation in in various social movements / activities which promote citizenship roles is maintained by the GFM / Mentor (3.6.2)
		48.The institution is cognizant of its Institutional Social Responsibilities (ISR) .	Institute is aware of role of its teachers and students by actively organizing and participating in NSS activities for personality development and uplift of society.
		49. All constituents of the institution are made aware of its ISR.	Institute has made aware its constituents of the Participation in Institutional Social Responsibility (ISR) and Extension activities as a result many social activities have been executed like career guidance fare 12th standard students, engineering diploma students etc. (3.6.1)
7	3.7. Collaborations	50.The institution has linkages for various activities such as faculty exchange, student placement, etc.	The institute has linkages with Cosmic Refrigeration, Accurate gauging, Ratna gears, Shree Refrigeration, Gyantirth, Bullseye, APART etc. for student training and placement / Internship.
		51.The linkages established by the institution have enhanced its academic profile.	The linkages with reputed organizations has helped to enhance its research capabilities, - Inputs on various research projects from eminent personalities from IITs, ISRO, VJTI, MSEDCL, IEEE etc. have resulted in improvement and fast tracking the research projects like thermo acoustic

			engine, Linear Compressor Development, Stirling Cycle cryo cooler development etc. (3.1.2)
		52. Specific examples of linkages to promote curriculum development, internship, on-the-job training, faculty exchange and development, research , etc.	MoU with Zensar, Pune has resulted in more than 100 students undergoing internship at Zensar, Pune Campus. (3.3.4 & 3.7.1) . The curriculum design during Faculty development program at the start of every semester is confirmed and approved by Industry experts.
		53. The institution has MoUs with institutions of national/ international importance/other universities/ industries/ corporate houses etc.	The institute has MoUs with IIT Bombay, VJTI, Zensar, APART, Copper track industries etc.
		54. Institute-industry interactions have resulted in the establishment / creation of highly specialized laboratories/ facilities.	- A fatigue life test setup for testing of flexure bearing is planned in collaboration with IIT Bombay for IITB-ONGC funded project in the Mechanical Engineering Department. A dedicated laboratory in collaboration with D-Link is being planned in Computer department of the institute.
		55. The impact of the institutional collaborations are formally reviewed.	Periodic interactions is held between Professors from IIT Bombay, VJTI, Mumbai etc. through Phone, emails, personal visits etc for reviewing progress of the collaborative efforts (3.1.8) .

CRITERION III**RESEARCH CONSULTANCY AND EXTENSION****3.1 Promotion of Research*****3.1.1 Does the institute have recognized research Center of the affiliated university or any other agency / Organization?***

Yes, the Institute is recognized as a research Centre in Mechanical Engineering by the Affiliating University, SPPU. Letter No: CA/127 Dated: 07/02/2017

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

The institute promotes research in all the departments. All the professional courses offered by the institute involve enhancement of the research facilities and capabilities for the technological empowerment of student community. Students who have secured admission in the institute get a feel of current up gradation in the Technology and technological needs of society.

Table 3.1.1 Research Committee

Sr. No.	Name	Position
1	Dr. M. G. Jadhav, Principal, JSCOE	Chairman
2	Dr. V. K. Bhojwani, Research Co-coordinator, Mechanical Research Center	Member
4	Dr. S. B. Mohite (Associate Prof, E&TC Department)	Member
5	Dr. S. N. Kini, (Professor, Computer Engineering)	Member
3	Dr. P. A. Patil, (HOD Mechanical Engineering)	Member
6	Dr. P. M. Patil, (Professor, Electronics Engineering)	Member
7	Prof. Sachin Todkari (HOD, Department of IT)	Member
8	Dr. P. N. Gokhale (Electrical Engineering)	Member
9	Dr. P. A. Thakare (HOD, General Sciences)	Member
10	Dr. Dadasaheb Shendage, Senior Scientist, Mechanical Department, IIT Bombay	External Expert
11	Dr. Mandar Tendolkar, Asso. Prof. VJTI, Mumbai	External Expert
12	Dr. G. S. Mani (Ex-Director, DRDO), Chairman, IEEE Pune Chapter.	External Expert

For enhancing the research capabilities and technical infrastructure, faculty members apply for grants from various agencies, file patents and involve in publications. The institute has a research committee to monitor the progress in research activities in various departments of the institute.

The major objective of the research committee is to encourage research in all departments and motivate interdisciplinary project activities and ensure active participation of the UG / PG / Ph.D students who are pursuing research in various research projects across the institute.

Table 3.1.1 contains details of the staff appointed to the institute research committee to monitor the progress of research work in all the departments of the institute. Following are some of the recommendations and impact of the recommendations by the research committee:

- **Recommendation 1:** To motivate all Staff and students for enhancing research activity.
Impact: More than **INR70 Lakhs of research grants** received, **25 patents** filed and **900 plus publications** in national and international publications by students and staff since the inception of the committee.
- **Recommendation 2:** Encourage the faculty members to apply for research funding from various agencies.
Impact: Seven faculty members have applied and received research grants from various agencies like **DST, BCUD, ISRO** and Industry etc. Several proposals have been submitted and are under consideration.
- **Recommendation 3:** To enhance Institute Industry Interaction invite industry experts in the institute.
Impact: **Eminent Personalities** from reputed organizations (Philips Healthcare, ISRO, IIT Bombay, Zensar etc.) have visited the campus and have given their inputs on various ongoing projects in various departments.
- **Recommendation 4:** Encourage faculty members for higher studies for knowledge, skills and career enhancement.
Impact: 26 faculty members from various departments have registered for Ph.D Program.
- **Recommendation 5:** Monitor the progress of research work of the various Research Scholars in the institute by experts from reputed organization and share ideas to improve the research culture at institute in-line with established and reputed Organizations.
Impact: Periodically experts from reputed organization have visited the institute to give their inputs/feedback on the progress of the various Ph.D. projects in the various Departments and share their ideas to enhance research culture at JSCOE. To mention a few:
 - 1) Dr. K. G. Narayankhedkar, Chancellor, MGM institute of health Sciences visited Research Laboratory at Mechanical Engineering Department, JSCOE.
 - 2) Prof. (Dr.) S. L. Bapat, Ex-HOD, Department of Mechanical Engineering, IIT Bombay.

- 3) Dr. Dadasaheb Shendage, Sr. Scientist, ONGC Project, Department of Mechanical Engineering, IIT Bombay.
 - 4) Prof. (Dr.) Mandar Tendolkar, Associate Professor, VJTI, Matunga, Mumbai.
 - 5) Dr. Hitendra Patel, Mechanical Architect, Philips Healthcare, Pune.
 - 6) Mr. Yuvraj Patil, Product Chief, Fiat Chrysler, Pune.
- **Recommendation 6:** To encourage students and faculty members for filing patents for novel ideas generated during the projects undertaken.
Impact: A special IP cell was established for assisting in drafting and filing of patents from various departments. As a result of guidance from the IP cell till date, **25 patents** have been filed by the staff across different departments in the institute.
 - a) All the drafting, patent search and online application of the patent is done with the help of IP cell staff only, no assistance from the external agency is sought.
 - b) One European and One Chinese patent have been awarded to Prof. (Dr.) S. B. Mohite from Electronics department.

Table 3.1.2 IP cell Committee

Sr. No.	Name of the faculty	Designation	Department
1	Prof. (Dr.) V. K. Bhojwani	Chairman	Mechanical Engineering
2	Prof. (Dr.) P. M. Patil	Member	E&TC Department
3	Prof. Sachin Todkari	Member	IT Department
4	Prof. (Dr.) S. B. Mohite	Member	E&TC Department

- **Recommendation 7:** Encourage staff and students to publish their work in various national / International Journals and Conferences.
Impact: Faculty members have published more than **900 plus publications** in research papers in International and National journals and conferences.
- **Recommendation 8:** Arrange workshops with hands-on training for faculty members / Students on various subjects by experts from Industry / Institutes.
Impact: Various workshops and hands-on training were conducted in the institute like MATLAB, MECHATRONICS and CFD etc.
- **Recommendation 9:** Arrange Project competition / Motivate for participating in National level Competitions.
Impact: Organization of important technical activities to promote research culture.
 - a) Students from the institute participated in the Go-Karting Competition a National level event at Trinity College of Engineering, Pune and **bagged 4th rank** among best Karting teams of India in Trinity Karting Trophy in 2016.
 - b) The institute students received First prize for **Best Business Presentation award** with a **cash prize of INR 10,000**.

- c) The interview was taken by the expert persons from industry on RAC & its application. JSCOE ISHRAE student members & other ISHRAE members from Pune colleges participated in the event. JSCOE students got two scholarships out of four. Two students Sandeep Walke (INR 20,000/-) and Hole Kaveri (INR 10,000/-) got one-time scholarship.
- **Recommendation 10:** Arrange expert lectures, visits by experts from Industry / Reputed organizations for knowledge sharing, brainstorming to enhance the quality of research projects.
Impact: Various **eminent personalities from IITs, ISRO, VJTI, MSEDCL, IEEE** visited the institute to name a few,
 - 1) Prof. (Dr.) S. L. Bapat, Ex-HOD, Department of Mechanical Engineering, IIT Bombay.
 - 2) Prof. (Dr.) K. G. Narayan Khedkar, Chancellor, MGM institute of Health Sciences, Navi Mumbai visited JSCOE.
 - 3) **Prof. (Dr.) B. A. Chopade**, Vice Chancellor BAMU as Chief Guest for Tech-Manthan 2015.
 - 4) Dr. Dadasaheb Shendage, Senior Research Scientist Working at Department of Mechanical Engineering Visited JSCOE.
 - 5) Prof (Dr.) Mandar Tendolkar, Associate Professor, VJTI, Matunga, Mumbai.
 - 6) Prof (Dr.) Mukund Bade, Department of Mechanical Engineering, SVNIT Surat has assisted in downloading and sharing research papers required by Research Scholars in the institute.
 - **Recommendation 11:** Procurement of high-end testing equipment for carrying out research work to enhance the research infrastructure.
Impact: Following were significant equipment procured by the institute for research capacity building in the institute. To name a few equipment with approximate costs are listed below.
 1. FFT Analyzer (**10 Lakhs**).
 2. IC Engines for carrying out PG and Ph.D. project (**10 Lakhs**)
 3. Wind tunnel (**5 Lakhs**).
 4. High-end computing softwares prescribed beyond the syllabus (CFX, ANSYS, MATLAB, AUTOMATION STUDIO etc.)
 5. High-end vacuum pump (Up to 10^{-6} torr pressure) (**2.1 Lakhs**)
 6. Two-channel power supply with variable frequency, Variable voltage and the phase difference between the two channels (**2.68 Lakhs**).
 - **Recommendation 12:** Arrange student's visits to industry to reduce the curriculum gap and improve student awareness about industry practices.
Impact: Several visits to industries in and around Pune were organized.

3.1.3 What are the measures taken by the institute to facilitate smooth progress and implementation of research schemes/projects?

Enhancing research capabilities requires encouraging, motivating and strengthening by the Principal Investigators (PI) of all funded research projects. The institute has a policy in place and a favorable environment for all staff members to actively involve

in research. The institute not only gives freedom of movement, **reduced teaching load** (So that PI gets more time for execution of the funded project) for the PIs of the project and staff involved in students satellite program, assists in procurement, timely release of the Purchase orders, budget utilization, provide support staff needed (Non-Teaching, Technical assistant, Accountant etc.) for smooth execution of significantly funded project. As a result of the favorable institute Policy projects funded by **DST** (Grants sanctioned **22.74 Lakhs**) was completed in 36 months (2013-16) from receipt of the grants and has been applied for closure in November 2016.

Following are the steps taken by the institute for smooth execution of the research projects,

- Simplification of procedures related to sanctions/purchase orders that is to be made by the investigators.
- Autonomy to the principal investigator so that minimal trouble is caused to the PIs.
- Timely release of grants.
- As per policy, the audits are completed in prescribed time for smooth execution and timely receipts of the grants.
- The financial and administrative responsibilities are borne by the institute for smooth progress of the funded project.
- The primary responsibility of submission of Utilization certificate (UC) lies with the PI.
- Institute has put a system in place to ensure auditing and timely submission of the UC to the sponsoring agency.
- A mechanism is setup for procurement of equipment from the funded projects to ensure transparency, freedom to PI in decision making and fast track release of Purchase orders.
- The advance fund is provided to the PI from the grants received for the purchase of small items.
- Three party comparative quotations are called before procurement for all items beyond INR 10000 cost and recommendations by the Principal Investigator are followed for releasing the purchase order for smooth and transparent utilization of the funds.
- The purchase orders are released on priority for all the funded projects.
- Absolute freedom is given to the Principal investigator for smooth execution of the project.
- Lab assistant / Helping staff for movement of resources / Documents etc.
- Internet / Printing / Photo copies for documentation.
- 24 x 7 Free access to digital library e-books and referred e-Journals (ASME, IEEE, Science direct etc.).
- Procurement of Specialized books prescribed beyond the syllabus needed for the funded projects.
- Faculty members have 24 x 7 free access to institutional facilities to carry out research work.

- Research laboratories are kept open beyond the normal working hours whenever required by the UG/PG/Ph.D students to complete the project.
- As and when required the existing laboratories are upgraded in terms of latest technologies.
- The R&D cell facilitates auditing and submission of utilization certificate to the funding authorities.
- Faculty members are encouraged to participate as resource persons in various workshops, seminars and conferences to share the research experience while working on the funded project.
- Research journals in both print and online version are available in the central library.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

Various steps taken by the institute to enhance Research Culture in the Institute such as:

Every year institute organizes 3-day state level technical festival “TECHMANTHAN” with project competitions in different streams of engineering where students from across the state participate in the competition. Various competitions are organized during the event like Robowar, Lathe war, CAD Efficacy, Rocket launcher.

Industrial visits to prominent industries have been organized for the institute students like Reliance Power station, TIFR, Ooty, Koyna Hydroelectric Power station etc.

Expert lectures by experts from Industries / reputed academic organizations like IIT Bombay, VJTI, ISRO, Zensar, Infosys, etc. have been organized.

The institute has 4 Ph.D. and 50 PG recognized faculty members approved by the Savitribai Phule Pune of the university (SPPU). More than **300 PG projects** across the departments have been completed covering a range of topics viz. Social, Technosocial and technical field during the course of Master’s degree in the institute. And **5 Research Scholars** who are also working as full-time staffs in the institute have registered for Ph.D. in the approved research center with one of the departments in the institute.

- a) Fourteen Research scholars have been awarded Ph.D. degree and five candidates are presently working under the guidance of Prof. (Dr.) P. M. Patil of Electronics Department.
- b) Ten research scholars are working under the guidance of remaining research guides.

Knowledge transfer from Doctoral students to Undergraduate students:

- Institute has built a strong research culture which has helped penetration of research aptitude from doctoral students to UG students.
- All the Ph.D. projects are assisted by M. E. and UG students.

- It has helped in knowledge transfer and UG and PG students getting the experience of working on technically challenging and clearly defined objectives of thesis work.

This has helped to achieve:

- a) Enhance the research culture in the institute.
- b) Smooth execution of the significant projects.
- c) To mobilize funds by the contribution of all involved for non-funded projects.
- d) Defined Scope and objective for UG and PG students.
- e) Development of hardware and testing facility in the campus.
 - Institute has announced to fund through its own finances a student satellite program where students and staff from various departments would work together to develop a satellite mission to be flown in by ISRO in future. Accordingly, staff and students have initiated the activity to meet experts in the domain to finalize scope and objective of the mission. Under the initiative staff and students have visited,
 - IIT Bombay for getting information on Students Satellite launched
 - Central Remote sensing Center, Nagpur.
 - Visit to ISRO Satellite Center, Bangalore.
 - Many interdisciplinary activities are planned under the program and a 5-year roadmap and timeline of the activities has been planned till December 2021.

Table 3.1.3 Faculty team for Students Satellite Program

Sr. No.	Name
1	Dr. S. B. Mohite (Associate Prof, E&TC Department)
2	Dr. S. N. Kini, (Professor, Computer Engineering)
3	Prof. Poonam Lambhate, (IT Department)
4	Dr. P. N. Gokhale (Electrical Engineering)
5	Dr. P. G. Kadam (Mechanical Engineering)

Periodically experts from reputed organization have visited to give their feedback on the progress of the various Ph.D. projects in the Institute. The institute has formal Collaboration (MOU's) with **VJTI Mumbai, SAE Kondhwa, Zensar Pune and Kraft Powercon India Pvt. Ltd Pune.**

3.1.5. Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity etc.)

The institute has fifty PG recognized guide and four Ph.D. recognized guide by the University of Pune. Following are the significant Ph.D. / M. Tech Projects undergoing at a research laboratory in the Institute.

Tables 3.1.4 Significant Projects undertaken from various funding agencies

Sr. No.	Title of the Project	Name of Doctoral Student	Name of the faculty as guide	Funding agency (fund in Lakhs)	Status	No. of UG / PG students involved
1	Development of Single Piston linear Compressor for Refrigerator application	Amit Jomde	Prof (Dr.) V. K. Bhojwani	DST , Gov. of India (22.74)	Completed (2013-16)	24 / 5
2	Development of Oil free Opposed Piston linear Compressor for Refrigerator application	Suneeta Phadkule	Prof (Dr.) V. K. Bhojwani	DST , Gov. of India (22.74)	Ongoing (2016-19)	12 / 2
3	Development of Stirling Cycle Cryocooler for space application	Fayaz Kharadi	Prof (Dr.) V. K. Bhojwani	ISRO -UoP STC	Ongoing (2016-19)	4 / 2
4	Experimental Investigations on rectangular Swiss roll Combustor	Sagar Mane Deshmukh	Prof (Dr.) V. K. Bhojwani	Self-financed	Ongoing (2014-17)	20 / 3
5	Experimental Investigations of Circular Swiss roll Combustor	Nitin Chavan	Prof (Dr.) M. G. Jadhav	Self-financed	Ongoing (2016-19)	5 / 1
6	Development of Thermoacoustic Engine for 1 kW power	Mahesh Gaikwad	Prof (Dr.) P. A. Patil	Self-financed	Ongoing (2016-19)	20 / 1
7	Investigation of High-Performance Alternative sound absorbing materials.	Prof. Ulhas Malawade	Prof (Dr.) M. G. Jadhav	BCUD (1.94)	Ongoing (2016-19)	16 / 1
8	Experimental study of Heat Transfer and Pressure drop using water/Ethylene Glycol based Nanofluids.	Suhas Shinde	Prof (Dr.) P. A. Patil	Self-financed	Ongoing (2016-19)	24 / 2

9	Performance of different refrigerant using compressor Calorimeter	P.A.Kosbe	Prof (Dr.) P. A. Patil	Self-financed	Ongoing (2016-19)	20 / 6
10	Effect of magnetic field on Hydrocarbon performance	Prahlad Tipole	Prof (Dr.) V. K. Bhojwani	BCUD	(2013-17)	20 / 3

Table 3.2.8 (a) & (b) give the details of ongoing and completed research Projects in the institute.

- Institute has collaborated for research work with Industry “**Kraft Powercon India Pvt. Ltd.**” which has funded **35 Lakhs** for execution of the said project and it is completed within stipulated time
- Institute has bagged research projects of the tune of more than **70 Lakhs of research grants.**

3.1.6. Give details of workshops/ training Programs/sensitization Programs conducted/organized by the institution with a focus on capacity building in terms of research and imbibing research culture among the staff and students.

Increasing student involvement in faculty research is a win-win proposition from many perspectives. Student assistance can greatly speed a faculty member's ability to conduct research. It can encourage students to explore research careers for themselves. It builds student-faculty interaction, thereby improving the undergraduate educational experience and allowing students to develop one-on-one relationships with faculty members. Participation and Organization of workshops with hands-on training has enhanced the technical and research skills of the students as well as staff. More than **60 workshop and conferences** has been conducted successfully by the Institute in collaboration with industries and professional bodies for beneficiary to the students in their UG and PG Projects.

Few remarkable workshops/training Programs Conducted by the institution are as follows:

- Under Institute IEEE Student chapter, activities like National level Workshop, Seminars, Webinars, Guest Lecture, Keynote lectures are arranged for UG and PG students.
 - a) The activities like two days “Hands on Workshop for ARM-7 and Raspberry pi”
 - b) Seminar on “Android and Apple MacOS Development”.
 - c) One day workshop on “PCB Designing Using OrCAD”.
 - d) Prof. G. S. Mani (Chair, IEEE Pune Section) delivered a lecture on “Project Guidance”.
 - e) Guest lecture on “Spiritual and Stress Management”.
 - f) Keynote lectures on “Revolution in Engineering Technology”.

g) National level “Technology Dissemination Contest for Students” held on 27th August 2016.

- The main objective of TDCS is to use Engineering college students to disseminate information about emerging technologies among Rural and Urban high School children to create interest in them.
- TDCS also works as a platform for the participating college students to experiment with different modern educational tools and use their innovativeness in using the tools effectively.
- 100 teams from Maharashtra and Tamil Nadu participated in the competition.
- Former Senior Scientists from ISRO Dr. A. K. Sinha interacted with students regarding Opportunities in ISRO.
- Mr. Rahul Jagtap (Head IT PMC, Pune) interacted through keynote “Smart City Development-Pune”.
- Mr. Akash Jarad attended IEEE Student Congress at PESIT, Bangalore.
- Mr. Ruturaj Shete & Mr. Saket Nibargi Selected research papers for IEEE Digital explorer.
- UG and PG Students participated in IEEE Communication Project competition.
- **Tech-Manthan** (2012-16) is an annual state-level project competition for all the departments. Students from various institutes in and around Pune and across Maharashtra participate in various technical competitions organized by all the departments in the institute.
- **IEEE Project competition:** 300 plus Students from many states participated in this competition.
- **2-day MATLAB for Engineers with Hands-on training in April 2015:** 30 faculty members from various institutes in Pune Participated in the training program. The sessions were conducted by Prof. (Dr.) D. N. Malkhede, Professor Mechanical Engineering Department, COEP, Pune and Prof. (Dr.) S. P. Deshmukh, Professor Mechanical Engineering Department, SAE, Kondhwa, Pune
- Automation studio and hands-on training for staff and students.
- A National Conference was organized in 2013 by Mechanical Engineering Department.

3.1.7. Provide details of prioritized research areas and the expertise available with the institution.

Institute is promoting and inculcating research culture across all the departments. Expertise in a domain is built by working in a specific area consistently and continuously to prioritize research areas of the faculty members.

Table 3.1.7 Prioritized research areas with expertise of faculty members

Sr No.	Name of expert	Prioritized research areas	Contribution
1.	Dr. M. G. Jadhav	Thermo Acoustic Engine	Ph.D. Thesis work
2.	Dr. V. K. Bhojwani	Refrigeration and Cryogenics	44 Lakhs grant sanctioned, guiding 5 Doctoral students, 25 publications, filed 10 patents in the domain
3.	Dr. P. M. Patil	Artificial Intelligence, Digital Image Processing, Artificial Neural Network, Fuzzy Logic Signal Processing	Fourteen candidates have been awarded their Doctoral degree and 5 are presently working in the said domains. Received a grant of INR 13.10 Lakhs under MODROBS from AICTE. Completed 4 BCUD funded Research projects of 4.5 Lakhs. Filed and Published 4 patents. Published more than 100 papers in International and National Journals and conferences including IEEE, Springer, Elsevier, Science Direct and JPRR.
4.	Dr. S.B. Mohite	Embedded System Design	Project funded by Kraft Powercon and 1 Chinese and 1 European Patent granted.
5.	Dr. P.A. Patil	Refrigeration and A/c, Fluid Mechanics, Heat Transfer, Thermo-Acoustic Engine.	Ph.D. in Refrigeration guiding 4 doctoral students and successfully guided 15 PG Thesis on the domain
6.	Dr. V. S. Jatti	Manufacturing	More than 55 publications.
7.	Prof. S. V. Todkari	Wireless Sensor Network	Published 4 patents in the said research domain
8.	Dr. A. P. Rao	Optical Fiber and microwave communication	Guiding UG/PG students
9.	Dr. P.N. Gokhale	Electrical Networks and Girds	Guiding UG/PG students
10.	Prof. P. P. Gumaste	Speech processing	Guiding UG/PG students
11.	Prof. M. B. Tadwalkar	Wireless Sensor Network	Guiding UG/PG students

3.1.8. Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

The institute believes in interaction with outside world especially with researchers of eminence to visit the campus and interact with faculty members/students so as to have thoughts/ideas sharing, giving guidelines for further improvement resulting in streamlining of the research culture/research activities in the institute.

The institute takes following efforts for attracting researchers of eminence to visit the campus and interact with teachers and students by:

- The IQAC, FG, R & D cell activities for development of curriculum, brainstorming on updating and renovating research policies are done with inputs of eminent personalities from various reputed organizations.
- Tech-Manthan is a state level technical event organized by the institute every year and attracts eminent personalities for inauguration, participation in various technical events organized by various departments.
- Organizing Faculty Development Programs by involving industry personalities where ways and methods and content of the prescribed syllabus is discussed modified and updated to meet the need of the current changing technological scenario in the market.
- Inviting experienced professional from the industry for sharing their views by organizing conferences and workshops.
- The detailed list of the **eminent personalities** from **IITs, ISRO, VJTI, MSEDCL, IEEE** visited the institute will be made available individually by each department during the visit.
- To name a few following **Eminent Personalities** have visited our Campus:
 1. Honorable Chief Minister of Maharashtra Mr. Devendra Fadnavis visited the Institute Campus and appreciated various facilities available in the institute on 15th May 2016.
 2. Dr. K. G. Narayan Khedkar, Chancellor, MGM Institute of health Sciences for the Faculty Development Program held in December 2016.
 3. Dr. M. C. Uttam, Head **ISRO-UoP-STC** cell visited research laboratory in the institute to monitor the progress of the ISRO sponsored project in the institute.
 4. Prof. B. A. Chopade, Vice Chancellor BAMU as Chief Guest for Techmanthan 2015.
 5. Dr. Sunil Kulkarni, Director, Emerson Climate Technologies, US visited our College in December 2016 for giving an expert lecture to UG students on Studying in the US.
 6. Dr. S. L. Bapat, Ex-HOD Mechanical, IIT Bombay visited JSCOE and gave an expert lecture on How to boost Research at University level.
 7. A keynote lecture on “Revolution in Engineering Technology” was addressed on 5th February 2016 by Dr. A. K. Sinha (Former member ISRO).
 8. Dr. Dadasaheb Shendage, Sr. Scientist, ONGC Project, Department of Mechanical Engineering, IIT Bombay.
 9. Dr. Hitendra Patel, Mechanical Architect, Philips Healthcare, Pune.

10. Shivprasad Kalluriya, CEO, Cosmic Refrigeration, A leading manufacturer for manufacturing of Refrigeration testing equipment.
11. Mr. Ketan More Sr. Project Manager Infosys Pune, Chief Guest for 'Big Data & Hadoop workshop' inauguration visited on 17/01/2014.
12. Prof. G. S. Mani (Ex-Director, DRDO), Chairman, IEEE Pune Chapter, Chief Guest for IEEE project competition held in the institute.
13. Mrs. Pramila Kalive, Executive Vice President, Zensar visited the institute for TDCS activity.
14. Mr. Rahul Jagtap (Head, IT, PMC Pune), visited the Institute on 2nd May 2016 for Smart City & Role of Engineering Students 2/5/2016

3.1.9. What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improving the quality of research and imbibe research culture on the campus?

The Policy of sabbatical leave is in place in the organization. The Institute was established in 2004 and research lab in the institute was established in 2014. The institute has a research center affiliated to SPPU since last five years. The JSPM organization itself has Research Centers in the discipline of Mechanical Engineering, Electronics and Civil Engineering. The advantage of the location of the institute is centrally placed in Pune and all research centers are nearby located like Civil research Centre in RSCOE Tathawade, ENTC Tathawade and JSCOE, Hadapsar research center in Mechanical Engineering. The institute supports all candidates for pursuing higher study leaves as and when required are sanctioned for such staff to undertake course work, progress seminar presentations, Industry / Laboratory visits in other organizations etc.

3.1.10. Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land).

In today's global scenario institute believes in interacting, collaborating, sharing, discussing the research findings, laboratories with other organizations and institutes. The research laboratory in the institute is available for students from other colleges and institutes for working with prior permission by following proper channels of communication. As a result students from various surrounding colleges work in the research lab in the institute.

- Sinhgad Academy of Engineering, Kondhwa,
- Shri Kashibai Navle College of Engineering, Vadgaon,
- RajshriShahu College of Engineering, Tathawade etc.

For creating awareness and propagation of research temperament in the student community following initiatives are taken up by the institution:

1. The project titled effect of magnetic field on Hydrocarbons has resulted in **10 % improvement in fuel economy of the automobiles**, refrigerator performance. This project has been demonstrated to various experts in the

industry and to students from other organization. **(10 % improvement in the performance was observed in terms of fuel economy and drop in emissions from the automobile.)**7 different model automobiles were tested and the effect was confirmed.



Figure 3.1.1 Lab to land project by the students.

2. The linear compressor developed from the DST funded project consumes **10 to 15 % less energy than conventional refrigerator compressors**.
3. An **intelligent blind stick** was developed and interfaced with GPS, obstacle alarm.
4. A **Smart wheelchair** was developed operated by Android App.
5. Students demonstrated **generation of electricity through Shock absorbers** of automobiles using Piezoelectric effect,
6. Exhibitions of Final year projects.
7. Inculcate students to participate in inter and intra-college technical events like SAE-BAJA, Gokart which are national level automobile competitions.
8. Providing access to National & International journals thereby encouraging the faculty to keep themselves updated with the recent developments in their respective areas of research
9. Dixit Govind, Litty Thomas John & Sonwani Swapnil won (Third Prize worth INR12,500/-) in Project Competition held at MIT COE, Kothrud, Pune on 31/03/15 for the project titled” Baggage Handling System at Airport
10. Nigel Pinto, Tulika Dey & Palwe Abhishek won (Second Prize worth INR2000/-) in Sate Level Theme based Project Competition “Prakalp 15” at KJ Somaiyya COE, Mumbai for the project title” MC and Android-based Automobile Security and Safety System”
11. Jamadar Manan, Sambhar Vedant and Yejare Ashish from E&TC has won second prize (worth INR3250/-) in Project Expo “Gravity 2k15”National Level Event held at KJCOE&MR on 28/3/2015 for the project titled” Automated Cradle Systems for Infant Care”.

3.2 Resource Mobilization for Research

3.2.1. What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation, and actual utilization.

Institute has kept aside 5 % of the total budget earmarked for research. Many high-end types of equipment have been procured from the institute funds. Following is a list of some of such high-end equipment procured to boost research activity in the institute. Institute has procured equipment of **50 Lakhs of high-end equipment** for enhancing the research capability of the institute.

Table 3.2.1 High-end equipment at various departments of the institute

Sr. No.	Name	Cost (Lakhs)
1.	FFT Analyzer	10
2.	Compressor Calorimeter	11
3.	Wind Tunnel for mapping the flow pattern	5
4.	Computerized Petrol and Diesel Engine Test setup	10
5.	Allen Brately (Software) Micro Logix 1400 PLC, Control Panel, Software Logix 500	2
6.	3-phase power quality analyzer Mode 3197. Make- Hioki	1.9
7.	Switchgear / Protective relay testing kit.	0.95
8.	Simulation Model for Merz-price protective of alternator	1.65
9.	3-Phase Salient Pole Alternator	1.62
10.	Long Transmission Line-PaiModel, 400Km, above 100KV	7.7
11.	LABTOOL-48UXP Intelligent Universal Programmer with USB &Parallel Port Interface	0.52
Total		52.34

3.2.2. Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Institute supports research by procuring equipment which are significant for building and testing as and when required for various projects undertaken by various departments. As and when significant projects are identified institute funds all such significant project activities. In 2016 the institute has decided to work on student's satellite program. The management has agreed for **100 % funding for Students Satellite mission.**

3.2.3. What are the financial provisions made available to support student research projects by students?

In 2016 the institute has decided to **develop student's satellite program**. The management has agreed for **100 % funding of Student's Satellite mission** for all activities including travel, stay attending the conferences, purchasing equipment, upgrading laboratories, visits to ISRO, IITs and other organizations etc. The faculty members involved for the student's satellite Program have drawn a road map of all activities for next 5 years. In the past, institute has financially helped students to participate in National Competition like SAE-BAJA, and GoKart. The high-end equipment procured by the institute has helped in the completion of various UG/PG projects.

3.2.4. How does the various departments/units/staff of the Institute interact in undertaking interdisciplinary research? Cite examples of successful endeavors and challenges faced in organizing inter-disciplinary research.

The inter-disciplinary requirements for various UG/PG/Ph.D. projects are put forward to the R & D cell. The R & D cell is constituted by HODs of various departments, eminent personalities from industry. The requirements are discussed in the R & D cell interaction and suitable resource persons from various departments are identified for smooth and time bound execution of the said projects. **Inter disciplinary projects** are encouraged between different departments of the institute, for the execution of the **DST funded project as follows:**

- Dr. V. K. Bhojwani, Department of Mechanical Engineering and Dr. P. N. Gokhale, Department of Electrical Engineering collaborated with each other for the development of linear motor for the linear compressor for **DST** funded project.
- Dr. V. K. Bhojwani, Department of Mechanical Engineering and Dr. S. B. Mohite, Department of Electronics Engineering collaborated with each other for the finalizing the specifications of the Special purpose power supply (Variable frequency, Variable voltage) for **DST** funded project.
- Prof. Vijay Sardar, HOD, ENTC department assisted in installation and commissioning of a Dynamic Piezoelectric pressure transducer for undergoing Thermo Electric Generator project (**Project Guide:** Dr. P. A. Patil, Mechanical Engineering, **Research Scholar:** Mahesh Gaikwad).
- Fatigue Life test setup for testing flexure bearings developed in collaboration between Mechanical and Electrical Engineering Department at Institute.
- Undergraduate students from Computer department with guidance from Electronics department staff developed Smart Parking System based on Embedded System and Sensor Network which won a 2nd prize at CONVENE 2k16 inter college competition held at SKNCOE under the Embedded and Robotics domain.
- **An Android Based Smart wheelchair:** An objective of this system is to facilitate the movement of disabled people or handicapped and also for the senior people who are not able to move freely. Basic for the android interface

is designed to program the android device that will be able to control the movement of the wheelchair.

- **An Intelligent Blind stick:** The device developed is used for guiding individuals who are blind or partially sighted. The device is used to help blind people to move with the same ease and confidence as a sighted people. The device has proximity infrared sensors. RFID tags are installed into a public building and also integrated into blind person walking stick. The whole device is designed to be small and is used in conjunction with the white cane.
- **During TECHMANTHAN-2016** state level technical event in the institute, the institute students demonstrated working of **Generation of electricity through Shock absorbers** using piezo-electric principle.

3.2.5. How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

Institute supports for applying for research funds, procuring high-end equipment to assist research activity and create a favorable environment for students and staff to undertake technically challenging and socially significant project activities. Various instruments are bought by the institute through various funds generated by grants from the agencies and sanctioned by the institute itself. These instruments are optimally utilized by the staff and student for various research projects.

- All the research facilities developed in the institute viz. high-end equipment for testing, instruments for measurement etc. are promptly maintained and utilization monitored centrally.
- A **central instrumentation facility** has been developed in the institute which has equipment of approx. more than **INR 20 Lakhs** cost for general and special purpose testing and experiments which are utilized by UG/ PG and Ph.D. students.
- A record of utilization of the equipment by the students is maintained for maximizing the usage and avoids loss or damage of the instruments.

Central Instrumentation Facility for Students:

Through the funding received from **DST, ISRO, BCUD**, Institute and self-financed projects various equipment have been purchased under the **Central Instrumentation facility**. All the instruments under the **central instrumentation facility** can be issued by any Undergraduate, Post Graduate or Ph.D students and also by any faculty member of any department as and when required and returned to the facility after utilization. Record of the utilization with details of the issue, date of issue, date of return, instrument issued etc. is regularly maintained.

3.2.6. Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If “yes” give details

Yes, the institution has received a special grant by **Kraft Powercon India Pvt. Ltd.**, Pune Had funded 35 Lakhs as a part of the doctoral work of Prof. S. B. Mohite. The project was successfully completed and Prof. S. B. Mohite was awarded Ph.D. by Symbiosis University, Pune. On the Thesis work of Prof. S. B. Mohite, the company has been awarded two International Patents by China and Europe Respectively. The institute also has sanctioned grants from **DST**, Govt. of India, **ISRO-UoP-STC**, and BCUD of 52 Lakhs.

3.2.7. Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.

Institute Encourages various staff to apply for funding to various agencies. As a proof of that, funds to the tune of more than **70 Lakhs of research grants** have been sanctioned by various agencies. Receiving funds have resulted in improvement in infrastructure, test facilities, high-end instruments/equipment procurement which has immensely improved the quality of the project work undertaken by the students.

Every year **Sevak Melava** is organized by the institute on 26th January. Founder Secretary of the organization Prof. T. J. Sawant, felicitates all staff and students who have done exceptionally well in various domains of Academics including research (Filed patents, Received research grants, publications in reputed Journals) by giving them trophy and felicitating the staff involved in a gathering of more than 10,000 employees of the organization from all institutes of JSPM group. Such staff members are also felicitated in Department meetings and by the Principal in weekly HOD meetings. Table 3.2.8 (a) & (b) give the list of ongoing and completed research projects. Table 3.2.8 (c) provides details of proposals submitted to various funding agencies.

Table 3.2.8 (a) List of the ongoing projects funded by various agencies

Sr. No.	Name of the faculty	Funding agency	Duration	Grants received (Lakhs)
1	Prof. (Dr.). V. K. Bhojwani	IITB-ONGC	2017-18	5
2	Prof. (Dr.). V. K. Bhojwani	ISRO-UoP STC	2016-19	15.52
3	Prof. U. A. Malwade	BCUD	2016-18	1.9
4	Prof. S V Todkari	BCUD	2014-16	0.6
5	Prof. A V Deshpande	BCUD	2014-16	0.5
Total				23.52

Table 3.2.8 (b) List of research projects completed

Sr. No.	Name of the faculty	Project funded by	Duration	Grants sanctioned	Grants received
1	Prof. (Dr.). V. K. Bhojwani	DST	2013-16 (Completed)	22.74 Lakhs	16.36
2	Prof. (Dr.). S. B. Mohite	Kraft Powercon India Pvt. Ltd, Pune	2011-14 (Completed)	35 Lakhs	35
3	Prof.P. A. Kalyankar	BCUD	(Completed)	1.4 Lakhs	1.4
4	Prof. H.Thanki Prof. S.Shinde	BCUD	2014-2015 (ongoing)	0.55 Lakhs	0.55
Total					54.36

Table 3.2.8 (c) Submitted projects to various funding agencies

Sr No	Name of the PI	Title	Cost (Lakhs)	Submitted	Agency
1	Dr. S. B. Mohite	Design implementation of variable frequency and phase power supply for cryo-cooler	9	Nov 16	SPPU/ISRO
2	Prof. Tushar Mote	Design & Implementation of Smart Sensor based Real Time Hydroponics Control System	32.14	Jan 17	EMR/SERB

3.3. Research Facilities

3.3.1. What are the research facilities available to the students and research scholars within the campus?

Institute has an approved research Center of Savitribai Phule Pune University (SPPU) for Mechanical Engineering, with the following facility:

- Dedicated Research Laboratory for students to work which is open and accessible beyond working hours of the institute.
- **Central Instrumentation Facility** where instruments as and when required by UG/PG/Ph.D. students are issued and a record is maintained of the issue and return. Based on the need, new instruments which have high utility for various

projects are procured under the **central instrumentation facility** to enhance the utilization and support various ongoing research projects.

- Wi-Fi facility.
- Online Journal Subscription, NPTEL lectures.
- Software development tools like MATLAB, LABVIEW, ANSYS, Fluent Auto-cad, PS-Cad etc.

Following are some significant high end equipment available to students for research Projects:

1. Compressor Calorimeter (INR 11 Lakhs)
2. FFT Analyser (INR 10 Lakhs).
3. Wind Tunnel (INR 6 Lakhs).
4. Computeized Petrol and Diesel test engines to map its performance (INR 10 Lakhs).
5. Diffusion High vacuum pump (Hindhivac make): vacuum of the order of 10^{-6} torr. (INR 2.1 Lakhs)
6. Two-channel power supply of 1 kVA with variable voltage, variable frequency, variable phase difference between the two-channels (INR 2.68 Lakhs).
7. 32 channel temperature DAQ system (INR 1.25 Lakhs).
8. Dynamic Pressure transducers (Endevco make) (INR 1 Lakhs)
9. Linear Compressor for refrigerator application (INR 3 Lakhs).
10. Swiss roll combustor test facility etc. (INR 1 Lakhs) etc.

3.3.2. What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers?

Institute has announced to fund through its own finances a student satellite program where students and staff from various departments would work together to develop a satellite mission to be flown in by ISRO in future. Accordingly, staff and students have initiated the activity to meet experts in the domain to finalize scope and objective of the mission. The institute has made budgetary provision for the execution of the satellite program which will encourage interdisciplinary project activities. Institute supports research by procuring high-end equipment through funding received as well as allocating budget as when required for various projects undertaken in various departments. High-end computing and software's prescribed beyond the syllabus has been procured by the institute (CFX, ANSYS, MATLAB, AUTOMATION STUDIO etc.)

3.3.3. Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities? If "yes", what are the instruments/facilities created during the last four years?

Yes, the funding agencies have provided equipment facilities in the research lab. The available support has been provided in the form of making equipment and training set-ups at no cost or at a subsidized affordable cost to the college.

3.3.4. *What are the research facilities made available to the students and research scholars outside the campus / other research laboratories*

Institute has a formal agreement with various laboratories in and around Pune for carrying out research projects in the Institute. Some of the Laboratories accessible to the institute are as follows,

- The institute has a formal agreement **MoU with Zensar**, Pune for allowing to undergo Internship in company campus. More than 100 students from IT and computer department of the institute have undergone internship program from 2015 till date.
- Free Access to Jaikar library in the University of Pune Campus.
- Cryogenics Laboratory, VJTI, Mumbai.
- Prof. S. L. Bapat, Cryogenics Laboratory, IIT Bombay.
- Prof. Mukund Bade, Mechanical Engineering Department, SVNIT, Surat has helped research scholars in providing Research Publications to various research scholars in the institute.

3.3.5. *Provide details of the library/information resource center or any other facilities available specifically for the researchers?*

The Institute has digital library, e-learning resources, computing & IT infrastructure for carrying out the research work as follows:

- **Turniton software** access is provided by the university to the research guides of the institute to check for the Plagiarism of research articles.
- Free Access to Jaikar library in the University of Pune Campus.
- A central library and departmental library for each department are available.
- Two WI-FI networks are available on campus. (JSPM WIFI & Reliance Jio)
- Membership of online Journals such as IEEE, ASME, Elsevier, DOAJ, NPTEL, and e-books.
- Magazines like Refrigeration and Air Conditioning, The World pumps India, Indian Foundry Journal and Cutting tools etc.
- Reference books and thesis on various research topics and project.
- Membership of library of Automotive Research association of India (ARAI) and British Council library.
- A separate facility s made available for referring research book/ international journal etc.
- The library has books, titles, printed journals and online subscription for journals.

3.3.6. *What are the collaborative research facilities developed/ created by the research Institutes in the college? For example Laboratories, library, instruments, computers, new technology etc.*

The institute has collaborated with different Engineering Institutes in and around Pune for the exchange of ideas and resources. UG / PG and Ph.D students from various organizations in and around Pune work in the research laboratory of the institute for their research work.

Table 3.3.6 Collaborative research work with the other institutes

Sr No.	Name of the student	Organization	Program	Setup used for testing
1	Sagar Mane Deshmukh	SKNCOE, Vadgaon, Pune	PhD	Swiss roll combustor test facility
2.	Amit Jomde	SAE, Kondhwa, Pune	PhD	Linear compressor for refrigerator testing
3.	Pralhad Tiplole	SAE, Kondhwa, Pune	PhD	Effect of magnetic field on Hydrocarbons.
4.	Muddu Krishna	ALVA's Institute of Engineering and Technology	M.Tech	Compressor Calorimeter
5.	Shrikant Dhavale	RSCOE, Tathawade, Pune	M.Tech	Compressor Calorimeter
6.	Vaibhav Walde, Amol Gojre, Amol Tekade, Ganesh Raut	SAE, Kondhwa, Pune	B. E.	Linear compressor for refrigerator testing
7.	Niramay Ketkar, Kiran Kolhe, Neeraj Jawale, Sanket Kale	SKNCOE, Vadgaon, Pune	B. E.	Swiss roll combustor test facility

3.4. Research Publications and Awards

3.4.1. Highlight the major research achievements of the staff and students in terms of Patents obtained and filed (process and product)

The IP cell established has motivated all the staff and students to file patents for Novel ideas and also has conducted awareness program through a seminar on How to file a patent for all faculty members of the institute. The resource persons for the said seminar were Prof. S. V. Todkari, Prof. S. B. Mohite and Prof. V. K. Bhojwani. As a focus on IPR to commercialize on convert into product various novel ideas generated by the students and the staff have been applied for patents. Till date **25 patents** have been filed and published by the students and faculty members of the institute. **Two International patents viz. European and Chinese Patent have been granted to Prof. S. B. Mohite from E&TC Department of the institute.**

3.4.2. Does the Institute publish or partner in the publication of research journal(s)? If yes, indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

Institute does not publish or partner in the publication of research journal(s), however faculty members has published research papers in various domains at national and international referred journals.

3.4.3. Give details of publications by the faculty and students

Faculty members and students of the Institute are involved in research work. More than **900 papers** have been published by the students and faculty members in reputed national and international journals and conferences.

3.5. Consultancy

3.5.1. Give details of the systems and strategies for establishing Institute industry interface?

The institution has a dedicated Industry-Institute-Interaction (III) cell that encourages forging a relationship between the industry and the institute. Individual department interacts with industry to ascertain its needs to fill the gap in the curriculum. The gap is filled by arranging workshops by industry personals. Training and placement officer interacts with industry and arranges campus interviews. The institute has strong alumni support who is currently working in industries having good track records; this is helping the institution for placement of the students. Industry institution relationship works in the following areas:

- Industrial visits for students and faculty members.
- In plant training of students.
- Consultancy and sponsored projects.
- Educating the working engineers by interacting with faculty members.
- Expert lectures by industry personals for UG students.
- Provision of laboratories & institute infrastructure for the industry to achieve their targets.
- Conducting joint technical programs & events.
- Inviting experts from industry for various technical events organized in the institute viz. Faculty Development Program, Expert lectures, Seminars.

3.5.2. What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Institute has the policy to promote consultancy and available expertise helps in advocate and publicizes in the following manner:

- T&P cell explores the possibility of collaboration during their interaction with various industries.
- The concerned faculty members are provided on-duty leave while the consultation work is underway.

- Institute encourages faculty members with adequate research experience for providing consultancy to industry.
- Major areas of expertise are advertised through college website and also through technical events/ Programs.
- Institute informs the industry about the area of expertise of senior faculty members to support the industry projects as and when required.
- The institute has a stated policy of 100 % consultancy charges distributed to concerned faculty members involved in the said project.
- Faculty members are entitled to On-duty leave for attending conference, outstation visits as may be required for the project work they are involved in.

3.5.3. How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

Institute encourages the staff to utilize their expertise and available facilities for consultancy services:

- On duty leave is given to the faculty members for attending conferences or outstation visits to research labs etc.
- 100 % of the consultancy charges received by the institute is distributed among the research staff involved in the said project.
- Staff members are motivated by Institute to use their expertise through available equipment/testing facilities of the institute for consultancy services in the following ways:
- State of art equipment procured and is made available for utilization by the faculty of different departments.
- Faculty members' expert in specific domains motivated by **reduced teaching load** and administrative responsibilities while working on various significant projects for society / Industry which are funded / Non-funded.
- Faculty members are given freedom to visit industries where they have the personal rapport to increase interaction which may possibly convert in placements / Consultancy / Students Project work.
- The latest software is bought on recommendation by faculty members to enhance the simulation capabilities required for various research projects.
- The college encourages doctoral staff to utilize their expertise for consultancy services.

3.5.4. List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

The institute has signed MoUs with different institute and industries free of cost for technology transfer. The students from other institutes working in JSCOE have not been charged but the manpower and cost of the man hours involved are of approximately INR 10 Lakhs.

Table 3.5.1 Consultancy services provided by the institution to other Institutes

Sr. No	Name of the student / Staff involved	Organization	Program	Setup used for testing
1	Dr. V. K. Bhojwani	IIT Bombay-ONGC funded project	Free Piston Stirling Engine	Design and development of Flexure bearing for Free piston Stirling Engine.
2	Sagar Mane Deshmukh	SKNCOE, Vadgaon, Pune	PhD	Swiss roll combustor test facility
3	Amit Jomde	SAE, Kondhwa, Pune	PhD	Linear compressor for refrigerator testing
4	Pralhad Tiplole	SAE, Kondhwa, Pune	PhD	Effect of magnetic field on Hydrocarbons.
5	Muddu Krishna	ALVA's Institute of Engineering and Technology	M.Tech	Compressor Calorimeter
6	Shrikant Dhavale	RSCOE, Tathawade, Pune	M.Tech	Compressor Calorimeter
7	Vaibhav Walde, Amol Gojre, Amol Tekade, Ganesh Raut	SAE, Kondhwa, Pune	B. E.	Linear compressor for refrigerator testing
8	Niramay Ketkar, Kiran Kolhe, Neeraj Jawale, Sanket Kale	SKNCOE, Vadgaon, Pune	B. E.	Swiss roll combustor test facility

3.5.5 What is the policy of Institution in sharing the income generated through consultancy (Staff involved: Institution) and its use for institutional development.

The institute has a policy in place for sharing the income generated through consultancy:

- Expenses incurred for consultancy projects for the purchase of equipment, consumable, electricity charges and water charges utilized through the funds received from the funding agency.
- 100 % of the consultancy charges received by the institute are distributed among the research staff involved in the said project.

3.6. Extension Activities and Institutional Social Responsibility (ISR)

3.6.1. *How does the institution promote institution-neighborhood community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?*

Institute always **promotes students to interact with society beyond the walls of the college to understand the challenges and problems of the society so that some effort can be made to overcome them.** Final year projects have been allotted and executed to contribute good citizenship or service to society by developing innovative technologies.

- Chaitrali Kher and group designed and developed **blind intelligent stick** for blind people connected with GPS and which will also indicate obstructions in the path.
- Final year students developed Android operated **Smart wheel chair** for physically challenged persons.
- **Generation of electricity through Automobile Shock absorbers**
- **Smart Parking System based on Embedded System** and Sensor Network developed by undergraduate students of computer department.

Institute has appointed Prof. Ashish D Lagad as **NSS Coordinator** to carry out various good citizenship activities. Institute NSS organized social awareness about **Digital payments to encourage cashless transactions. Swach Bharat Abhiyan, Blood donation camp and free health check-up.**

Awareness Programs for Girl students:

The institute has been very sensitive about girls education and health. Accordingly, various seminars have been conducted specially for girl Students to empower them with education at the same time ensure good health and maintain a positive state of mind in the current competitive scenario.

- **A two-day seminar** was held on Girl health awareness on 6th and 7th January 2016. Around 200 girl students participated in the seminar at the Jayawant Sabhagraha Seminar Hall in the institute.
- **A three-day seminar** on Stress management and free health Checkup for Girl students was organized by the institute in collaboration with the affiliated University. Nearly 400 girl students participated in the three day seminar held from 1st to 3rd March 2015.
- **International Women's day Celebration in the institute (8/03/2016):** Women's day was celebrated on 8/3/2016 in presence of Mrs. Rupali Mali, Police Sub Inspector, Hadapsar Police station and Amruta More, CEO, Mrs. Asia International and Natura food Products Pvt. Ltd.



Figure 3.6.1 Awareness Programs for Girl students

JSPM groups Participation in the Loksatta initiative Career Fair – Marg Yashacha:

The JSPM group employees actively participated in the career fair organized by Loksatta held on 29th and 30th May 2015 at Ravindra Natya Mandir Prabhadevi, Mumbai.



Figure 3.6.2 Career fair organized by Loksatta

Career Guidance seminar:

Institute has been actively undertaking Career guidance seminars across Maharashtra throughout the year for bringing awareness about higher education in engineering,

Procedures, rules and regulations of Maharashtra Government. List of various such seminars is provided below.

- Seminar held at Sanjay Ghodavat institute, Kolhapur for 8th to 12th Standard Students in collaboration with Director of Technical Education, Maharashtra.
- Held on Sunday 5th April 2015 at Swaraj Education society in presence of the Dr. S. H. Pawar, VC of the D.Y. Patil Deemed University.

Jayawant Academy of Civil Services:

The Academy was started in August 2015 to promote and encourage students to prepare for Civil services.

Program for Counseling of Youth held in the institute:

One day seminar for youth students of the institute for bringing awareness about qualities of youth required in constructing a strong, peaceful and developing society on the eve of Swami Vivekanada Jayanti held on 12th January 2015.

A one-day seminar Chala Abhyas Karu for School Children of Sadhana Vidyalaya, Hadapsar:

The institute staff conducted one-day seminar on smart techniques to study and higher education for School Neighborhood children in Sadhana Vidyalaya, Hadapsar on 26th Feb 2015.

Seminar on Idea Generation for Smart City Project for Pune:

A seminar on Smart City Idea Generation for Pune City was organized by the Institute in collaboration with Pune Municipal Corporation. Students and staff gave their genuine feedback on the project. One of the innovative ideas was ways to achieve Commutation without traffic.

Tree Plantation by NSS, Blood Donation Camps

- The institute management always motivates student's participation in social activities and drives for adhering to ethical values. Most of the students on admission shall enroll in any one of the extension activities like drive against pollution, social awareness, blood donation, tree plantation, traffic control through NSS / Departmental student's associations.
- During academic year span 2015-2016, NSS unit of Jayawantrao Sawant College of Engineering, Hadapsar, Pune have participated in various activities such as
 - Blood donation camp,
 - Traffic duty,
 - Swachha Bharat Abhiyan etc.
 - Social awareness about Digital payments to encourage cashless transactions.

Glimpses of such activities are highlighted below:

- Speech on "Social Awareness and Responsibilities to reduce Social Inequality" and fundraising for Anathashram

- Traffic Duty in Ganesh Visarjan
- Swachha Bharat Abhiyan (Participation in Swachhata Karandak 2016)
- KVFF short film screen on Environmental Awareness Special Program
- Blood Donation Camp
- Free Health Checkup camp and Seminar on “Importance of Health Check for Women”
- NSS Special Camp at Vanpuri, Tal. Purandar, Dist. Pune (Duration 7 days)
- VISAKA (Vithiya Saksharta Abhiyaan) under PMO for literacy of cashless economy.
- Longest human chain for road safety awareness along with Wanowrie police station



Figure 3.6.7 Various activities conducted under the NSS

3.6.2. What is the Institutional mechanism to track student's involvement in various social movements/activities which promote citizenship roles?

Institution has following mechanism to track student's involvement in various social movements/activities which promote citizenship roles:

- The institute is committed to attracting students for participating in various social activities by ensuring consistent encouragement and motivation.
- Institute has a mentor (faculty advisors) scheme and student's association coordinator through which the students' involvement in various social activities are observed.
- Under the guidelines of SPPU, NSS unit of the institute is involved in various social activities such as tree plantation, blood donation, cleanliness drive etc. along with seven-day residential special camp in the village.

- Mentors record of the student achievement in such extension activities is maintained in the respective advisor file.

Vanhotsav Organized by Forest Department, Government of Maharashtra:

The institute was involved in tree plantation program at forest land on request by the (local government officials) located at Post Loni-Karbhor, Pune. 200 Staff and students participated in the Vanmahotsav and planted 4000 plus trees during the activity.

3.6.3. How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The feedback system is implemented in the institute based on which improvements are made if necessary. The feedback is in written form or oral while interacting with all the stake holders.

- Feedback is taken from internal and external of stakeholders viz. students, alumni, parents, faculty members and industry persons.
- The goals and objectives of the institute are prominently displayed in various places at the campus. The college website provides adequate space to these goals. They find a place in all the offices of the college, library, laboratories, staff cabins and other major buildings of the college. Immediately after admission, the students are made aware of these goals and objectives by conducting orientation program. The institute Academic Advisory committee in the planning process considers feedback collected from all the stakeholders to prepare perspective on development.
- The external stakeholders are invited to visit the campus and visually inspect its Infrastructural facilities interact with the members of the faculty to obtain necessary information on the overall performance and quality of the institute.
- Parent-Teachers meeting is conducted to know about academic performance and quality of their wards and to provide constructive suggestions to improve the overall performance and quality of their wards and quality of the institution.

Students:

- We value the opinions and needs of our students. One student of each Class is nominated as class representative. He/she communicate students' requirements and problems to the respective teacher/head of department/Principal. Institute has counseling cell in which faculty members act as a Mentor for 25 students.
- Suggestion/complaint box is placed at various places on the campus which are easily accessible to students.
- Students have the freedom to approach the HOD/Principal during working hours without a prior appointment for their problems.

Parents:

- Guardian faculty member interacts with parents.

- They have informed about their wards academic performance and attendance records through meetings, emails, and phone calls.
- The opinion of parents is considered with respect to various aspects such as planning of industrial visits, cultural programs etc. are valued.
- Parents of any student are allowed to meet the teachers, coordinators and Principal on any day of the week at any time to make any suggestions or complaints.

Staff:

- We have regular staff meetings to keep the staff updated about changes and developments of the institute.
- Most of the decisions are taken only after consultation with the staff during a staff meeting.

Alumni:

Institute has constituted an alumni association with a professor In-Charge. The association organizes meetings and has regular formal and informal interactions wherein any alumnus is free to give their suggestions.

Industry:

The institute interacts with the industry for

- Placements on their requirement of skills and knowledge of the students.
- Feedback of the performance and growth of already placed students in the industry.
- Inputs from industry for curriculum development and implementation, gap analysis if any in the curriculum.

3.6.4. How does the institution plan and organize its extension and outreach Programs? Providing the budgetary details for last four years, list the major extension and outreach Programs and their impact on the overall development of students.

Various activities are undertaken in the institute to enrich the extension activities; budget for the said activities is approved by the institute as may be the requirement of the activity.

Institute has various coordinators for planning and organizing its outreach Program,

- **NSS Program Officer (Prof. Ashish D Lagad):** The NSS program has helped in imbuing value education, social awareness, team work in the participating students and staff. Seven days camps are organized every year for NSS students in rural areas where they do various social activities.
- **Cultural Coordinator (Prof. D. R. Patil):** The cultural programs organized by the institute have helped in imbuing holistic, value based and social awareness among the participating students.
- **Sports Coordinator. (Prof. A. B. Gawand):** Students are encouraged to participate in sports at various levels and students if selected are granted

special leave to attend sports event across the country. For them special sessions are arranged for completing the syllabus missed by them during the sporting event.

Every year college organizes Tech-Manthan a state level Technical event constituting of various competitions across the state from all branches of Engineering, Pharmacy, MBA/MCA etc. As and when such activities are planned institute supports financially various social outreach programs.

3.6.5. How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

The college performs various activities through students associations and other forms of community development services. During induction, the coordinators of these sections narrate to the students on the benefits and scope of the extension activities. The information about the proposed activities is disseminated on the college notice board, circulars, web notifications and also by oral interaction/briefing by the section in charges.

3.6.6. Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from underprivileged and vulnerable sections of society?

The college social groups have conducted a number of social activities as listed below:

- Our college students have formed **Smile Foundation** inaugurated by **Smt. Sindhu Tai Sapkal** and raised the fund for the orphanage.
- SMILE FOUNDATION team has made facilities of engineering reference books to underprivileged student from college passed out students.



Figure 3.6.8 Smile foundation organized by the Students in the Institute

- The JSPM group has completed **SHIV JAL KRANTI** project, this project was completed in Osmanabad district in Maharashtra with the scarcity of water

supply a canal was built to increase the water supply to Osmanabad as the humanitarian responsibility of the JSPM.

- In association with students, the institute had organized **blood donation camp** in which students and faculty members from all departments participated and donated blood.

3.6.7. *Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students academic learning experience and specify the values and skills inculcated.*

A co-curricular activity essentially takes place outside a typical pen and pencil classroom experience. It gives the students an opportunity to develop particular skills and exhibit their non-academic abilities. These activities include social drama, traffic safety and tree plantations so these activities require leadership skill, teamwork, achieving goals and time management. To a very great extent, the theoretical knowledge is enhanced when a co-curricular activity related to the content taught, is organized. Intellectual development of the personality is achieved to a great extent, in the classroom itself. But, **the aesthetic development of character building, spiritual and moral values, physical growth, creativity** and much more are backed up by co-curricular activities only. It also professes coordination, adjustment, and speech fluency, extempore, and debating skills amongst students. It **teaches the students to stand up for their rights.**

“Teach me, and I will forget. Show me, and I might remember. Involve me, and I will never forget.”

3.6.8. *How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development?The detail on the initiatives of the institution that encourage community participation in its activities?*

For the development of the community, the institute has organized specific program such as:

- Blood Donation Camps held on 19th July 2014 where 100 students and staff donated blood.
- 22 students from the institute participated in Traffic duty during Ganesha Visarjan in Pune under the NSS team of the institute on 8th September 2014 at Sasane Nagar Railway Crossing, Hadapsar.
- 25 students from the institute participated in Cleanliness Drives by Samarth Bharat Vyaspeeth from 16th to 20th February 2015 at Gandhi Chowk & Gadital, Hadapsar, Pune. Four students of BE (Comp.) participated in Awareness of latest technology and trends in students from Rural and City Schools.
- Tree Plantations within the institute and in Hadapsar, Campus.

- Visits to the orphanage and donate them food, clothes, books etc. for their need and awareness and make them involve in our activities. Through these activities, we build a strong relation between our institute and the community.

The institute is having sanctioned unit under National Service Scheme (NSS) of Savitribai Phule Pune University, Pune. Total 50 students are registered under NSS activity. Under NSS, Swachata Abhiyan, blood donation camps, Fund raised to orphanage, traffic duty during Ganesh Visarjan, film screen activities on environmental issues, special camp for activities like *Shramdaan* cleaning, tree plantation, *Nirmal Gram Abhiyan*-septic tank construction *Bandhara* construction, fun- academic activities rural school students, social awareness program speeches, participation in Swachata Karandak organized by Samarth-Bharat Vyas Peeth.

3.6.9. Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

Co-curricular activities like blood donation camps, inter-collegiate cultural programs, **MOU's** with various companies helped in building constructive relations with other institute and companies. The eminent organizations actively involved are listed below.

Table 3.6.1 Extension activities in collaboration with other organizations

Sr.No.	Name of Organization	Purpose
1.	Wanowrie Police Station	Traffic Duty, Road safety
2.	Samarth Bharth Vyaspeeth	Swachha Bharat Abhiyaan
3.	Kirloskar Vasundhara Film Festival (KVFF)	Environmental Awareness

3.6.10. Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

The institute has believed in performing and delivering to the student community and society. As a result of this every year students from various have secured ranks in top 10 university rank. Mr. Ketan Barbole secured the gold medal for standing first in all branches of Engineering for the A.Y.2015-16. Several other students have received prizes for various technical, social events organized in and around Pune. Students have been participating in Purushottam Karandak for theater performance and have received the 1st prize once.

3.7. Collaborations

3.7.1. How does the institution collaborate and interact with research laboratories, Institutes, and industry for research activities? Cite examples and benefits

accrued of the initiatives -collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

A formal **MoU with Zensar**, Pune has been signed for improving education and employability of students by enhancing vocational training so as to enhance their employability in IT sector.

Support to Other Institutes:

Ph.D. / PG / UG students from other organizations viz. **SAE, Kondhwa, SKNCOE, RSCOE** etc. have utilized facility in the institute for their dissertation work of various institutes across Pune and outside Pune,

- **Sinhgad Academy of Engineering, Kondhwa**

- 1) Prof. Amit Jomde, Sinhgad Academy of Engineering is working on a Ph.D. project on the development of Linear Compressor for Refrigerator application Project Funded by **DST**, Gov of India at Research Laboratory of the Institute.
- 2) 5 Under Graduate project batches from Sinhgad Academy of Engineering have completed their project work
- 3) Prof. PrahladTipole, Sinhgad Academy of Engineering is working on a Ph.D. project on Investigation of magnetic field on Hydrocarbon fuels and refrigerants, (Project funded by BCUD) at JSCOE Mechanical department Research Lab.
- 4) PG (Heat Power) students from JSCOE Mechanical Department have completed their thesis work on the said topic (Ajaj Attar, Aniket Shinde) and 1 PG Automobile Engineering student (Harshal Babar) from SAE, Kondhwa has completed his thesis work on the said topic.

- **Shri Kashibai Navale College of Engineering, Vadgaon, Pune:**

- 1) Prof. Sagar ManeDeshmukh is working for Ph.D. project on “Experimental Investigations on Flame Characteristics in Swiss roll Project Funded by **DST**, Govt. of India.
- 2) PG (Heat Power) students from Institute have completed M. E. Thesis (Ashwini Pawle, Vijaya Awati, Vikas Gaikwad).
- 3) Five UG students from SKNCOE, Vadgaon have completed their B. E. Project for the said topic.

- **Rajashri Shahu College of Engineering, Tathawade:**

Mr. Shrikant Dhavale (M. E. Heat Power) worked on the Compressor Calorimeter for his M. E. (Heat Power) on his project “Performance Study of Hydrocarbons blends of R290 and R600a and comparison with R134a for refrigerator”.

- **Alva’s Institute of Engineering and Technology, Mangalore, Karnataka:**

Mr. Muddu Krishna M. Tech (Thermal Engineering) conducted tests on Compressor Calorimeter at JSCOE, Research Lab for his thesis work. Experimental investigation of compression air-conditioning plant is carriedout using the working fluids.

3.7.2. Provide details on the MoUs /collaborative arrangements (if any) with institutions of national importance/other universities/ industries/ Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

The institute encourages Collaborative work between different organization for the exchange of expertise, culture, knowledge sharing, ideas sharing between students, staff and Industry experts from various organizations in view of this following MoUs were signed and are operational.

The institute is also informally providing support based on its own experience of development of free piston compressor to IIT Bombay for the development of Free piston Stirling engines, 2.5 crore Project funded by ONGC to IIT Bombay.

Tie up with VJTI and Sinhgad Academy of Engineering, Pune has resulted in fast track execution of the **DST and ISRO** funded projects both the projects. Hardware was successfully manufactured, assembled and tested within stipulated timeline.

Table 3.7.1 MoUs signed with other organization

Sr. No.	Details of the organization	Details of the project	Nature of MoU
1	IIT Bombay	Design of flexure bearing	Developmental work to be carried out by JSCOE
2	VJTI, Mumbai	ISRO-UoP-STC	Sharing of expertise / Laboratory
3.	SAE, Kondhwa	ISRO-UoP-STC	Sharing of expertise / Laboratory
4.	Gyanteerth, APART, Career Corner	Placement assistance	Training and development of the students
5.	Zensar Technologies Ltd.	Special education and employment	Enhancing vocational training so as to attain IT industry for job functioning.
6.	AICTE	LinkedIn Test	Formal placement process
7	Copper Track Industries	I-I-I.	Student industry visit, Organizing campus Interview.

3.7.3. Give details (if any) on the industry-institution-community interactions that have contributed to the establishment/creation/ up gradation of academic facilities, student, and staff support, infrastructure facilities of the institution viz. laboratories/library/ new technology/ placement services etc.

Some of the significant products developed in various departments of the institute are as under:

1. Prof. S. B. Mohite doctoral work at **Kraft Powercon India Pvt. Ltd.** Resulted in the development of the product for the company which has resulted in the grant of **two international patents** in China and Europe.
2. **Effect of magnetic field on Hydrocarbons:** This project was undertaken in one of the departments in Institute, has shown
3. Improvement of more than 10% in performance of Petrol Engines, Diesel Engines,

4. Improvement of 9% performance in Refrigerators using Hydrocarbon Refrigerants by applying a magnetic field to Fuel line/liquid refrigerant carrying line.
5. **Investigations of Combustion Characteristics of Swiss roll combustor to integrate with Thermo-electric generator for domestically generating electricity.**
6. **Development of Linear compressor for household refrigerator:** A Linear compressor utilizes linear motor which consumes 15 to 20 % less energy than conventional reciprocating compressor used in refrigerators. Only LG till date has commercialized linear compressor for the refrigerator. A linear compressor for the refrigerator was designed, developed and tested in the Research Center Laboratory in the institute.
7. **Development of Thermo-Acoustic Generator:** This is one of the challenging projects undertaken by the Institute. Waste heat from various sources can be utilized to generate electricity. The temperature difference in a working fluid (Helium) at high pressure is responsible for the generation of Acoustic waves which in turn drive the linear Alternator to generate electricity.
8. **Development of Stirling Cryocooler for cooling of IR sensors in space application:** The institute has received research grants (Grants sanctioned 22.1 Lakhs) from ISRO-UoP STC to develop a Cryocooler operating at -200 deg. C application for cooling IR sensors. The IR sensor Cameras used in space application need to be cooled to a cryogenic temperature to capture high-quality images from space. The funds granted are for the development of Stirling Cryocooler for the same.
9. **Smart Parking System based on Embedded System** and Sensor Network developed by undergraduate students of computer department.
10. **Development and testing of intelligent stick for blind people,** which have an obstacle alarm and are integrated with GPS to show the directions for reaching the destination.

3.7.4. Highlighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

The institution is taking continuous efforts to attract the best minds of our country and abroad to visit the campus and interact with the student and faculty to create awareness on the various research opportunities in the emerging areas of science and technology.

The purpose and outcome of the eminent personalities is given below:

1. **Dr. K. G. Narayankhedkar, Chancellor, MGM institute of health science** (Formerly Director VJTI, Mumbai and Dean Planning, IIT Bombay) visited Research Lab in the institute on 17th December 2016 and appreciated the projects undertaken by the institute.

2. **Dr. S. L. Bapat, Professor, Department of Mechanical Engineering, IIT Bombay** visited Research Lab in the institute on 17th February 2015 and appreciated the projects undertaken by the institute.
3. **Dr. C. Uttam**, Head **ISRO-UoP-STC**, Pune who is also on the advisory board of the student's satellite program visited the institute research laboratory on 28th January 2017 to update on the development **ISRO-UoP-STC** funded project.
4. **Dr. Dadasaheb Shendage** visited the research laboratory on 14th January 2016 to update on the status of development of linear compressor under **DST** project. IIT Bombay has requested for support on the technology wherein they are developing free piston Stirling Engines a project funded by ONGC at Mechanical Engineering Department, IIT Bombay. Dr. V. K. Bhojwani from the institute has working experience of 15 years on the free piston compressor technology. The dynamics, gas forces and design process involved in both the technologies is same (viz. Free piston engines and Free piston Compressor). Both the technologies work on resonance principle.
5. **Dr. Mandar Tendolkar**, VJTI Mumbai visited the institute on 7th September 2016 for assisting the institute faculty members on the development of Pulse tube Cryocooler under the **ISRO-UoP-STC** sponsored project.

Table 3.7.2 Renowned academicians and researchers visited the campus

Sr No.	Eminent Personality	Place of work	Purpose of visit
1	Dr. G. S. Mani	IEEE	TDCS-judge
2	Dr. Khurjekar	IEEE	Judge at Techmanthan event
3	Dr. S. N. Bakare	MSEDCL	Conference keynote person
4	Dr. A. K. Sinha	Retd. ISRO Scientist	TDCS
5	Dr. K. G. Narayankhedkar	MGM, Navi Mumbai	Chief guest for Faculty Development of Program
6.	Dr. S. L. Bapat	IIT Bombay	Expert lecture for staff on Research culture at IITs

3.7.5. How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated.

The institute believes in collaborator research work between Institute and Industry / Reputed Research Laboratories to enhance its own capabilities and research culture as a result of this following MoU have been signed. The institute has linkages with Cosmic Refrigeration, Pune, Accurate Gauging, Ratna Gears, Shree refrigeration for placements.

For soft skill training institute has a formal arrangement with Gyantirth, Bullseye, APART, Pune with an objective of to prepare the students for aptitude test of various companies visiting for campus placement.

Memorandum of Understanding (MoU) signed with other organizations:

1. Letter from Prof. S. L. Bapat, Mechanical Engineering Department, IIT Bombay to extend support by Dr. V. K. Bhojwani and team for execution of IITB-ONGC funded project for development of solar driven 3 kW Free Piston Stirling Engine.
2. MoU between JSCOE, Pune, and VJTI, Mumbai was signed for technical support and collaboration for smooth execution of the ISRO-UoP STC cell.
3. MoU between JSCOE, Pune and SAE, Kondhwa was signed for technical support and collaboration for smooth execution of the ISRO-UoP STC cell.
4. MoU between JSCOE, Pune, and APART was signed for placement assistance
5. MoU between JSCOE, Pune and Zensar was signed for promoting special education and employment enhancing vocational skills.
6. MoU between JSCOE, Pune and AICTE was signed for with LinkedIn Technology Private Limited, New Delhi for making www.placement.com.
7. MoU between JSCOE Pune and Copper Track Industries was signed for effective industry Institute Interaction
8. Students from various organizations in Pune (**SAE, Kondhwa, SKNCOE, RSCOE, Tathawade** etc.) works in the Research Laboratory of the institute for completion of their UG / PG / Ph.D. resrarch work.

Internship/ on-the-job training:

The students of this institute undergo vocational training in the various industries during summer vacations.

3.8 Any other relevant information regarding research, consultancy and extension which college would like to include.

Ph.D. Research Centre at Mechanical Engineering Department at JSCOE:

The Research center at JSCOE has helped in incorporating the **five core values of NAAC** amongst the students.

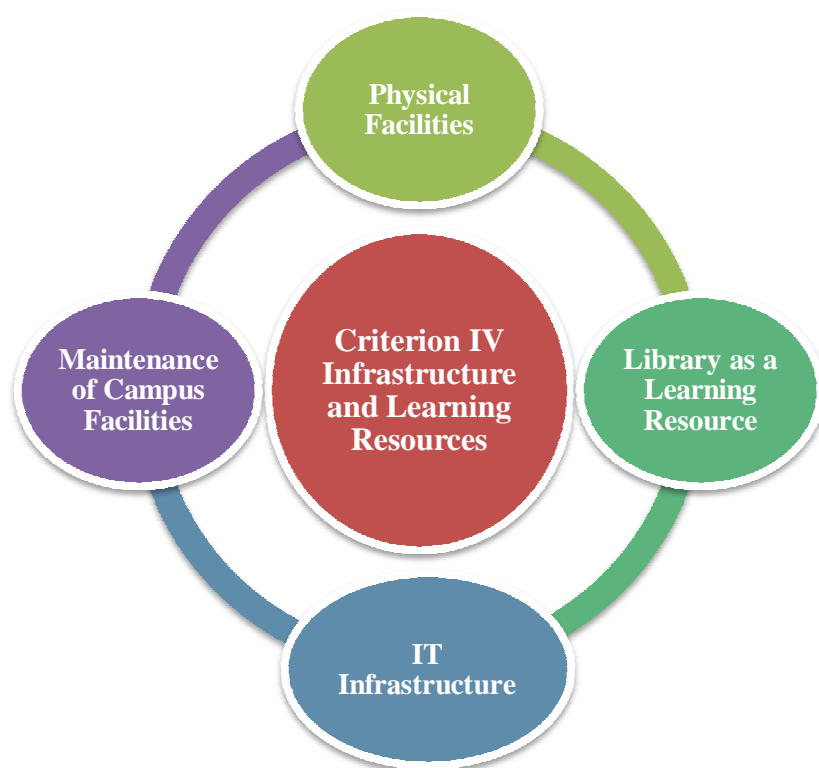
- The research center at JSCOE is affiliated to SPPU
- Full-time Research Guides working in the Mechanical Engineering Department.
- Five candidates have registered for the Ph.D. program under the research center. Projects undertaken by the research Laboratory for the Ph.D. Program are listed below:
 1. Design and development of single stage stirling cryocooler to achieve 2 W of cooling at 100 W for space application (Project Funded by ISRO-UoPP-STC Funds granted 22.1 Lakhs). The project for space application is a step contributing to space program for **National development** and promotes the **use of technology** in students by working on such **global competent projects**.

One doctoral student, two PG and four UG students are working on the said project.

2. Design, Development and Testing of Oil free Single Piston linear compressor for refrigerator application and Design, Development and Testing of Oil free opposed piston linear compressor for refrigerator application (Project Funded by DST, Govt. of India, Research Grants allocated 22.74 Lakhs). The objective of the work is to develop a linear compressor for refrigerator application. The project is a step contributing to domestic refrigerators for **National development** and promotes the **use of technology** in students by working on such **global competent projects**. Two doctoral students, seven PG and thirty six UG students are working on the said project. The project inculcated **Teamwork an important value system** among the students.
3. Design, development and testing of Thermo-Acoustic Engine is a non-conventional technique for power generation from waste heat is a step contributing to the development of power generation systems for **National development** and promotes the **use of technology** resulting in a **quest for excellence** among the students. One doctoral student, one PG and 20 UG students have worked on the said project. The project inculcated **Teamwork an important value system among the students**.
4. Experimental and Computational Investigation on Rectangular Swiss roll Combustor for small capacity power generation and Experimental, Computational Investigation on Circular Swiss roll Combustor for small capacity power generation. The project is a non-conventional technique for power generation is a step contributing to the development of power generation systems for **National development and promotes the use of technology resulting in a quest for excellence** among the students. Two Doctoral students, four PG and 25 UG students have worked on the said project. The project inculcated **Teamwork an important value system** among the students.
5. Experimental study of Heat Transfer and Pressure drop using Water / Ethylene Glycol based Nano-fluids deals experimentally studying the effect of nanoparticles (Materials / Concentration) on heat transfer characteristics and study of wear characteristics of the conduit carrying.
6. Investigation of High-performance alternative sound absorbing materials (Funded by BCUD, SPPU: 1.9 Lakhs). The project inculcated **Teamwork an important value system** among the students.
7. Effect of magnetic field on Hydrocarbons is a major step towards **National development** as it improves the fuel efficiency of the automobiles thereby reducing fuel consumption and further reduces polluting emissions from automobiles by a reduction in HC and CO. This project has made the students **globally competitive** among the students. Two Doctoral students, 3 PG and 20 UG students have worked on the said project. The project inculcated **Teamwork an important value system** among the students.

CRITERION- IV

Infrastructure and Learning Resources



CRITERION IV - INFRASTRUCTURE AND LEARNING RESOURCES

No.	Key Aspect	Assessment indicator's	Outcomes
4.1	Physical Facilities	The institution has adequate facilities for teaching- learning.	<ul style="list-style-type: none"> Facilities for teaching – learning as per AICTE /DTE/SPPU norms. 28 Technology enabled Classrooms, 50 well equipped laboratories, 8 seminar halls, virtual classroom, research laboratories with high end equipment worth 56 lakh etc. (4.1.2,4.1.1)
		The institution provides necessary facilities for Laboratories. (Furniture, fixtures, equipment and good laboratory practices).	<ul style="list-style-type: none"> Necessary Furniture like tables chairs, racks, cupboard, notice board and blackboards etc. Special Equipments like FFT Analyzer, Wind Tunnel for mapping the flow pattern, Digital storage oscilloscope, etc. Good Learning Practices including Learning material like lab manual, product brochure, access to journals & subscriptions (IEEE, Mc grawhill, Springer), access to Virtual labs from IITsetc. Laboratory as museum.(4.1.1)
		The institution has adequate facilities for general computer education of students.	<ul style="list-style-type: none"> 2 computer center laboratory and language laboratory is provided (4.1.1)
		Infrastructural facilities are augmented from time to time.	<ul style="list-style-type: none"> Institute established in 2004. Infrastructure facilities (due to introduction of new courses, increase in the intake of students, changed curriculum demands the introduction of new laboratories) are augmented by establishing B building in year 2007 and C building in year 2013.(4.1.3)
		Infrastructure facilities are being utilized	<ul style="list-style-type: none"> The institute functions in two shifts to optimally utilize the

		optimally. Additional facilities for sports and extra-curricular activities (gymnasium, swimming pool, auditorium etc.) are provided.	available infrastructure. (4.1.3) <ul style="list-style-type: none"> Ground for Outdoor games (Football, Cricket, Kho-Kho, Kabaddi, and Volleyball court) and Indoor Games -Tennis Boards, Caroms, and Chess boards), Auditorium. Arts & Cultural Promotion Council (Kala Mandal Hall) facility for participation in Firodiya-Chashak, Purushottam Karandak & Annual Gathering –Antarnad. Infrastructure (VC room, Jayawant Sabhagruh, Seminar) for Communication Skills Development program like Zensar ESD, GTT-Barclay Soft skill Programs etc .(4.1.2)
		Health services for students, teaching and non-teaching are provided by the institution.	<ul style="list-style-type: none"> Institute has sick room. SPPUs Student's Group insurance. Health Tie -up with muti-speciality hospital, free check-up and First-aid box. Counseling by expert doctor and Motivational speech to reduce physical and mental stress. Annual health awareness workshop for girls and Ladies faculty under Vidyarthini Aarogya Prabodhan Program.(4.1.6)
		The institution facilitates active academic participation of physically disabled students by providing the necessary facilities	<ul style="list-style-type: none"> Infrastructure in-line with norms for physically disabled students. Special toilets at girls and boy's common room. Ramps, lifts, wheel chair are available. Arrangement at ground floor classroom for university exam.(4.1.4)
4.2	Library as a Learning	The library has adequate physical facilities such as reading room, reprography, and internet.	<ul style="list-style-type: none"> Total area of the library 600Sqm and Total seating capacity 250 students. Students and staff members can get required information from

	Resource		reference books and journals through photocopying service . <ul style="list-style-type: none"> Internet bandwidth/speed 10Mbps Broadband fiber Optics(4.2.2,4.2.4)
		Number of book titles per student (in the central library) excluding book bank is greater than 80 .	<ul style="list-style-type: none"> Number of book titles are 28457 Book ratio per student 1:11 More than 80 books are available in book bank. (4.2.5)
		The library is stocked with adequate number of journals (national + international) and other library resources (i.e. CDs/cassettes, etc.).	<ul style="list-style-type: none"> Total 91 journals, 27000 E-Books and 6852 E-resource. (4.2.6)
		Library resources are augmented every year with newer editions and titles .	<ul style="list-style-type: none"> Average number of books added during last three years. In Academic Year 2014-2015: 1550 Books In Academic Year 2015-2016: 2365 Books In Academic Year 2016-2017: 2467 Books(4.2.5)
		The library operations (issue of books, getting the necessary references, etc) are effective and user friendly .	<ul style="list-style-type: none"> Library software Autolib is used to perform all Library function. E-publication is made available throughout the campus through internet and Wi-Fi. Users can download information from the e-journals and e-books in digital library and throughout the campus. (4.2.4,4.2.6)
		The Library Advisory Committee is responsible for the effective functioning of the library.	<ul style="list-style-type: none"> The institute library has an Advisory Committee of Principal, Librarian, one faculty from each department and student as committee member. Yearly two meetings are arranged to formulate policies and strategies for the development of the library facilities and services. (4.2.1)
		The library collects feedback from users and incorporates the suggestions for its enhanced	<ul style="list-style-type: none"> Library committee collects regular feedback from the students and staff to find out the appropriate solution to

4.3	IT Infrastructure	functioning.	<ul style="list-style-type: none"> maintain the overall standard of the library. Suggestion box facility is available in library to resolve issues like procure new titles with extra copies in library and extending timing of reading room during the examination time.(4.2.9)
		The library is computerized and networked with other Libraries.	<ul style="list-style-type: none"> All IP based e-resource are accessible from anywhere in the institute campus. Library software Autolib is used to perform all Library function. Five campus of JSPM in Pune take benefit of Inter Library Loan Service. (4.2.6)
		The institution frequently upgrades its IT facility and has latest computing facilities – hardware and software.	<ul style="list-style-type: none"> All 891 systems are well connected to internet via switches and central server. The entire building is connected through centralized Server room by OFC 1000 base converter. Centralized UTM/Firewall cyberoam. 10 KVA online UPS, Central Generator backup of 160KVA. 200 Mbps IIL from BSNL, 48 Mbps for JSCOE(LAN) internet facility on the campus All buildings are well connected with Fiber optics Ring topology. Licensed Software (system Software and Application software are Available). Institute has well established IT-Infrastructure committee for planning and strategic development. (4.3.1, 4.3.2,4.3.3)
		The faculties are provided with the requisite facilities for preparation of computer aided teaching learning material.	<ul style="list-style-type: none"> High speed Wi-Fi facility for both faculty members and students. Institute provide e-learning platform Moodle.

			<ul style="list-style-type: none"> • Virtual class room with LCD screens with seating capacity of 200 students. • Lecture series (NPTEL) by IIT subject experts. • The institute has self-learning laboratories and digital library. • Online quiz on Moodle platform • Online evaluation & computer based training (CBT).(4.3.6,4.3.5)
		The institution is connected with the National Knowledge Network and other such facilities.	<ul style="list-style-type: none"> • The institute has access to National digital library. • Access to reputed journals.(4.3.7)
		Budget provisions made for purchase, upgrading and maintenance of computers.	<ul style="list-style-type: none"> • Every department maintains a log register and Maintenance register. • Budget provisions are made as per the AICTE/DTE, SPPU , Industry needs and technological changes.(4.3.4)
4.4	Maintenance of Campus Facilities	The institution has a budget for maintenance of the facilities available on the campus – physical facilities and academic support facilities	<ul style="list-style-type: none"> • Separate budget for maintenance department is allocated. • Separate budget for each academic department is allocated for equipment maintenance. • In case of emergency additional funds are arranged by authority for all kinds of maintenance. (4.4.1)
		There are established procedures and systems for maintaining and utilizing physical and academic support facilities – library, sports, complexes, computer, classrooms etc.	<ul style="list-style-type: none"> • The institute has well established procedure for maintaining and utilizing physical and academic support facilities – library, sports complexes, computer, classrooms etc. • Requisition is send to Principal through the concern department HOD. Further Principal sends the requisition to concern maintenance department/person and work is carried out. • Requisition form for any kind of maintenance related work is available at departments.

			<ul style="list-style-type: none"> Each department allotted one staff as maintenance co-coordinator. (4.4.1,4.4.2)
		The funds allocated for maintenance of infrastructure are utilized in total for the planned activities.	<ul style="list-style-type: none"> Requisition for maintenance budget is called from each department yearly. Schedule is made for fund release for each department and accordingly funds are released.(4.4.1)

CRITERION IV

INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

Institute has established the policy and procedure to create the infrastructure through annual planning as per **AICTE, DTE norms** and to enhance the infrastructure as per **SPPU norms** for effective teaching and learning. Also institute creates facility for smooth conduction of co-curricular, extracurricular activities and facilities considering natural growth.

- Policy of Institution for creation and enhancement of infrastructure demands additional intake, addition of new courses, changes in syllabus. Requirements like building space, laboratory equipment, books and journals for library, IT resources are proposed by the principal to the governing body.
- Governing body reviews and approves and if appropriate forwards the proposal to the management.
- The Management reviews proposal and approve.
- Then the facilities are created according to standard procedure.

Institute strive for good infrastructure facilities such as-

- **Classrooms:** Technology enabled adequate number of well-furnished acoustic classrooms for lectures (core/electives), seminars; tutorials, etc. are available and maintained.
- **Laboratories:**
 - 1) Laboratories are having **necessary furniture** like table's chairs, racks, cupboard, notice board and blackboards.
 - 2) Laboratories like hardware laboratories, physics laboratory, and chemistry laboratory are having fixtures.
 - 3) **Special Equipment** like FFT Analyzer, Wind Tunnel for mapping the flow pattern, Diffusion Vacuum Pump, Digital storage oscilloscope, opposed piston valve linear compressor etc. are available.
 - 4) Computer labs are equipped with servers, computers with internet connectivity, printers, scanners, UPS/generator backup.
 - 5) Mechanical department is having **Laboratory as a museum**: Interactive learning laboratory encourages students/visitors of all ages to explore various engineering topics using many of the tools and techniques.
 - 6) **Good Learning Practices** includes learning material like **laboratory manual, product brochure**, and data sheets, Open source Software for various academic programs.

- 7) Computer Laboratories are facilitated with access to national/international journals, subscriptions (IEEE, Mc graw-hill, Springer), Virtual labs from IITs.
- 8) Self-learning labs are available to access digital course content through **MOODLE**.
- 9) **Two Computer centers** and **Language laboratory** facilities are provided for general **computer education of students**.
- **Virtual classroom:** Virtual classroom facility allows participants to communicate with one another, view presentations or videos, interact with other participants, and engage with resources in work groups.
- **Gymkhana:** For enhancing the teaching and learning activity, Gymkhana facilities recreational activities for staff and students.

4.1.2 Detail the facilities available for a) Curricular and co-curricular activitiesb) Extra-curricular activities-sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

a) Curricular and co-curricular activities

Table 4.1.1 Facilities for Teaching Learning

Sr. No	Facilities	Details	Area (Sq.Meter)
1	Technology Enabled Classrooms	28	10578
2	Seminar halls	08	1661
3	Tutorial Spaces	14	1420
4	Well-equipped Laboratories	50	33357
5	Botanical Garden	01	
6	Specialized Facilities for Research	Virtual class room=01 Research labs=05.	2081

- b) Extra-curricular activities-sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.
- **Outdoor Games** – Ground for Football, Cricket, Kho-Kho, Kabaddi, and Volleyball court is available in the campus.
 - **Indoor Games** - Table Tennis Boards, Caroms, and Chess boards are available.
 - **Gymnasium** – Gymnasium facility is available.

- **Auditorium**– Jayawant Sabhagrah with 150 capacities is available.
- **NSS**- A very active NSS unit with 150 members under the guidance of NSS Officers is available.
- **Cultural Activities** – Institute provides infrastructural facility (**Hall**) for Different Clubs in various Fields. That is working under the **Arts & Cultural Promotion Council (Kala Mandal)** like **Firodiya Chashak, Purushottam Karandak**. Also, every year college organizes Annual Social Gathering-**Antarnad, Department** level Fresher's induction program and Farewell function are organized every year for SE & BE students respectively.
- Infrastructure (**VC room, Jayawant Sabhagruh, Seminar hall**) for Public Speaking, communication skill development is provided. The Skill Development institute (Like APART, carrier corner, **Zensar ESD** programs, **GTT Barclay training**, soft skill workshop), plans and monitors the progress of students in public speaking and communication skills.
- **Yoga, Health, Dress Code and Hygiene** –
 - Informative lectures were conducted on topics like Breast Cancer, Heart, Hygiene, Stress management, yoga etc. in college.
 - Every Staff and Student has their Dress code. (Following on every alternate day).
 - Purified water, cleanliness of classroom, laboratories and floors is observed through in house cleaning department.

4.1.3 *How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution/campus and indicate the existing physical infrastructure and the future planned expansions if any).*

The beautiful campus of the Institute caters to the growing needs of our students and faculty. The highly committed administration ensures that the available infrastructure is optimally utilized.

- The physical infrastructure need was duly identified, planned and constructed to meet requirement since **establishment of institute in 2004**. Required academic and administrative infrastructure is provided for all the programs of the institute as per AICTE norms in the form of class rooms, laboratories, tutorial rooms, seminar rooms and faculty rooms. Mechanical engg. Department functions in **two shifts** to optimally utilize the available infrastructure.
- Introduction of new courses, increase in the intake of students, changed curriculum demands, the introduction of new laboratories, diversification of courses, need introducing the technological innovations, etc. needed infrastructural changes now and then. The institute strives to fulfill these requirements from time to time.
- The campus also provides appropriate parking facility for two wheeler and four wheeler vehicles.

Table 4.1.2 Expenditure on facilities

Sr. No.	Academic year	Facilities developed/augmented amount spent in lakhs						
		Library	Building	Computer	Equipment	Furniture	vehicles	Total
1	2012-2013	1.46	994.6	18.5	129	70.2	3.9	1217.8
2	2013-2014	0.48	729.5	13.5	102.9	54.9	3.3	904.8
3	2014-2015	1.92	656.6	7.6	91.3	65.1	2.8	825.5
4	2015-2016	0.88	725	5.4	104.6	76.6	2.4	915.1

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

Institute has taken due care to ensure that the facilities meet the needs of physically disabled students as per AICTE norms.

- Existing **Infrastructure** and future plans are **in line** with **norms** for persons who are **physically disabled**.
- Special toilets** are provided in Ladies common room and gent's common room.
- Ramps** are built at entrance of every building.
- Lift** facility is available.
- During University exam **ground-floor classrooms** are arranged.
- Wheel chairs** are provided if required.
- Functional mobility of these students is supported by students and staff.
- Library provides book banks for every semester.

4.1.5 Give details on the residential facility and various provisions available within them:

- Hostel Facility**

Safe and secure Girls Hostel is located in the main campus of the institute. The Boys Hostel is located outside campus under institute administration. Institute also has policy to provide additional accommodation if required on agreement basis. In-campus boy's hostel is in future plan. Both hostels have lavish rooms with the facilities such as Attached washroom, Comfortable bed, Study table & chair, cupboard, Hot and cold water, Wi-Fi facility.

Table 4.1.3 Girls & Boys Hostel

Sr. No.	Name	No. of Rooms	No. of students/room	Capacity
1	Girls	100	3	300
2	Boys	24	3	72



Figure 4.1.3 Residential facility

- **Recreational facilities, gymnasium, yoga center, etc.**
Hostel has their own recreational room with Television, beautiful lawn, visitor's lounge. Other than newspaper and magazine, it provides facilities for carom, badminton and football
- **Computer facility including access to internet in hostel**
 - Hostel has lease line of 10 Mbps.
 - Hostel is Wi-Fi enable and along with that reliance Jio facility is also provided to access through laptops and smart phones.
- **Facilities for medical emergencies**
 - Health Tie up with multi-specialty Noble and Shatayu Hospital.
 - A Doctor visits hostel at 5.30 pm every day.
 - First Aid box is available at Hostel.
 - Ambulance is available 24X7.
 - Informative lectures conducted on health related topics on regular basis like Breast Cancer, Heart, Hygiene, Stress management, yoga etc. in college.
- **Library facility in the hostels**
Girl's hostel is located in the campus and college library is accessible 24x7. Institute provides MOODLE where students can access curriculum content in digital form on mobile/laptop using Wi-Fi facility at the hostel.
- **Internet and Wi-Fi facility**
Students can avail internet facility at digital library and self-learning laboratory. Campus is Wi-Fi enabled.
- **Recreational facility-common room with audio-visual equipment**

The Hostel has its recreation room where it has facilities like music system, TV/ Cable/ Indoor games, newspaper and magazines. The students are given time for recreation so as to invigorate the students mind and body after rigors of studious toil and the demands of college routine.

- **Available residential facility for the staff and occupancy**

Yes.

- Residential facility for the staff is provided as per requirement.
- Residential facility for nonteaching staff is available in campus.

- **Constant supply of safe drinking water**

Purified water is available. Water supply is continuous as hostel has its own storage tank.

- **Security**

- Institute and hostel campus have security for 24×7.
- For girls hostel both ladies and gent's security guard is available.
- CCTV cameras are installed for security purpose.

4.1.6 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The college has **health tie-up with Multispecialty Noble hospital, Shatayu Hospital & Akshay Blood bank** for students. Collage has ambulance in campus for 24×7. Shatayu Hospital is 500m away from college campus.

- Institute has **sick room**.
- SPPU **Student's Group insurance**.
- Free **medical test** and **check-up** for students and staff for different parameters like eye check-up, HB check-up, skin care etc.
- **First-aid box** is available in every department as well as Girls hostel.
- **Counseling by expert doctor** for various factors for students and staff members.
- **Motivational speech** by experts to reduce student's depression and increase confidence in students.
- Every year institute arranges **health awareness workshop** under SPPU sponsored Vidarthini Aarogya Prabodhan Program for girl students and lady staff members.

4.1.7 Give details of the Common Facilities available on the campus—spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

Institute has common facilities available on the campus including spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and

students, safe drinking water, details is provided in Table 4.1.4.

Table 4.1.4 Common facilities

Sr. No	Common facilities	Room Number	Description
1	IQAC	A-215	Office with Internet, Printing & Scanning
2	Counseling & career guidance	A-218 and 219	TPO Office
3	Healthcare-sick room	C-006B	First-aid box is available in all departments and sick room is available for all departments. Ambulance facility is also there in case of emergency.
4	Canteen	E	AC canteen for students and staff members. Separate setting arrangement for faculty members.
5	Recreational spaces	Kala mandal	A hall for cultural activity.
6	Drinking water RO Plant	Girls Hostel	RO purification plant is located at girl's hostel to supply purified water to campus. Separate drinking water coolers facility available at each department.
7	Auditorium	(B-103)	Jayawant sabhagrah- 200 person setting capacity with AC, internet, printer and LCD available.
8	Ladies room	(B-001)	A room with cot & tables, chairs, TV, toilet available in ladies room.
9	Boy's Room	(B-002)	A room with cot & tables, chairs and TV available in boy's room
10	CC TV		All over campus.
11	Generator		Power back up is provided by 160KV.
13	Women Cell	(B-309)	For gender equality & gender justice in all its intervention & practices Women's Grievance Redressal Cell was established under the Act No. 20 of 1990 of Govt. of India. The Cell is responsible for looking into any Grievances filed by students & staff about Woman at the college.
14	Anti-ragging Cell	(A-207)	To stop physical, psychological and physiological harm to the student's college has anti-ragging cell of 4 members.

4.2 Library as Learning Resources

4.2.1 Does the library have an Advisory Committee? Specify the composition of such committee. What significant initiatives have been implemented by the committee to render the library, students/ users friendly?

Yes, the institute library has an Advisory Committee with Principal as chairman & Librarian as secretary. One professor from each department is the member of this committee. **Annually two meetings** are conducted to formulate policies and strategies for the development of the library facilities and services.

Table 4.2.1 Library Advisory Committee Members

Sr.No.	Name	Designation	Role in Committee
1	Dr. M.G. Jadhav	Principal	Chairman
2	Dr. V.K. Bhojwani	Professor	Library Coordinator
3	Mrs. M.Y. Rane	Librarian	Secretary
4	Mrs. S.A. Wakure	Asst. Professor	Member (E&TC Dept.)
5	Mr. K. G. Shinde	Asst. Professor	Member (COMP Dept.)
6	Mr. R. V. Shastri	Asst. Professor	Member (IT Dept.)
7	Mr. M. R. Hegnavar	Asst. Professor	Member (Elect. Dept.)
8	Ms. A. A. Pawar	Asst. Professor	Member (FE Dept.)
9	Mr. C. D.Hake	Asst. Professor	Member (MBA Dept.)
10	Mr. S. S. Shaha	Asst. Professor	Member (MCA Dept.)
11	Mr. Suraj Kumar	Student	Student

Responsibilities of Library Committee:

- Library committee plays a vital role for smooth functioning of the library as well as to fulfill the student's requirements regarding learning aids.
- Library Committee takes initiative in the formation of rules and regulation for students and faculty.
- This committee examines the procurement of books/print journals/e-Journals/Periodicals/Magazines in the library.
- Committee supervises the allocation & utilization of fund distribution for purchase of books and journals in the library.
- Committee works as an advisory committee for overall development of the library by giving suggestion to solve various problems.

Recommendations by library committee and Impact:

Recommendation 1: Computerization of library with standard digital software.

Impact: Now Library is fully automated and OPAC facility is made available through **Autolib** software to know the bibliographical details about the library collection. Like Simple search by giving Title, Author, subject, Department is provided through OPAC. Also it is easy to access database of library.

Recommendation 2: To increase the quality of library services we maintain student /teacher attendance statistics.

Impact: It helps to increase the usage of the library services.

Recommendation 3: Displaying newspaper clipping on the notice board periodically.

Impact: By displaying these clippings library provides current awareness services to the students.

Recommendation 4: Internet facility is provided by the library to different user groups.

Impact: Due to internet & Wi-Fi facility group members can easily access the e-resources as well as library information all over the campus.

Recommendation 5: Suggestion Box/ feedback form and timely response.

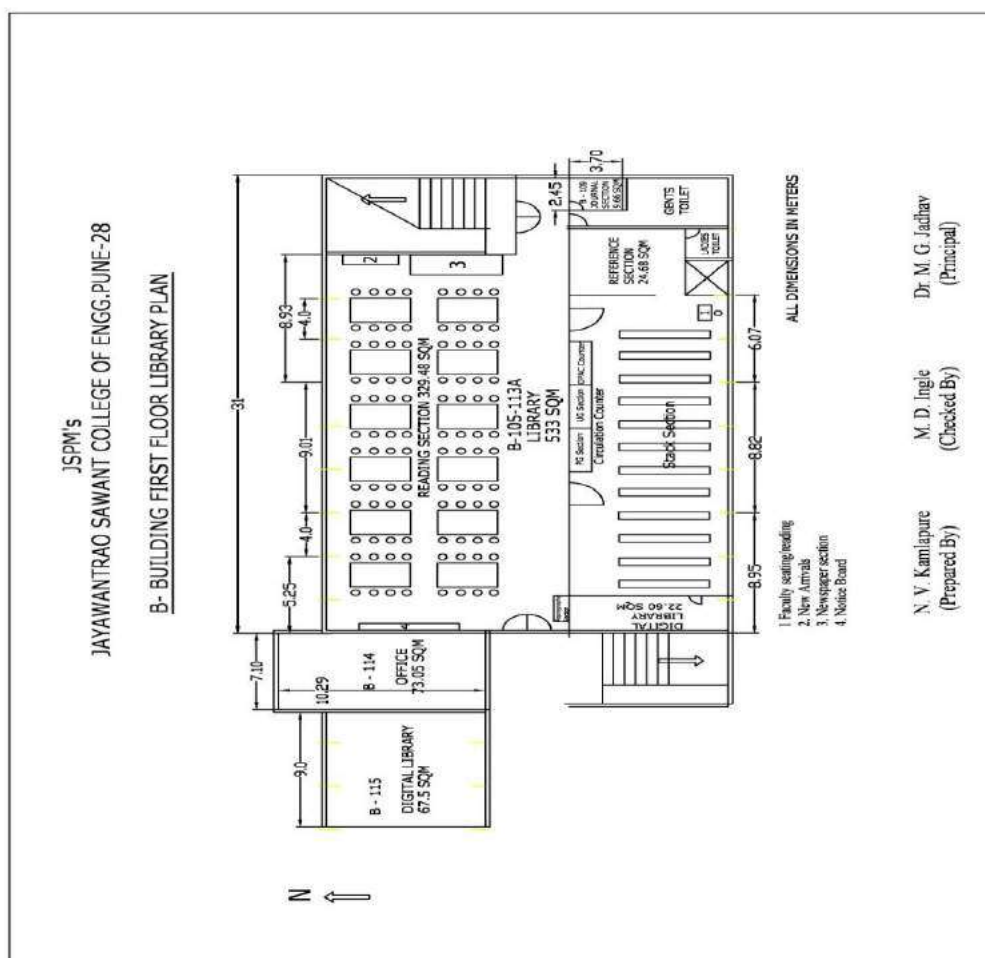
Impact: Feedbacks & corrective actions helps to improve the quality of library Services.

Recommendation 6: Displaying new arrivals and circulating a list of those to academic departments.

Impact: Student & Faculty can get the information about the new arrivals of books & journals.

4.2.2 Provide details of the library with layout.**Table 4.2.2 Library Details**

Total area (in Sq. Mts.)	600Sqm.
Total seating capacity	250 students
Library Timing :	
On working days : Counter Timings Reading Room	8.30 a.m. to 8.00 p.m. 8.30 a.m. to 8.00 p.m.
On Holiday : Counter Timings Reading Room	8.30 a.m. to 6.00 p.m. During exam period Reading room available for 24 x7.
Before Examination : Counter Timing Reading Room	8.30 a.m. to 6.00 p.m. 8.30 a.m. to 6.00 p.m.
During Examination : Counter Timing Reading Room	8.30 a.m. to 6.00 p.m. Reading room available for 24 x7
During Vacation : Counter Timing Reading Room	8.30 a.m. to 6.00 p.m. 8.30 a.m. to 6.00 p.m.

Library Layout:**Figure 4.2.1 Library layout**

4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading material? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

Library ensures purchase of books, journals in the following way:

- Institute is taking due care to purchase current titles every year.
- The department raises the requirement of the books / journals as per the respective courses.
- Library provides print catalogues or e-format mailed to respective department for their recommendation. In addition, book supplier/publisher visit library and department with latest title.
- Library staff prepares the department wise list of the books by considering the requisition for books, journals & other library holding.

- The comparative quotations are demanded from the vendors for the purchase and forward the quotations to library committee and the chairman of the committee places the purchase order.
- Library is a member of INDEST- AICTE consortia and subscribes E-resources IEEE, ASME, Elsevier, ASTM, McGraw-Hill etc. through it.
- The details of amount spent on procuring new books, journals and e-resources during the last four years is as follows: (Total cost in Lakh Rupees)

Table 4.2.3 Expenditure on Books, Journals, E-Resources

	AY 2016-17		AY 2015-16		AY 2014-15		AY 2013-14		AY 2012-13	
	No.	Total Cost	No.	Total Cost	No.	Total Cost	No.	Total Cost	No.	Total Cost
Text Books / Ref. Books	2467	6.9	2365	7.56	1550	4.96	2064	6.53	1041	3.75
Journal / Periodicals	91	2.42	91	2.41	91	2.39	91	2.13	75	1.98
E-resource	6852	10.66	7273	18.46	3357	15.19	1782	11.98	3357	13.82
E-Books ProQuest	27000	1.5	--	--	--	--	--	--	--	--

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

Details of Internet Communication Technology (ICT) are given below:

Table 4.2.4 ICT Details

OPAC (Online Public Access Catalogue)	Yes
Electronics Resources Management package for e-journals	All IP based E-resource are accessible from anywhere in the institute campus.
Federated searching tools to search articles in multiple databases	No
Library Websites	The library does not have a separate website however it has a link to college website www.jspm.edu.in .
In-house / remote access to e-publications	Yes, E-publication is made available throughout the campus through internet and Wi-Fi .

Library automations	Yes, Library software Autolib is used to perform all Library function.
Total number of computers for public access	To access E-resources digital library with 10 multimedia computers is facilitated to the users in the central library and internet connectivity along with access in all computer labs is useful for students to public access.
Total numbers of printers for public access	02 (one CANON LBP 2900 Black & white printer & other EPSON 210 Color Printer)
Internet band width/speed	10Mbps Broadband fiber Optics
Institutional Repository	Library uses central storage database for student/staff/books in software Autolib.
Content Management System for e-learning	Moodle (e-learning platform)
Participation in Resources sharing network/consortia (Like Inflibnet)	Library is a member of INDEST-AICTE consortia and subscribes E-resources through it.

4.2.5 Provide details of the following items:

Table 4.2.5 Details of Library

Average number walk-ins	150
Average number of the books issued/returned	78
Ratio of library books to students enrolled	1:11
Average number of books added during last three years	
In Academic Year 2014-2015	1550
In Academic Year 2015-2016	2365
In Academic Year 2016-2017	2467
Average number of logins to OPAC	25 logins per day
Average number of login to e-resources downloaded / Printed/ Access in library	12
Number of training organized	2
Details of 'Weeding out' of books and others materials	As per last stock verification report conducted in 1 st June 2013, 206 books are untraceable. After 3 times stock verification we are in final decision of weed out of this book. So the write-off procedure is in process.
Number of book titles	28457

4.2.6 Give details of the specialized services provided by the library

The details of the specialization provided by the library are given below:

Table 4.2.6 Specialized facility at Library

Manuscript	No
Reference	A separate reference section with rich collection (Total = 2141) as well as guidance for use of library resources and service is available in the library.
Reprography	Students and staff members can get required information from reference books and journals through photocopying service .
ILL (Inter Library Loan Service)	Five campus of JSPM in Pune take benefit of Inter Library Loan Service .
Information Development & Notification (Information Deployment & Notification)	Library provided Current Awareness Services through notice, Moodle and e-mail. Display of new arrival of books and journals aware the users & motivated them to read it.
Download	Users can download information from the e-journals and e-books in digital library and throughout the campus.
Printing	Students are allowed to take printout of required information.
Reading List /Bibliography compilation	Library has maintained the print catalogue file which provides all the details about the books.
In –house /remote access to E-resources	A well-equipped digital library in central library with 10 computers and internet connectivity along with access in all computer labs is useful for students to access the e-publication.
User-orientation & awareness	User –orientation programs are conducted for first year and direct second year students at starting of every academic year. New arrivals are displayed in the library reading room for the information of users.

Assistance in searching Databases	Library staff assists the users for searching the desired information from the print/non print resources. Library staffs help the students for advanced search from the library software too.
INFLIBNET / UGC facilities	Inter Library Loan facility is well developed between institute of JSPM. An INDEST-AICTE consortium for E-resource is available for the users.

4.2.7 Enumerate on the support provided by the Library staff to the students & teachers of the college.

- Library staff guides the students and faculty to search books from the stack section, reference section.
- They assist the user for searching, browsing the e-resources.
- User awareness program and training is conducted by the library for newly admitted students of first year and direct second year to know more about library collection, services.
- Photocopying, printing, books issuing for users etc. are common practices in library handled by experienced and well trained library staff very cooperatively.
- For research students library staff collects the project relevant information, references from other library personnel or through library forum.
- Library helps the students for competitive exams like GATE, MPSC and UPSC by procuring special books for them.
- Library staff assists the users for searching question papers, syllabus through online resources or print format.
- Library facilitates extra ordinary students by providing extra books for extra time period without hampering the library rules.
- They intimate to staff and faculty about the new arrival of books, journals, its contents, URL of e-resources through mail / display board.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged person?

For visually / physically challenged person ramp facility is provided by the library. First priority is given to them in all library services. They are facilitating by borrowing more books at the start of the semester and to keep the book for complete semester, if required.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services. (What strategies are deployed by the Library to collect feedback analyzed and used for further improvement of the library services?)

Library committee collects regular **feedback** from the **students** and **staff**. It is very essential to know the requirements by the users and their suggestions for improving the library functions very smoothly.

- **Suggestion box** facility is available in library where the students can drop their suggestion, grievance and problems regarding library collection and services.
- The feedbacks are analyzed by library committee to find out the appropriate solution to maintain the overall standard of the library.
- Some highlighted issues are resolved through feedback are :
- Procure new titles with extra copies in library.
- **Extending timing** of reading room during the examination time.

Feedback on Facilities:

Library collects regular feedback from the users by using feedback form as well as suggestion box which is kept in the library wherein the students can put their complaints in the box. Analysis of the feedback is done by the library committee and forwarded to the respective functional heads for necessary corrective action. Sample report of corrective actions taken for central library is shown below:

- **Suggestion / Queries raised:** There is problem in accessing E-resources Springer, ASTM E-resources.
Action taken: Technical problem to access the E-journals is intimated to the service provider through mail by Network administrator & was re-accessible within a day.
Impact: Students are satisfied with the quick action taken by library.
- **Suggestion / Queries raised:** Reading hall must be kept open 24 hours during the exam period and other day till midnight.
Action taken: The reading hall is kept open for 24 hrs. during exam period and on others days for 12-14 hrs. i.e. from 8.30 am to 11.00 pm. as per the students demand.
Impact: Students took more benefit of this service during exam period. It is beneficial to them for reading and learning.
- **Suggestion / Queries raised:** Access for Digital Library.
Action taken: Students are allowed to sit in Digital Library to access all the E-resources which are subscribed by the institute. Also awareness about access of E-resources anywhere within the campus has increased among the students.
Impact: Students can now access all E-resources through digital library. Students get satisfied for prompt service of Library.
- **Suggestion / Queries raised :** Extending returning date of books from library.
Action taken: Students can renew the book two times that means students can keep book with him/her for two weeks.
Impact: Students of BE & ME are satisfied with this service as they need the books for a long period for his/her project work.
- **Suggestion / Queries raised:** There are less number of volumes of specific titles. It should be increased.

Action taken: Students' dissatisfaction about reading material is reduced by verifying counter demand regularly and purchased books accordingly.

Impact: Students are satisfied with available copies.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the institution.

The institution has set **high standards** in making the **computing facility** available to its stake holders. This comes with guidelines of AICTE and SPPU. The following table describes the computing facility available.

Table 4.3.1 Installed Software

System Software	<ol style="list-style-type: none"> 1. Windows XP 2. Windows Vista 3. Windows 7 4. Windows 8 5. Windows 8.1 6. Windows 10 7. Windows Server 8. Ubuntu 14.04 (Open Source) 9. Fedora 19/20 (Open Source) 10. Windows Server 2008 R2 Standard 11. Windows Server 2008 R2 Enterprise 64-bit
Application Software's	<ol style="list-style-type: none"> 1. Exchange Server Standard Turbo C++ 4.5 2. Adobe Flash MS Office 2013 3. Oracle 9i 4. Microsoft Visual Studio 2008 5. Microsoft Visual Studio 2012 6. Microsoft Visual Studio Express 7. Microsoft Office 2003/2007/2010/2013 8. MATLAB 6.0 9. MATLAB Tool Boxes 5 10. Chips scope pro software 11. Embedded System Development software 12. DSP Application Software 13. Xilinx 14. VHDL 15. Chips scope pro software 16. DSP Application Software 17. Tally ERP 9 18. Pro-E 19. Auto CAD 2011

	20. Creao 21. Master CAM 22. Ladders Programming Triton 23. NI Academic Site License 24. NI Multisim Circuit 25. Micro wind 3.1
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Number of nodes/computers with Internet facility:

- All **891 Computer system** systems are connected to internet via switches and central server
- The entire building is connected through centralized server room by **OFC 1000** base converter
- Centralized UTM/Firewall cyberoam
- **10 kVA** online UPS
- Central Generator backup of **240KVA**
- **200 Mbps IIL from BSNL, 48 Mbps** for JSCOE(LAN)

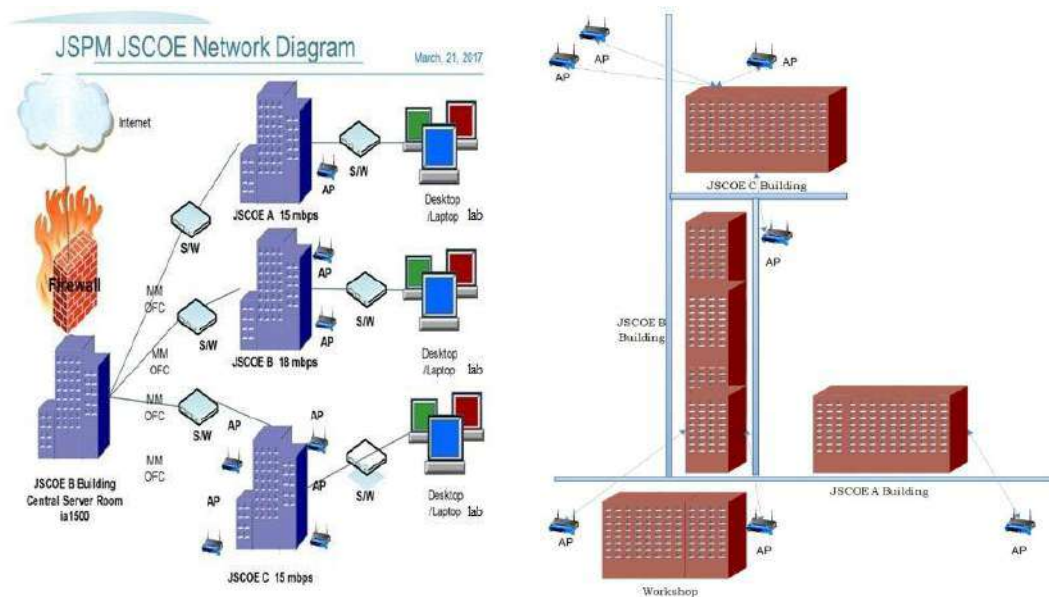


Figure 4.3.1 JSCOE Network & Access Point Diagram

- 200 Mbps Internet lease line from BSNL directly terminated to Cyberoam firewall 1500 is UTM (unified threat management) through SFC port. This UTM have 1000 base Ethernet port. Cyberoam 1500ia UTM provide Web filter, Application filter & QoS for bandwidth management.
- As per AICTE requirement JSCOE required 48 mbps internet bandwidth.
- Outdoor access points are installed @ JSCOE A/B/C building.

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

Institute has computer and internet facilities In line with AICTE/DTE standards, SPPU syllabi and technology upgrade. The institute follows a standard procedure for facility and upgrade. These facilities and upgrades are consulted with IT-Infrastructure committee. This committee discusses issues related to IT infrastructure and give recommendations about any new facilities to the top management. A follow-up is taken about the implementation and progress made.

- Institute provides desktop computers in Faculty cabins, HOD, Principal chamber.
- All labs are well equipped with high end computers and internet facilities.
- The laptop facility is made available to students and staff on campus and off campus
- All students have the facility of computers with **high speed 200 Mbps** internet facility on the campus
- Digital Library, self-learning laboratory and Central Computing facilities are made available.
- The Institute has dedicated 200 Mbps (BSNL) lease line for internet, all building are well connected with **Fiber optics Ring topology**.
- Institute provides high speed Wi-Fi facility for both faculty members and students on the campus.
- Institute provides additional Reliance **high speed Wi-Fi facility** for both faculty members and students on the campus.
- All Staff and students have authorized login to system and internet facility.
- Institute provide **e-learning platform Moodle**, Students can access digital content of the courses they are enrolled for, from Institute cloud server anywhere and anytime.

4.3.3 What is the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

Institute has well established **IT-Infrastructure committee** for planning and strategic development. Every department identifies and upgrade requirement as per the SPPU syllabi and technology upgrade as per needs. SPPU changes syllabi after every four year. Through industry interaction we incorporate their input in DAB for planning, upgrading and purchase for every year.

4.3.4 Provide details on the provision made in the annual budget for procurement, upgradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

The institute has a systemic approach for procurement, up gradation, deployment and maintenance of the computers and their accessories. Every department maintains a **log register** and **Maintenance register**, where all the details about the computers and

accessories are maintained. Every department identifies the **need as per AICTE, SPPU, Industry, technological changes** and escalates these requirements to the IT infrastructure committee. The institute head forwards this to our corporate office. The corporate office sanctions these requirements.

Table 4.3.2 Budget of IT infrastructure

Year	2012-13	2013-14	2014-15	2015-16
Procurement, Up gradation	28,72685	2102189	1584507	8,86952
Maintenance	3513017	3384427	3069877	21,40,579

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

With rapid advancements in the technology and ICT facilities, faculty members and students are encouraged to use modern teaching and learning methods. The students and faculty members are supported with multimedia systems to visualize the concepts. They are encouraged to learn through animation and digital content building. The following points highlights how the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students.

- Institution has well equipped air conditioned **Virtual class room with LCD screen** and high quality speakers. It has a seating capacity for **200** students. Interactive sessions are also conducted in the VC room.
- Each and every laboratory has high configuration computers with high speed internet facility. All the computers are connected in the LAN. The systems are supported with UPS. All the systems are connected to printers.
- Students can access e-learning resources through Wi-Fi.
- SPPU online exams are well managed through ICT facility.
- The institute has intranet infrastructure which is implemented in ring topology.
- The institute has **self-learning laboratories** and **digital library**.
- Institution has provided a lecture series (**NPTEL**) by **IIT** subject experts for on-line teaching-learning process. The same is shown to students.
- Every classroom is well equipped with provisions for LCD projectors. ICT is available to laboratory.
- The digital content is maintained on the central server of the institution. Students can access this digital content on-campus and off-campus
- Students are encouraged to apply for scholarship online
- Online exams are conducted through the ICT facility.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources,

independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

The learning activities and technologies deployed by the institution place the student at the center of teaching-learning process and render the role of a facilitator for the teacher. Every faculty plays a very vital role in the overall development of the students. Because the institute is student centric, highest priority is given to overall progress of each and every student. The faculty members also act as GFM and are assigned a batch of students for their all-round progress. Every student will be focused and personal touch is given.

ICT lead to improved student learning and better teaching methods. Through ICT, multimedia contents can easily be used in teaching and improving the retentive memory of students. Also teachers can easily explain complex instructions and ensure students' comprehension. The institute provides infrastructural support for student centric approaches. The following points highlight these:

- Access to on-line teaching - learning resources, independent learning, ICT enabled classrooms/learning spaces through **MOODLE** environment
- Institution has provided a lecture series (NPTEL) by IIT subject experts for on-line teaching-learning process. **25** staff and **270** students are registered for online lecture series.
- Every classroom is well equipped with provisions for LCD arrangements. Animations are used to explain the subject.
- Access to virtual laboratories and virtual classroom. Tutorials displayed by reputed universities are available.
- Power point presentations made by eminent teachers are available.
- To understand industrial environment videos clips of industrial set up, laboratories are made available.
- **Online evaluation & computer based training (CBT).**
- Encouraging Students to develop clips and animations
- Seminars conducted by students using audio visual media
- **Online quiz** on MOODLE platform
- AICTE webinars HACKHATHON 17.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

Yes, the institute has access to **National digital library**. The login credentials are made available to the faculty members and students. The central library maintains and circulates any new contents in digital library. All the departments are informed about the same on regular basis. Notices and circulars are immediately forwarded to all concerned HOD's. Several other online free digital contents are also accessed as a part of national knowledge network. Access to **reputed journals** for all branches.

4.4 Maintenance of Campus Facilities

4.4.1 *How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and up keep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?*

Requisition for maintenance budget is called from each department yearly. **Schedule** is made for **fund** allocation keeping in mind the overall department's requirement. And accordingly funds are **released** to make sure optimum utilization of funds. The institution ensures **optimal allocation** and **utilization** of the available **financial resources** for maintenance and up keep of the facilities. Every department **identifies** the **maintenance requirement** as part time and needs. The requirement is **documented** and **forwarded** from **DAB** Committee to **IQAC** then to **corporate office**, where **Management** takes decision for ensuring optimal allocation and utilization of the available financial resources for maintenance and up keep of the facilities.

Table 4.4.1 Budget for Maintenance

Sr. No.	Description	2012-13	2013-14	2014-15	2015-16
1	Building	1504000	1350000	1007000	900900
2	Furniture	403000	430000	300000	300500
3	Equipment	704000	916096	600674	550400
4	Computers	1200925	1100000	1000000	650004
5	Vehicle	1226488	1135543	22162	314457

4.4.2 *What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?*

The institution has **well established procedures** for maintenance and upkeep of the infrastructure, facilities and equipment in the campus.

- Maintenance departments are available in campus for maintaining and repairing electrical lines and equipment, buildings & civil works, housekeeping and garden services. Furniture maintenance is carried out by workshop department.
- Air conditioners, generator, water coolers are repaired through central store department. External agency is appointed for maintenance on case to case basis. Cleaning of coolers is done by respective location's peon.
- Laboratory equipment maintenance and servicing is done by the concerned manufacturers and service personnel/ laboratory technicians of departments.
- The computers which are in the warranty and their accessories are maintained by N-electronics and other maintenance is done by college system administer

and respective computer laboratory assistants. Computer peripherals related problems are solved by M K Stationers.

- All kind of maintenance staff is on the payroll of the institute, duly supervised by supervisors and guided and monitored by HOD/Campus Director.
- Some maintenance work is done from external agencies on case to case basis by calling quotations for the works.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/ instruments?

The Institute takes up calibration and other precision measures for the equipment/ instruments.

- All departments are following the same procedure for calibration of instruments.
- In every department laboratory maintenance coordinator is appointed to look after maintenance and equipment purchase for all laboratories.
- The laboratory in-charge of respective laboratory provides all the details of the instrument requiring calibration (e.g. cost, suppliers name, period etc.) to the laboratory maintenance coordinator.
- Quotations are brought with the permission of head of department and appropriate one is forwarded to Principal for clearance.
- The respective laboratory in-charges then get it calibrated from the selected ratified organization.
- Instruments are calibrated once in a semester i.e. in the beginning of the semester.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

Generators, power supply units and power backups (UPS) are kept under separate area to prevent any damages due to unintended interference by anybody irresponsible

- Proper information is displayed for each machine and other equipment in the laboratories for the sake of safety operation.
- During the power cuts, electrical supply is ensured in the campus by the operations of generators. Restoration time: 3 minutes. Also voltage stabilizers are provided to majority electrical equipment to stabilize the voltage fluctuation.
- To ensure constant water supply in house ground water supply duly treated by RO plant is kept in the institute to provide portable drinking water to students and faculty members.
- All the laboratories in the department are equipped with adequate equipment and needed software.
- Supporting staff is responsible for regular maintenance and repair of the computers and equipment available in each laboratory.

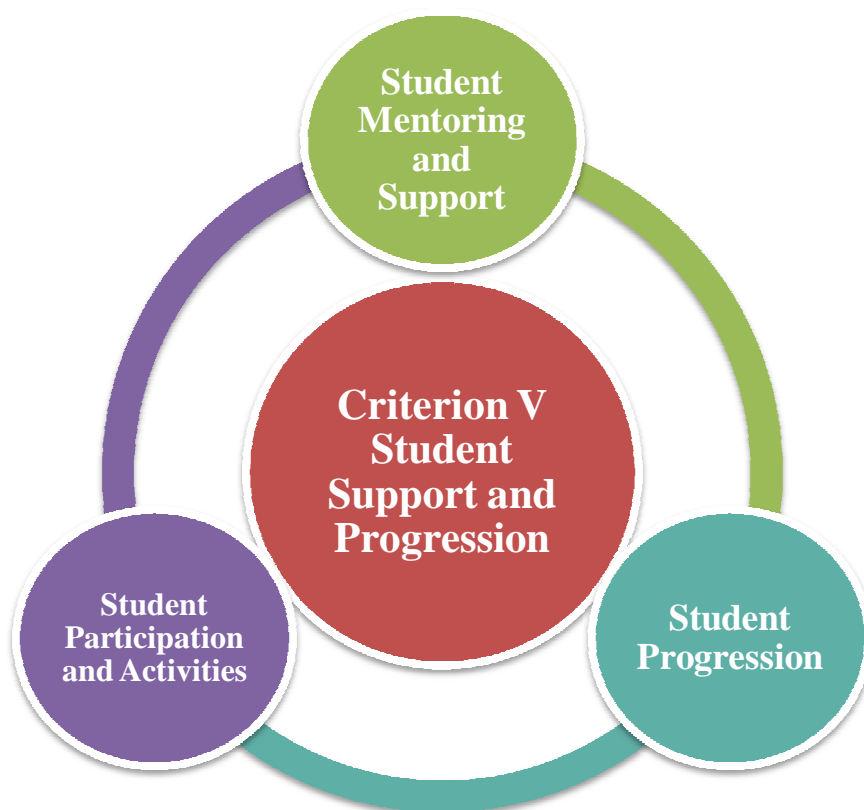
- In case of power failure or voltage fluctuations the power supply is taken over by the UPS (7.5 KVA) which is available in one of the computer laboratory.
- Power supply units and power backups (UPS) are kept under separate area to prevent any voltage fluctuations in the laboratory.
- Laboratory layout is displayed in laboratory notice board for each laboratory.
- During the power cuts, electrical supply is ensured in the campus by the operations of generators which is having 160 KVA power capacities and it can run continuously for a day without stopping and it consumes a 35 lit of diesel to run for an hour.
- For monitoring and maintaining of computers log sheets are kept in each laboratory.

4.5 Any other relevant information regarding research, consultancy and extension which college would like to include.

- **Moodle-open source learning platform:**
In line with Institute mission of providing high academic excellence, supports for effective access to **MOODLE – open source learning platform** is provided. Institute has its **own server** to upload content of all courses to facilitate access to digital data around the clock. All computer laboratories are **equipped with** required hardware and software for smooth delivery of digital content. Dedicated **1:1 10 Mbps** bandwidth is provided for MOODLE server.
- **Configuration of Current Server:**
 1. Intel Xeon E5 8 core processor
 2. 32 GB DDR4
 3. SATA controller Hard disk.
- **NPTEL:**
Every department has Self Learning laboratories to learn through NPTEL videos. Self-learning laboratories are equipped with **head phones** to listen and watch various NPTEL videos.
- **OFA:**
IT department is running “OFA-a pilot Project”. **Six laboratories** and **two class rooms** are provided by institute to conduct this project.
- **Lab as a Museum:**
Institute has provided following Infrastructure for **Interactive learning laboratory** that allows students to explore various topics in the laboratory using many tools and techniques as real scientists.
 - a) Tablet-for visual self-explanatory laboratory,
 - b) Display and photo frame.
 - c) Flex,
 - d) Material required for 3-D modeling.

CRITERION V

Student Support and Progression



CRITERION V
STUDENT MENTORING AND SUPPORT

Cr No	Key Aspects	Assessment Indicator	Outcomes
5.1	Students Mentoring and Support	The institution has an independent system for student support and mentoring (for universities).	<ul style="list-style-type: none"> • Mentoring Counseling for academic/personal - Guardian Faculty Member (Mentor) Placement training and career counseling - Dedicated cell for placement training and career counseling, 47.06% students placed in last four years through campus • Support provided: Economically weaker students, Students with physical disabilities, Medical assistance to students, for competitive exams, for Skill development, for slow learners, for higher learning/corporate/business house
		Adequate student welfare measures (scholarships, freeships, insurance, etc.) are provided by the institution.	<ul style="list-style-type: none"> • Support for financially weaker students. In last four years, INR 13.96 Lac of scholarship is given to students by the college management. • Institute has group insurance policy for the students with SPPU collaboration. Under this policy, till date, two policies have claimed by student's family, INR 1 Lac each

		<p>Personal enhancement and development schemes – coaching classes for competitive examinations, career counseling, soft skill development, etc. are available to the students.</p>	<ul style="list-style-type: none"> • Institute has well- established placement cell • Placement training and career counseling - 47.06 % students placed in last four years through campus • The institute has separate unit called “Jayawant Academy for civil services” JACS • Guidance for GATE/ TOFEL/ GRE is provided to students as a result in last four year 108 students have qualified in competitive exams.
		Information about the institution is publicly accessible	<ul style="list-style-type: none"> • Publication of prospectus/handbook, newsletter and magazine of the institute is published in hard copy and available on website, e-learning platform MOODLE, etc for ready reference.
		The institution has an international student cell to cater to the requirements of foreign students (<i>for universities</i>).	<ul style="list-style-type: none"> • Institute has no foreign student enrolled yet
		Student participation in co-curricular and extra-curricular activities is encouraged.	<ul style="list-style-type: none"> • For participation in cultural activities and co-curricular activities like ‘Antarnad’, Techmanthan, ‘Firodiya’ and ‘Purushottam’ required facilities like practice room etc are provided. Similarly • College provides adequate sports materials, uniforms/jersey • Management provides financial support to students for national level events like ‘Go-karting’ and ‘SAE BAJA’, TA/DA and reimbursement of registration fee for winners
		The institution has a placement cell	<ul style="list-style-type: none"> • Placement training and career counseling - Dedicated cell for placement training and career

		which helps to identify job opportunities and develop entrepreneurship skills.	<p>counseling,</p> <p>Till date, 56 major employers have conducted placement drives in institute in which 47.06% students placed in last four years through campus</p> <ul style="list-style-type: none"> Institute has a separate Entrepreneur Development Cell <p>100+ students become members of this cell in every academic year</p> <p>Activities under EDC: Commercial Advertisement, Success storytelling event, Logo Design Competition, Business Plan Competition, Bizz-Quiz</p> <p>As an effort taken by EDC till date, more than 44 students have become an entrepreneur, among which Vinay Nagpurkar of Jayashri Electronics is having turnover around INR 20 Cr.</p>
		<p>On-campus interviews are an essential mechanism to ensure student placement (<i>for universities</i>).</p>	<ul style="list-style-type: none"> Placement training and career counseling - Dedicated cell for placement training and career counseling, 47.06% students placed in last four years through campus
		The Alumni Association contributes significantly to the development plans of the institution.	<ul style="list-style-type: none"> The institute has a registered Alumni Association The institute organizes Alumni Meet on annual basis Alumni guides student for preparation related drives, training and placement, entrepreneurship etc Alumni also contribute the infrastructural development of institute, ex. PA system is installed in seminar hall Alumni have a good contribution to curriculum

			development and partial delivery of curriculum.
		The institution has a mechanism for timely redressal of student grievances.	<ul style="list-style-type: none"> • Institute has a student grievance redressal cell • It has created mechanism for redressal of student grievances like academic and non-academic matters.
		The institution has an anti-ragging committee which monitors student interactions effectively.	<ul style="list-style-type: none"> • There is an anti-ragging committee as per the directions of AICTE • The students are directed to strictly desist from any kind of ragging • Not a single case of ragging has been reported yet.
		Specific student support is provided for SC, ST, OBC, PWD and economically weaker sections of society.	<ul style="list-style-type: none"> • The students who belong to SC/ST, OBC and the economic weaker sections are given admission under state govt. reservation policy also supported through scholarships and book banks. • In last four years, INR 13.96 Lac of scholarship is given to economically weaker students by college management • Facilities available for PWD: ramp and lift facilities, medical and ambulance facility
		The institution has a mechanism for prevention of sexual (gender) harassment .	<ul style="list-style-type: none"> • Institute has formed the committee as per the guidelines and norms laid down by the Hon'ble Supreme Court in Vishaka judgment • A committee headed by a senior lady faculty as its chairman and with number of members has been constituted • Organize workshops and awareness programs at regular intervals

			<ul style="list-style-type: none"> • Not a single case of sexual harassment has been reported yet
5.2	Student Progression	The progression of students in various programs of the institution is regularly monitored.	<ul style="list-style-type: none"> • In last four year 117 students have qualified in competitive exams and pursuing higher studies and 44 students has become successful entrepreneur.
		The institution makes special efforts to reduce its dropout rate and increase its pass percentage.	<ul style="list-style-type: none"> • Additional practice sessions and mock tests are conducted • GFM provides the counseling sessions for these students • Extra assignments and remedial lectures
		The institution facilitates and monitors timely submission of Ph.D./D.Litt./D.Sc theses	<ul style="list-style-type: none"> • Institute have research committee to monitor timely submission of Ph. D • Around 11.25% students get admitted for Ph. D
		The institution has a successful track record of students appearing and qualifying in competitive examinations .	<ul style="list-style-type: none"> • In last four year, 117 students have qualified in competitive exams.
5.3	Student Participation and Activities	The institution has a range of games, extra-curricular activities which contribute to overall development of students.	<ul style="list-style-type: none"> • Institute is having full-time physical director as a sports coordinator • Students participate in sports like Football, Badminton, Kabaddi, Kho-kho, Volleyball, Cricket, etc. • Students participate in cultural activities 'Antarnad' and state level competitions like 'Firodiya', 'Purushottam Karandak' • Students were a part of Marathi movies like Youth Tube, Funtroo, Kasturi

		Feedback from students is used for planning and developing support services.	<ul style="list-style-type: none"> Institute has the practice to take feedback from students, alumni and employer for planning and developing support services
		Active student participation through Student Councils is encouraged.	<ul style="list-style-type: none"> Active student participation in sports committee, cultural committee, hostel representative, student general secretary
		Students are represented on academic and administrative bodies of the institution.	<ul style="list-style-type: none"> Academic Student Bodies: Departmental Advisory Board, Focus Group, NSS, Cultural committee, IEEE, ISTE and CSI student chapters Administrative Student Bodies: hostel committee, mess committee
		Institution facilitates for students to publish materials like catalogs, wall magazines, institution magazines , etc. <i>(for Autonomous Colleges and Affiliated/Constituent Colleges)</i>	<ul style="list-style-type: none"> Institute publishes Magazine "KSHITIJ" annually, it serves as a platform to publish student's creative articles and innovative ideas Institute publishes e-magazine 'Flair' annually for student research and innovations
		Student participation in state, national and international level sports events is encouraged.	<ul style="list-style-type: none"> Institute encourages students for participation in sports Till date, more than 100 students won prizes of zonal, state and national level sports competitions.

CRITERION V

STUDENT MENTORING AND SUPPORT

5.1 Student Mentoring and Support

5.1.1 *Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?*

Yes, Institute publishes its prospectus, **handbook** and newsletter annually with updated information for students and faculty members.

- **Prospectus:** Prospectus is given to the students before admission into the institution which provides information regarding college profile, Course details with choice code, Course wise enrollment, campus placement, student support services for an outsider, student support services for admitted students, information about extracurricular activities and infrastructural facilities. Contact details of admission cell are also provided for the convenience of students who are being admitted.
- **Handbook:** All the activity related information, Teaching Learning Process, rules and regulations, action plan, details of each department, T and P, details of facilities (gymkhana, cultural, sports etc.), contact information are included in the handbook.
- **Newsletter:** Newsletter is published in various departments as a resource for students who want to know about academic as well as co-curricular and extra-curricular activities in the department and members involved in it. It provides information about student achievement, industrial visits, guest lectures and workshops conducted, placements and upcoming events details.
- **Website:** (<http://jspm.edu.in/jscoe/>) Institute publishes its detailed profile on the website and it is updated on regular basis. It has the information about academic detail, department details, facilities, placements, alumni, etc.
- **E-learning platform:** Institute has a good practice to make available e-learning platform, **MOODLE** for students as well as for faculty members. Students can get study material, attendance record, practice online tests etc. on MOODLE.

Commitment and accountability

Head of the institute ensures and authenticates information provided in prospectus and handbook. Also, respective heads of departments are accountable for information given in prospectus and handbook about department details and activities.

5.1.2 *Specify the type and number of scholarships / free-ship given to students by the College Management during the last four years. Indicate whether the financial aid was available on time.*

College management gives **financial support** yearly to those students who are not able to pay the tuition fees and also create awareness among students about other **welfare schemes** provided by the institution such as book bank, life insurance. Free-ships provided in terms of tuition fee concession for economically weak students in last four years are enlisted in Table 5.1.1. Institute always encourages academically bright students by presenting them with prizes every year.

Table 5.1.1 Scholarship given by college management

Sr. No.	Academic year	Type	No of students	Amount of Scholarship (in Lac)
1	2012-13	Free-ship	4	2.89
2	2013-14		2	3.01
3	2014-15		2	2.06
4	2015-16		10	6.00
Total				13.96

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

Table 5.1.2 Student Financial Support

Type of Scholarship	Level	Percentage of student			
		2012-13	2013-14	2014-15	2015-16
Scholarship/ Freeship	State	42.94	58.17	64.33	68.5
Minority	Central	3.4	6.67	2.38	4.79

5.1.4 What types of support services are available for students:

Institute always take care of students by providing them the essential support services. Students are made aware of services in the institute like mess, hostels etc. For SC category student's book bank is also available. Students can get the benefit of 'Earn and Learn' scheme. Other than this following support facilities are available for student community:

1. Students from SC/ST, OBC and economically weaker sections

The students who belong to SC/ST, OBC and the economically weaker sections are given **admission** under **state govt. reservation policy**. Further, they are supported financially by state govt. SC/ST students get their hostel and mess fee waived off. These students are provided with **book banks**

2. Students with physical disabilities

Entry in academic building/ hostels through **ramp** and **lift facility** is available in buildings. Classrooms and examination halls are provided on the ground floor. **Medical** and emergency **Ambulance** facility is available on the campus. Information on various scholarships and funding agencies is intimated to the

students regularly. Understanding teaching and non-teaching staff are always there for help.

3. Overseas students

The institute has **no overseas student** admitted till date.

4. Students to participate in various competitions / National and International

Students are motivated for participating in various extra-curricular activities to enhance their intrapersonal skills. Institute provides infrastructural support to the participants in the form of providing access beyond working time in workshops, laboratories, libraries and other required space on the college campus. Management provides financial support for national level events like **Tech-Manthan, Go-karting** and **SAE BAJA**. Full reimbursement for the **Registration fee, TA/DA** for winners is provided. Leave of the students who are attending the competitions are granted as special leave and remedial classes are arranged for them after college hours.

5. Medical assistance to students: health center, health insurance etc.

College is having MoUs with Shatayu Hospital (Dr. Mangesh Wagh) in Hadapsar. The ambulance is available at the college for 24 hours to meet the medical emergencies. The first-aid box is made available at various places in the department. Student group insurance scheme is provided from the institute and SPPU.

6. Organizing coaching classes for competitive exams

The college regularly conducts Personality Development Program/ **skill development** classes/apptitude classes for the preparation of competitive exams. Students are motivated for competitive exams like **GATE, GRE** etc. Sample GATE questions are discussed in regular academic lectures as content beyond the syllabus and made available on MOODLE. College is having JACS (Jayawant Academy for Civil Services) for guidance and preparation of competitive exams. Civil services books are provided to the students who prepares for exams

7. Skill development (spoken English, computer literacy, etc.,)

The college conducts programs to enhance the communication skills, soft skill of the students by professional agencies. Personality Development skill is a part of the placement training program that commences from the beginning of the pre-final year. Students and faculty members are encouraged to use MOOC (Massive Open Online Courses), NPTEL, VC lab, Webinar facilities and also e-learning platform like MOODLE are made available. Digital library is available for students as well as faculty members where they can access e-books, e-journals. For employment and higher education opportunities in foreign countries, like Germany, a platform to learn the German language is made available in Institute.

8. Support for “slow learners”

Slow learners/students who are at risk of failure, dropout as well as students who have backlogs are identified and remedial classes/practical sessions are conducted. Every course coordinator will analyze the result of these students

on regular basis. **Guardian Faculty Member (GFM)** observes keenly about the regularity of the students to the classes and keeps the data of tests, university results and informs the parent regarding student betterment. Regular **counseling** is provided by faculty members to identify their difficulties and to motivate them. **Remedial classes** are conducted and supplementary materials like books, notes are provided. At the end of every unit, tests are conducted and separate **assignments** are given for slow learners

9. Exposures of students to other institution of higher learning/corporate/business house etc.

The institute always encourages and arranges various events for the overall development of the student. Various seminars related to higher education like guidance for **GATE/TOFEL/GRE** etc. are regularly conducted. For such events required facilities like the Seminar room, internet, laboratory, etc. is made available. Industrial visits are arranged to explore the actual culture of the working industry. Students are encouraged to participate in hands-on training like workshops organized by institutes as well as other training institutes. Institute motivates and guides the students through seminars of GATE/Civil services by experts. All support for higher studies abroad, like sending timely feedback of the students to institutions that require the same, issuing references/recommendations to students to enclose along with their applications and forward any other information needed from the college. Video Conferencing lectures at the Virtual classroom in the institute are arranged from industry/academia experts.

10. Publication of student magazine

Institute magazine is published. It serves as a platform for the exhibition of the creative potentialities of the students. Every year Souvenir of institute level technical activity '**Kshitij**' is published. In few departments, Departmental Association magazines are published every academic year. Mechanical Department student association brings out technical magazines in the name of **e-Magazine 'Flair'**. Institute has good practice of publishing research ideas of students based on their UG/PG/Research project every year in **e-Magazine 'Flair'**

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

Institute has a separate **Entrepreneur Development Cell**. Entrepreneurship Development Cell is established in college to motivate the students for self-employment. **100+** students become members of this cell in every academic year. Pre-final year students of all courses are registered for EDC. Senior and experienced faculty members from each department are guiding the students as a coordinator of EDC. Various programs are conducted by EDC to motivate students to become an entrepreneur. Seminars, workshops are delivered by experts from industries and government research organizations which facilitate ideas of enterprise in thrust areas licensing, training and another requirement for successful establishment of the

enterprise. Few examples of experts from various industries and government bodies like Orlando foods Pvt. Ltd., industrial inspectors, Innovation engineering are invited to deliver a talk on entrepreneur skill are given below:

Table 5.1.3 Expert lecture organized by EDC

Sr. no.	Name of Expert	Designation	Topic
1	Shri. Vinod Shankar	Chairman, Orlando Foods Pvt. Ltd	Entrepreneurship Excellence
2	Shri K.B. Shinde, S. B. Patil	Industrial Inspector	Government loan schemes for potential Entrepreneurs

As an Entrepreneurship Event, various competitions were conducted by the Institute regularly. Details of the sample competitions held every year are given in Table 5.1.4.

Table 5.1.4 Activities conducted by EDC every year

Sr. No	Name of activity	Details
1	Commercial Advertisement	Technical advertisement of product
2	Success storytelling event	Presentation on famous personalities
3	Logo Design Competition	Logo for E.D. cell of JSCOE
4	Business Plan Competition	Presentation of business plan
5	Bizz-quiz	Business quiz based on company punch lines

The impact of all these activities following students from institute has started their own firms. Among these students, **Vinay Nagpurkar** from 2015-16 batch has started his firm, **Jayashri Electronics**. Turn-over of his firm is about **INR 20 Cr**

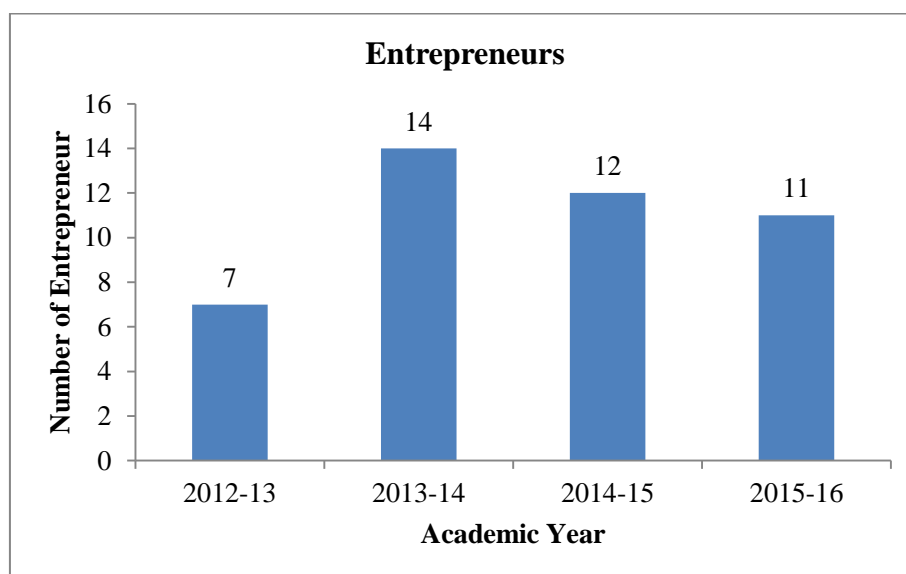


Figure 5.1.1 Entrepreneurs produced during last four years.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

- **Additional academic support, flexibility in examinations**
- **Special dietary requirements, sports uniform and materials**

The institution is committed to encouraging students for participating in various extracurricular activities by ensuring consistent encouragement and motivation. The necessary facilities are provided and adequate funds are allotted. For participation in cultural activities and co-curricular activities like **Antarnad, Firotiya** and **Purushottam** required facilities such as practice room, are provided. Similarly, all co-curricular activities like quiz/ project competition/ poster competitions/ Clash of coder/ Poster Presentation etc. are conducted in **Tech-Manthan**. Care is taken for the students by institute so that academics will not be hampered. In general, the participation of students has gone up over the years after departmental/ institute level format has been introduced.

Policy & Strategy:

- To ensure students to get access to a wide range of sports, cultural and technical activities. The required up-gradation and development of infrastructure and facilities.
- To boost the involvement of students participation in sports by encouraging them through guidance and support.
- Institute is having sports coordinator, Prof. A B Gawand, who looks after various college level, inter-college level and SPPU Zonal level sports activities.
- The sports and cultural week is organized in 2nd week of February every year.
- Special leave is granted to students to encourage them to participate in sports events.
- Awards in terms of trophy and cash are issued to students for their excellence in sports.
- Institute takes care of academics for the participant in extracurricular and co-curricular activities.
- Remedial classes/ practicals are arranged for the participant, after college hours interaction with the course coordinator is made available to solve their queries. Internal Assessment tests are separately conducted for participants.
- For motivating and encouraging the students participation in sports event students are awarded prizes / felicitated by the Founder secretary of the Organization every year on Republic day 26th January.

The special dietary requirement, sports uniform and materials:

College provides adequate **sports materials, uniforms/jersey** to all the students who participate in inter-collegiate/inter-University sports events. Students can get guidance for accommodation if required.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

The institute has a separate unit called **“Jayawant Academy for civil services” JACS**. The institute encourages the students to appear for various competitive examinations such as GATE, CAT, GRE, TOFEL, GMAT by guiding them time to time and for Civil Services, Defense services, and Central / State services institute provides guidance through Jayawant Academy for Civil Services

- **Guidance for GATE and TOFEL, GRE, GMAT**

The content of each course according to competitive examination is delivered to students in regular classes. Institute provides guidance for attending specific courses for the preparation of TOFEL, GRE and GMAT. Online mock examinations similar to that based on GATE syllabus and exam pattern are conducted. Aptitude tests to enhance examination skills of students are conducted. Special leave on the day of competitive examination is granted for students appearing for the said exam.

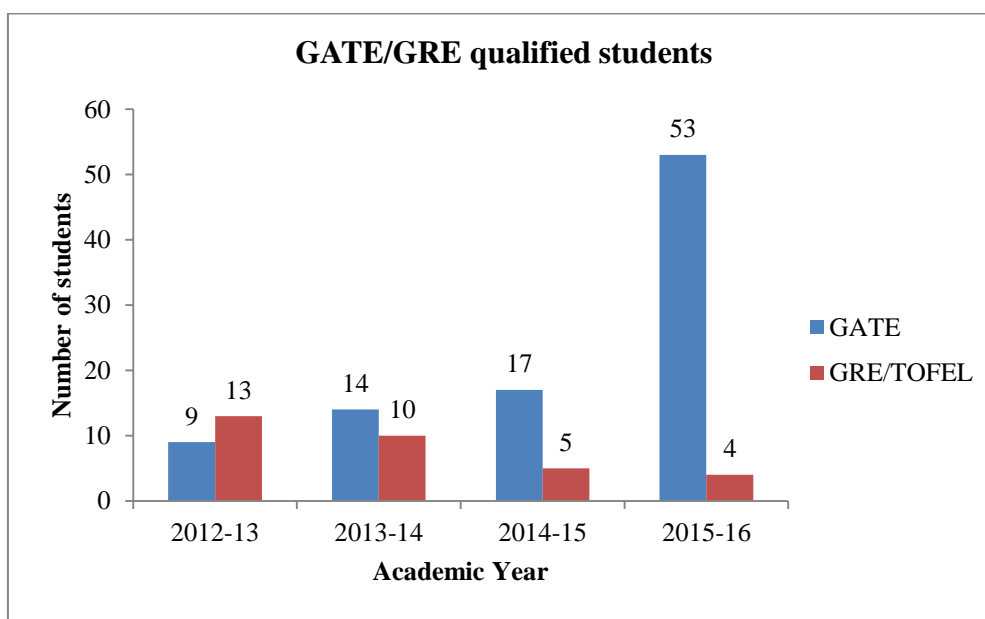


Figure 5.1.2 GATE/GRE qualified students during last four years

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

Each faculty is assigned 20 students under his/ her care as mentees according to the strength of the class. This helps the faculty build a close professional and personal relationship with a student and also helps in continuous monitoring of the progress in all aspects, of the mentee.

- **Personal:** GFM play key role for personal support at department level. They give motivation to the student at every step to become a successful person in life, also advice how to reduce the stress during examination period.
- **Academic:** Course and class coordinator analyze the slow learners and fast learners during the course conduction. For slow learners course coordinator provide support like
 1. Extra lectures & tutorials after working hours.
 2. Separate question bank is provided for slow learners.
 3. Seminar for stress management & time management are arranged
- **Career:** institute has dedicated training and placement cell which arrange following program for better career opportunity.
 1. Career guidance seminar from HR
 2. Technical skill development workshops as per need of global market
 3. Training for soft skill and practice sessions
 4. Identifying industry and work profiles suitable to indusial aspirants
- **Psychosocial:** Psychosocial consoling is first given by GFM and in some cases discuss with parents for further action.



Figure 5.1.3 Counseling services to Students.

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for an interview and the percentage of students selected during campus interviews by different employers (list the employers and the program).

The college has a well-established placement cell administered by a placement officer. HR meet is arranged at institute level. In this meet future in placement, industrial activities and implant training are discussed. The placement officer is ably assisted by a team of placement coordinators (one faculty member and two students) from each department. The Placement officer regularly displays notices related to employment opportunities and different agencies are invited to address the students on current issues related to employability. Preparing the students for taking up aptitude tests (general and technical) begins from the first/second year of study. Training in group discussion and conducting mock interviews form a routine part of boosting the skills of students. Structured mechanism for career guidance is shown in Figure 5.1.4.

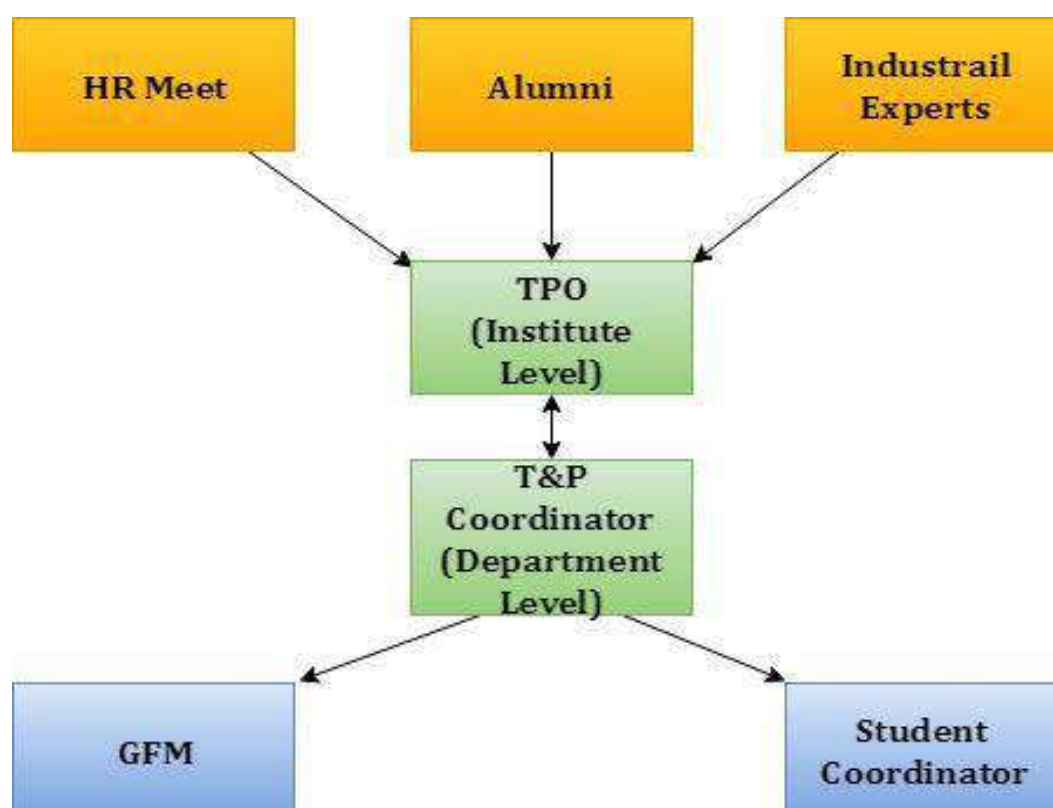


Figure 5.1.4 Structured mechanism for career guidance

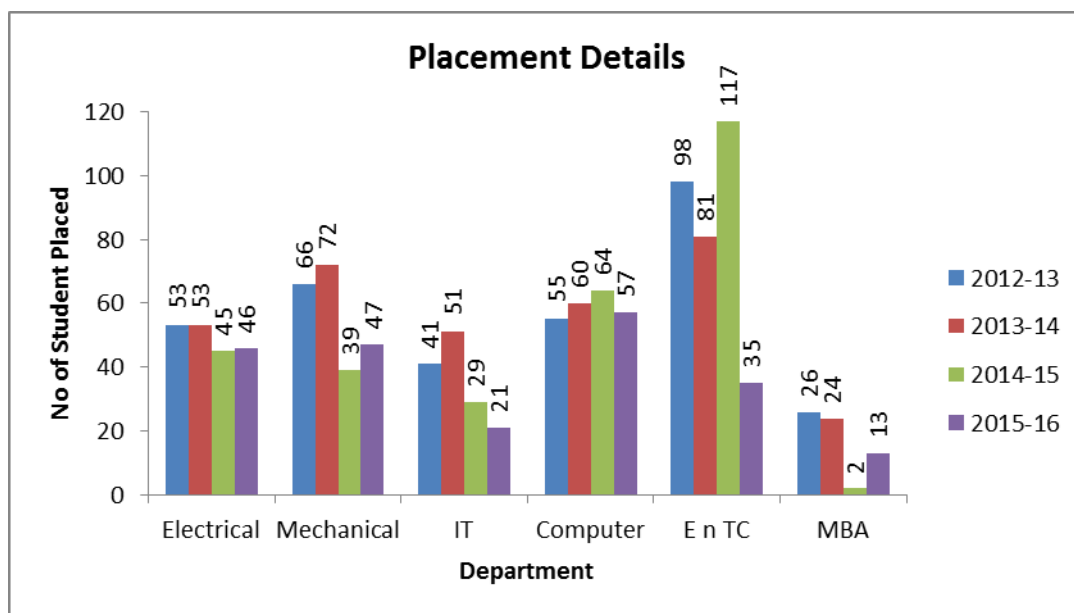


Figure 5.1.5 Placement details of qualified students during last four years

Table 5.1.5 Course wise list of employers

Sr. No.	Electrical	Mechanical	IT	Comp	E&TC
1	Kelvolt	Kelvolt	TCS	TCS	Hathway
2	Scope T & M	ATLAS COPCO	Tech Mahindra	Tech Mahindra	SM Technology
3	ST Electricals	Kirloskar Pneumatic Ltd	Cybage	Cybage	Flextronics
4	Jindal	FAURECIA.	Fiserv	Fiserv	Mphasis
5	Manitowoc	Manitowoc	Zensar	Zensar	Brainsys
6	Suzlon	Hodke	L&T	L&T	Plural Tech
7	Triveni Turbines	Panorama Automotive	Persistent	Persistent	Softenger
8		Bosch	Harbinger	Harbinger	Softuvista
9		Shree Refrigerations Pvt	Proto-Tech	Proto-Tech	L&T Infotech
10		Logomanair conditioningpvt	Synechron	Synechron	Suzlon
11		SANMAR	Syntel	Syntel	
12		Akansha HVAC Industriesl	Oracle	Oracle	
13		Suzlon			
14		Triveni Turbines			
15		Cleanmax Solar			
Total 56 major employers					

5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

‘Yes’. Institute has a student **grievance redressal cell**. It has created a **mechanism** for redressal of student grievances like **academic** and **non-academic matters**, assessment, etc. Under this cell, various student committees are formed like **canteen committee, hostel committee**. In these committees, student representatives take care **timely** about the problems if any or quality of the facilities provided. Similarly, in academic committees, students take care of the academic facilities like books in the library, seminars or workshop conduction, etc.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

Institute has formed the committee as per the guidelines and norms laid down by the **Honorable Supreme Court** in **Vishaka** and Others Vs. State of Rajasthan and Others (JT 1997 (7) SC 384) and “The Sexual Harassment of Woman at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and Rules, 2014. The Internal Rules and Policy framed are circulated for proper management and administration of the ICC under The Sexual Harassment of Woman at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and Rules, 2014. This is adopted by Board of Trustees of SCTR and circulated amongst the members of ICC for their reference. All the members have carefully gone through the policy and rules. A **committee** headed by a **senior lady faculty** as its chairman and with a number of members has been constituted to look into the cases related to sexual harassment of women students within the campus.

This cell is formed according to the norms of AICTE. In this committee, ladies associate professors from each department are the members, they coordinate with the girls regularly.

Role and Responsibilities of the Committee:

- Two senior lady faculty members (full-time resident of the campus) functioning as a part of vigilance cell also looks after the welfare of women students, Hostellers
- Lady faculty members visit ladies hostel weekly
- To provide a safe environment at the institute.
- Display at any conspicuous place in the institute, the penal consequences of sexual harassments; and the order constituting, the Internal Committee under subsection (I) of section 4.
- Organize **workshops** and **awareness programs** at regular intervals for sensitizing the employees with the provisions of the Act and orientation programs for the members of the Internal Committee in the manner as may be prescribed.
- Provide necessary facilities to the Internal Committee or the Local Committee, as the case may be, for dealing with the complaint and conducting an inquiry

Reported cases:

Not a single case has been reported yet.

5.1.12. Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Yes, there is an **anti-ragging committee** as per the directions of **AICTE**. The AICTE has created “All India Council for Technical Education (Prevention and Prohibition of Ragging in Technical Institutions, Universities including Deemed to be Universities imparting technical education) Regulations 2009” under Section 23 and Section 10 of the AICTE Act, 1987. The students are therefore directed to **strictly desist** from any kind of ragging.

Reported Cases:

Not a single case has been reported yet.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

Institute makes available various **welfare schemes** for students regularly. Institute provides book banks for students. Under welfare scheme, the institute provides laptops during academic years. Students who are economically weak can get concession in mess fee. The institute has an **insurance policy** for the students which is guided by SPPU. Under this policy, institute pays specific amount annually. Following table shows the details about insurance amount given to the parents after student death

Table 5.1.7 Insurance policy claimed

Sr. No	Name of student	A.Y.	Insurance amount		Total amount reimbursed
			Institute	SPPU	
1	Langade Dilip G.	2014-15	50,000	50,000	1 Lakhs
2	Binawade Krushna K.	2015-16	50,000	50,000	1 Lakhs
Grand Total					2.0 Lakhs

5.1.14. Does the institution have a registered Alumni Association? If ‘yes’, what are its activities and major contributions for institutional, academic and infrastructure development?

Yes, the institute has a **registered Alumni Association**. The institute organizes **Alumni Meet** on annual basis.

- From 2012 alumni association felicitated topper of first year, second year & third year students of all branches to motivate students.
- Alumni association gives references for **training & placement**.
- At the time of campus drive, alumni who are working for the same employer **guides** the **students** for preparation of drive

- Alumni guide the students for placements as well as for **entrepreneur**
- Alumni association financially helps backward students.
- Alumni association contributes in social activities.
- For academic improvement Alumni association is called to guide students & gives the information about current requirement of industries.
- Alumni contributes in **infrastructure development** of institute, PA system is installed in seminar hall

5.2 Student Progression

5.2.1. Providing the percentage of students progressing to higher education or employment (for the last four batches) highlights the trends observed.

Progression towards higher studies and the placement percentage is given in the following table.

Table 5.1.8 Student progression

Student progression	Average percentage of Last four batches
UG to PG	10.97%
PG to M. Phil	Nil
PG to Ph. D	11.25%
Employed	
• In-campus placement	16.72%
• Off-campus placement	44.48%

5.2.2 Provide details of the program wise pass percentage and completion rate for the last four years (cohort-wise/batch wise as stipulated by the university)?Furnish program-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the city/district.

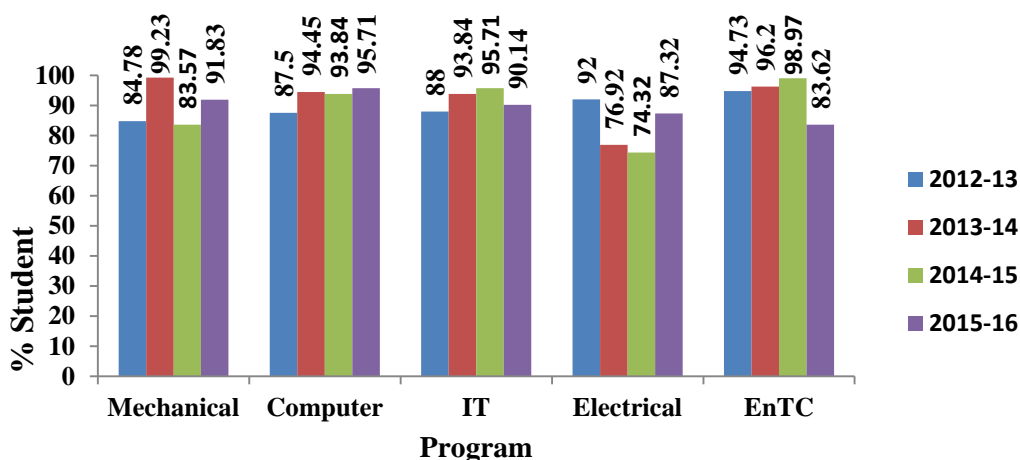


Figure 5.1.6 Program wise Student Pass Percentage for last four years

Table 5.1.9 shows the comparison with the colleges of the affiliating university within the city.

Table 5.1.9 Comparison of the results with other Institutes

ALL BRANCHES/COURSES - ALL YEARS FOR ENGINEERING COLLEGES											
Sr. No.	Name of College & Years		All Clear Result				Result with ATKT				Rank
			No. of Students Appeared	No. of Students Pass	No. of Students Fails	All Clear Result %stage	No. of Students Appeared	Pass with ATKT	No. of Students YD / Fails	Result %stage with ATKT	
1)	RSCOE	FE - Combined all Branches / Courses	552	337	215	61.05	552	493	59	89.31	4
		SE - Combined all Branches / Courses	718	469	249	65.32	718	672	46	93.59	2
		TE - Combined all Branches / Courses	659	384	275	58.27	659	622	37	94.39	3
		BE - Combined all Branches / Courses	519	495	24	95.38	519	495	24	95.38	1
			2448	1695	763	68.83	2448	2282	166	93.22	
2)	JSCOE	FE - Combined all Branches / Courses	352	189	163	53.69	352	318	34	90.34	4
		SE - Combined all Branches / Courses	660	438	222	66.36	660	633	27	95.91	2
		TE - Combined all Branches / Courses	674	436	238	64.69	674	629	45	93.32	3
		BE - Combined all Branches / Courses	439	398	41	90.66	439	398	41	90.66	1
			2125	1461	664	68.75	2125	1978	147	93.08	
3)	ICOER	FE - Combined all Branches / Courses	329	144	185	43.77	329	270	59	82.07	4
		SE - Combined all Branches / Courses	829	465	364	56.09	829	790	39	95.30	3
		TE - Combined all Branches / Courses	736	468	268	63.59	736	709	27	96.33	2
		BE - Combined all Branches / Courses	464	447	17	96.34	464	447	17	96.34	1
			2358	1524	834	64.63	2358	2216	142	93.98	
4)	PVPIT	FE - Combined all Branches / Courses	209	101	108	48.33	209	193	16	92.34	3
		SE - Combined all Branches / Courses	642	341	301	53.12	642	628	14	97.82	2
		TE - Combined all Branches / Courses	555	269	286	48.47	555	505	50	90.99	4
		BE - Combined all Branches / Courses	282	259	23	91.84	282	259	23	91.84	1
			1688	970	718	57.46	1688	1585	103	93.90	
5)	BSIOTR	FE - Combined all Branches / Courses	157	85	72	54.14	157	148	9	94.27	4
		SE - Combined all Branches / Courses	617	351	266	56.89	617	603	14	97.73	2
		TE - Combined all Branches / Courses	430	236	194	54.88	430	406	24	94.42	3
		BE - Combined all Branches / Courses	276	268	8	97.10	276	268	8	97.10	1
			1480	940	540	63.51	1480	1425	55	96.28	
6)	BSCOER	FE - Combined all Branches / Courses	167	75	92	44.91	167	146	21	87.43	3
		SE - Combined all Branches / Courses	729	248	481	34.02	729	608	121	83.40	4
		TE - Combined all Branches / Courses	558	248	310	44.44	558	514	44	92.11	2
		BE - Combined all Branches / Courses	236	226	10	95.76	236	226	10	95.76	1
			1690	797	893	47.16	1690	1494	196	88.40	
7)	NTC - RSSOER	FE - Combined all Branches / Courses	231	80	151	34.63	231	181	50	78.35	4
		SE - Combined all Branches / Courses	617	325	292	52.67	617	576	41	93.35	3
		TE - Combined all Branches / Courses	448	269	179	60.04	448	420	28	93.75	2
		BE - Combined all Branches / Courses	170	156	14	91.76	170	156	14	91.76	1
			1466	830	636	56.62	1466	1333	133	90.93	
			13255	8207	5048	61.92	13255	12313	942	92.89	

5.2.3 *How does the institution facilitate student progression to a higher level of education and/or towards employment?*

The environment of high academic excellence in the institute prepares the students to face global challenges maintaining high ethical and moral standards institute facilitate students with different activities.

- **Higher education**

Students are encouraged and counseled to appear for GATE, GRE and TOEFL examinations for higher studies. The college library has a well-stocked rack containing books, journals, e-journals for the above preparations and students can access these during regular library hours. Questions from GATE examination is the part of the curriculum for internal assessment, to train the students appearing for the competitive exams. All support for higher studies abroad like sending timely feedback on the students to institutions that require the same, issuing references/recommendations to students to enclose along with their applications and forward any other information needed from the college.

- **Employment**

Institute has a well-structured mechanism for placement; Training and Placement cell organizes workshops for student's development of language and communication skills.

- Training in answering general and technical aptitude questions
- Online aptitude tests
- Personality and soft skills development by proficient resource persons
- Group discussions
- Mock interviews
- Motivational programs for confidence building

A seminar entitled “**Opportunities and preparation for Engineering Graduates at Army/Navy/Air force of Govt. of India**” was conducted by class-I Army officer, **Col. Swami Das Sinha.**



5.2.4. Enumerate the special support provided to students who are at risk of failure and drop out?

Institute not only supports toppers but also takes care of the dropout students. Special support is provided by the institute to students who are at risk of failure and drop out. Generally, students drop out due to less attendance, low test performance, death or major sickness of one of the parents, major issues in the family. The College identifies the students who are academically weak and provide special support. The drop-out rate is less. Special support is provided by all departments to students who are academically weak.

- Additional **practice sessions** and **mock tests** are conducted for these students.
- Assignments are prepared by the faculty members separately for slow learners and fast learners.
- The subject teacher identifies the students who are at the risk of failure through internal and end semester exam of University. These students are given extra assignments and **remedial lectures**.
- GFM provides **counseling sessions** for these students
- Course coordinators regularly visit library for solving the queries and encourage slow learners during the examination period.

5.3 Student Participation and Activities

5.3.1. List the range of sports, games, cultural and other extra-curricular activities available to students. Provide details of participation and program calendar.

Institute encourages students for participation in sports, games, cultural and extra-curricular activities. Through these activities, students can showcase their talent and grab prizes in the activities. Institute is having **sports coordinator** who looks after various college levels and inter-college level sports activities. Students participate in sports like **Football, Badminton, Kabaddi, Kho-kho, Volleyball** and **Cricket**. For all these sports, grounds are provided by the institute as per the standard measurement. Students participate in inter-college sports competition as well as competitions held on the university level. The sports week is scheduled in 2nd week of February of every year. On duty, leave is given to students to encourage them to participate in sports events. Awards in terms of trophy and cash are issued to students for their excellence in sports.

Students also participate in cultural activities in an institute like **Antarnad** at the institute level and state level competitions like **Firodiya, Purushottam Karandak**. Students also participate in social activities like National Service Scheme, Blood Donation camps, Road Safety Programs, etc.

5.3.2. Furnish the details of major student achievements in co-curricular, extra-curricular and activities at different levels: University/State/Zonal/National/International, etc. for the previous four years.

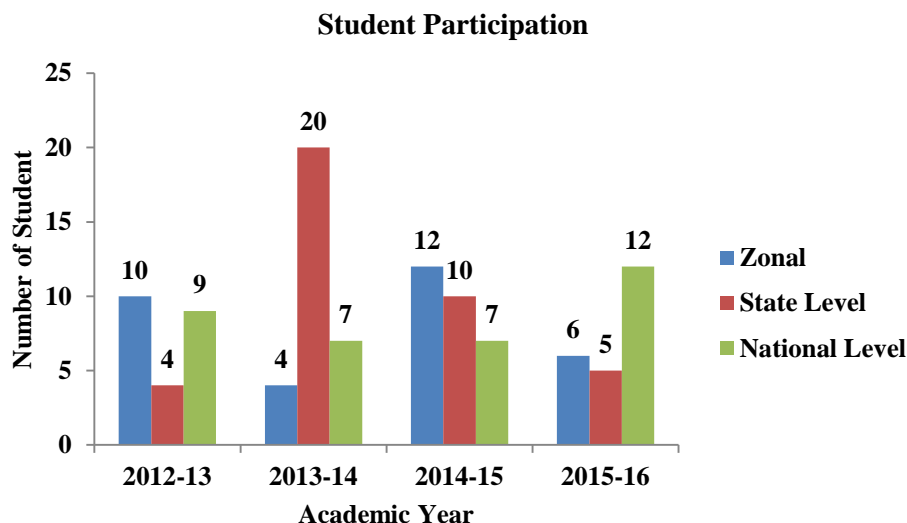


Figure 5.1.7 Student participation at various levels

Students from IT department played a significant role in the **Marathi movies like Youth Tube, Funtroo and Kasturi.**

5.3.3. How does the college seek feedback from its graduate's and employers, to improve the performance and quality of the institutional provisions?

Institute has the practice to take **feedback** from **students, alumni** and **employer** seeking their opinion on **planning** and **developing** academic and non-academic services like course contents, instructions and delivery, infrastructural, library, computing, games & sports and other training facilities, support to placement activity, etc. Feedback from employers on the performance of the Alumni of the college employed in their organizations is utilized to modify the teaching-learning process; placement training and programs are planned for the all-inclusive development of the students.

5.3.4. How does the college involve and encourage students to publish materials like catalogs, wall magazines, college magazine, and other material? List the publications/materials brought out by the students during the previous four academic sessions.

The magazine is college students/staff achievement, talent in all fields, curricular, co-curricular and extra-curricular activities of JSCOE. Magazine committee includes five sections. Each section is headed by one faculty. Students committee is formed with respect to five magazine sections. In the mid of second-semester magazine committee starts its work of the current academic year. For student selection, magazine committee calls the students for interviews to select them in five sections 'Technical, Hindi, Marathi, English, Art and Photography.

Institute publishes wall magazine which consists of staff details, students results, departmental events, staff achievements and students achievements.

Apart from this college also publishes Magazine **“KSHITIJ”**

KSHITIJ Covers:

- Publishing information relating to Vision, Mission and Quality Policy, various courses offered, industries with which MoU is signed, members of Governing Council, members of teaching and non-teaching staff of various departments
- **“KSHITIJ”** a platform publishes Student’s **creative articles** and **innovative ideas** various Columns like Marathi section, Hindi section, English section, Integrity section, General section, Technical section, Cartoon section, sports, Design and Layout section and Reminiscence section.

Along with the magazine faculty coordinator various student committee members are listed below for last four years.

2012-13

Details of Head	Section					Dept. report
	Marathi	Hindi	English	Art and photography	Technical	
Section head	C A Manjare	S V Malewar	Khupade	M K Bharambe	Jyoti Patil	Mayur Khupade
Student coordinator	Anurag Jadhav	Monika Monali	Krutha Dalal Shagufta	Veer Rachatte Mahesh Pipare	Harshad Palande	-----
	Suhas Salunkhe	Himanshu Rai	Bangi Nikita Gupta	Bhagyashree Jadhav	Aditya Satakar	-----

2013-14

Details of Head	Section					Dept. report
	Marathi	Hindi	English	Art and photography	Technical	
Section head	C A Manjare	S V Malewar	Khupade	M K Bharambe	Jyoti Patil	Mayur Khupade
Student coordinator	Suhas Salunkhe	Sapana Mantoo	Shagufta Bangi	Omkar Kulkarni	Lalit Bacchav	-----
	Ashwini Shinde	Vyenkat Karthik	Nikita Gupta	Veer Rachatte	Rohit Shinde	-----

2014-15

Details of Head	Section					
	Marathi	Hindi	English	Art and Photography	Technical	Dept report
Section head	Rucha Dixit	S V Malewar	MayurK hupade	V V Malawade & Jagruti Wayakole	Jyoti Patil	Shivanand Talwar
Student coordinator	SuhasSalkhe	Sapana Mantoo	Shagufta Bangi	Omkar Kulkarni	Lalit Bacchav	-----
	Ashwini Shinde	Vyenkat Karthik	Nikita Gupta	Veer Rachatte	RohitShinde	-----

2015-16

Details of Head	Section					
	Marathi	Hindi	English	Art and Photography	Technical	Dept report
Section head	Rucha Dixit	S V Malewar	MayurKh upade	V V Malawade & Jagruti Wayakole	Jyoti Patil	Shivanand Talwar
Student coordinator	SuhasSalkhe	Sapana Mantoo	Shagufta Bangi	Omkar Kulkarni	LalitBacchav	-----
	Ashwini Shinde	Vyenkat Karthik	Nikita Gupta	Veer Rachatte	RohitShinde	-----

5.3.5. Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Institute has student council for various activities. Students take care of the arrangement of the different activities like sports, cultural events like Antarnad, Firodiya karandak etc.

Student council includes:

- **Sports** committee
- **Cultural** committee
- **Girls hostel** representative
- **Student's General Secretary**

Selection: For the selection of student representative for different bodies, students are called by the faculty coordinator. Based on student's academics, selected students will go for an interview. From interview round, student who has good communication skill, representation skill is selected as a head of the specific council.

Constitution: For selection of students, committee comprising of head of the institute, head of all departments and senior faculty members conduct the interview and shortlist the students

Activity: Committee members regularly conduct different activities for students. Student representative conveys the difficulties to respective authority. Cultural events, sports, technical events are organized by students regularly.

Funding: For organizing technical, cultural events institute supports students with more than INR 20 Lac annually.

5.3.6. Give details of various academic and administrative bodies that have student representatives on them.

- **Academic Student Bodies:**

Students are part of **Departmental Advisory Board** and **Focus Group**. With the help of these academic bodies, student can place their feedback related to teaching-learning method, gap identification in the syllabus, feedback about academics and infrastructure etc.

Apart from this students are also a part of following bodies:

- **Professional student bodies**

ISTE students' chapter, **CSI** students' chapter, **IEEE** students' chapter, Department Associations these are the few bodies in which students are the representative. Under various activities, students organize different competitions like TDCS, seminars or guest lecture for other students.

- **Students social bodies**

Library committee, **NSS (National Service Scheme)**, **Cultural** committee, **Ladies grievance cell**, **Anti-ragging** committee are the examples of social committees in Institute. Student representative takes care of availability of books in the central library and departmental library, organizes different social activities like tree plantation, takes care of different problems of full-time resident students like food quality in mess or problems faced by girls in hostel etc. Cultural student representative actively participate in cultural events like 'Antarnad'

- **Administrative Student Bodies**

Institute has a good practice of involving students in different committees like **hostel** committee, **mess** committee etc. Students who are the part of this committee regularly check the quality of food, hostel facilities. If any student is having any problem, student representative conveys the same to the respective authority. Students also look after the facilities available in the library, book banks etc.

5.3.7. How does the institution network and collaborate with the Alumni and former faculty of the Institution?

Institute has an energetic **alumni association** whose role is to collaborate with the alumni and former faculty of the institution. Alumni organizations are focusing their efforts on market-related activities that have great impact, increasingly relying on market information and data a part of the programs and create value-centric

relationships with their alumni. They seek to connect through career, social, and business networking provided by alumni associations. They are interested in learning more about their institution's academic strengths, research, and opportunities to be exposed to new things and be prepared for a complex and changing world. Alumni who are the members of the group of Departmental Advisory Board and Focus Group are always part of the development of the institute. Institute has a good practice of collecting feedback from alumni.

- Alumni participate in the annual **alumni meet** on invitation and support for the development of the institution.
- Alumni association seeks the opinion/suggestions of alumni on Institutional **development.**
- A few former faculty members are invited to deliver guest lectures, for student's competitions and for the seminars/workshops conducted in the college.

CRITERION - VI

Governance, Leadership and Management



CRITERION VI - GOVERNANCE, LEADERSHIP AND MANAGEMENT

Sr. No.	Key Aspects	Assessment Indicators	Outcomes
6.1	Institutional Vision and Leadership	The vision, mission and goals of the institution are in tune with the objectives of higher education.	All courses offered in engineering and management are in tune with objectives of higher education and reflects academic excellence, research, entrepreneurship and global challenges for aspiration of youth force. (6.1.1)
		The governance of the institution is reflective of an effective leadership.	The leadership has strong initiative through the effective participation of faculty in the enhancement of policy statement, action plan, interaction with stakeholders, research and entrepreneurship, etc. (6.1.3)
		The institution practices decentralization and participative management.	Institute provide autonomy to execute curriculum for enhancing teaching learning for overall development of student. (6.1.7, 6.1.8)
		The institution provides academic leadership to its affiliated colleges. (for Universities)	Applicable for University
		The institution formulates its strategic planning and interacts with stakeholders.	Activities of the institute are reviewed by interaction with internal & external stakeholders through alumni meet, HR meet, parent meet, IQAC meetings, newsletter, GFM and suggestion box, etc.(6.1.8,6.2.5,)
		The institution monitors and evaluates its policies and plans.	The institute monitor & evaluate policies & plans by IQAC for effective implementation and reviewed by PDEI process (6.1.4)
		The institution grooms leadership at various levels.	The institution grooms leadership at various levels like student, faculty, university, rational leadership, etc (6.1.6)
		All decisions of the institution are governed by management of facts, information and objectives.	The decision of institute are governed by management by budgetary, infrastructure provision, etc.(6.1.2)
6.2	Strategy Development and Deployment	Perspective plan document is an important component of the institution's strategy development and deployment process.	Institute has well defined Perspective plan for 20 years. (6.2.2)
		The institution has a well-defined	Well defined internal organization structure , for implementation of the

		organizational structure with effective processes developed for all its major activities .	decisions process(6.2.3)
		The institution has an effective feedback system involving all stakeholders .	Institute receives feedback from internal and external stakeholders to review the activities.(6.2.5)
		The institution has a well-defined Quality Policy and deployed with a systems perspective.	Institute has well defined Quality Policy and deployed effectively.(6.2.1)
		The institution has an action plan and schedules for its future development.	Institute has action plan to meet the requirement of student and faculty outcome-based education (OBE) is incorporated for the quality development of the institutional strategic plan. (6.2.3)
		The institution has an effective Grievance Redressal Cell .	Institute have grievance redressal cell like Sexual Harassment of Women, student grievance and anti-ragging .(6.2.9)
		Management and monitoring of the affiliated colleges is effectively handled by the institution.	Institute has IQAC for Management and monitoring
		Student Satisfaction Survey is an integral input factor for all policies of the institution.	Institute receive and review Feedback from student for all policies. (6.2.11)
6.3	Faculty Empowerment Strategies	The institution takes sustained interest in recruitment and promotion aspects of its employees.	The recruitment process is carried out as per roaster Institute has self, peer group and administrator appraisal system Annual increments and promotions to faculty based on their performance (6.3.3 ,6.3.4)
		The institution adheres to GOI/ State Govt. policies on recruitment (access, equity, gender sensitivity and physically disabled).	The institution adheres to GOI/ State Govt. policies on recruitment on bases of roster .
		The institution has an effective welfare mechanism for teaching and non-teaching	Welfare schemes for teaching and non teaching staff Contributory Provident Fund scheme availed by teaching is 21.75 %

		staff.	and 100% by non teaching staff in last 4 years Personal loan provided to teaching staff is 20% and for non teaching is 27% in last 4 years Till date 26 female faculties availed Maternity leave facilities 100% of non-teaching staff availed benefit of free uniform . Free Bus / medical facility for staff (6.3.5)
		The institution ensures transparent use of Performance Appraisal Reports	The institute has transparent performance appraisal system Performance appraisal system consists of self, peer group and administrator appraisal system Outcome of the review of the performance appraisal reports are communicated to the appropriate stakeholders through local administrator. (6.3.3, 6.3.4)
		The institution conducts programmes to enhance the competency of its faculty and non-teaching staff.	Institute organizes workshops, seminars to enhance the competency of teaching and non teaching staff. 17 programs are organized by institution in last 4 years . Non teaching staff meeting with principal on every Monday for motivation and encouragement (6.3.1)
		The institution conducts programme for professional development of its staff.	Faculty advancement programs are arranged to enhance professional development 11 programs are organized by institution for professional development in last 4 years. (6.3.1)
		Performance budgeting is a core planning activity used by the institution for informed decision making.	Performance budgeting is a core planning activity (6.3.3)
		Impact of Academic Staff College programmes forms an important feedback for improvement of programmes. (for Universities)	University level
6.4	Financial	The institution has adequate budgetary	Institute prepare yearly budget for adequacy.

	Management and Resource Mobilization	provisions for academic and administrative activities.	Budget is sanctioned by management for academic and administrative activities.(6.4.1, 6.4.3)
		Optimal utilization of budget is strictly adhered to by the institution.	Institute adhered to Utilization of budget approved by management. (6.4.1)
		Monitoring financial management practices through internal audit is evidenced in the institution's financial health.	Internal auditing is done by central corporate office after each six months(6.4.2)
		The institution maintains a Reserve and Corpus fund.	Rs 6,450,000/- of Reserve and Corpus fund.(6.4.3)
		The institution has conducted internal and external audits are regularly conducted.	Internal audit every 6 month and each financial year by certified CA (6.4.2)
		The institution and leadership takes initiatives for mobilization of resources.	Institute has provision for mobilization of resources as and when required through concern committee. (6.4.1)
6.5	Internal Quality Assurance system	Academic audit of departments and its impact is an important quality initiative of the institution.	Institute receives suggestions from Local Investigation Committee (LIC) and consequence compliance is done in time. (6.5.4)
		The institution has an effective quality management and enhancement systems.	IQAC play an important role to analyze and improve academic and administrative performance of the institute. Top management arrange training programs for departmental heads to improve the administrative skills The suggestions from the external bodies are taken into consideration for compliance. (6.5.1, 6.5.3, 6.5.5)
		The institution reviews its teaching learning process , structure, methodologies of operations and learning outcomes at periodic intervals.	Institute has good practice of reviewing teaching learning process and learning outcomes with the help of following bodies (6.5.6) IQAC – before commencement of every semester DAB - Twice a semester, FG - Twice a semester, PAC - Twice a semester

		Internal Quality Assurance Cell (IQAC) has contributed significantly to institutionalizing quality assurance strategies and processes .	IQAC has defined quality assurance strategies to ensure the quality in teaching learning, evaluation, research and administrative processes . Integration of modern teaching methods/tools and promote e-learning platform (6.5.1)
		External members contribute significantly in the functioning of the IQAC .	Industries, alumni, R&D, etc contribute in the functioning of IQAC . (6.5.5)
		Autonomy to academic departments is encouraged.	Autonomy is provided to the faculty for effective implementation of innovative teaching learning methods. (6.5.3)

CRITERION VI

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 *State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristic in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?*

The Institute was established in 2004 for engineering education to meet the requirements of the society. The Vision and Mission statements which follow the national as well as international technical educational policy is stated below.

Vision:

"To satisfy the aspirations of youth force, who wants to lead nation towards prosperity through techno-economic development"

Mission:

"To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards."

We observe our institution's distinctive characteristics as to satisfy the aspiration of youth force, providing and nurturing them with respect to 'not only' the high academics and research, but also for entrepreneurship as well. The academic excellence has been achieved through "teaching learning process, workshops and seminars". Research center activates the research projects in multidisciplinary areas (embedded system, cryogenic, etc.) and also helps the students for their applied projects. Entrepreneurship development is observed through EDC, industrial visits and expert guidance provided by entrepreneurs. Our students keenly observe global challenges in the field of engineering, with our traditions and values to work for the future. The activity like technical fare (Tech-Manthan) helps the student to cope up with recent technologies and market analysis globally. Our students visualize the nation as highly developed techno-economic country of the world. The social activities through NSS, International Women Day, blood donation, tree plantation, etc. are planned to achieve our mission as stated.

Table 6.1.1: Distinctive characteristics of Mission

Mission elements	Activities
1. Academic excellence	1. Teaching learning process 2. Workshop, Seminar, FDP etc. 3. Well-equipped laboratories
2. Research	1. Research Center 2. Funded Research project 3. Multidisciplinary project
3. Entrepreneurship	1. Entrepreneur Development Cell (EDC) 2. Expert guidance by entrepreneurs 3. Industrial visit 4. Student Association Activities
4. Global challenges	1. Recent Technology 2. Marketing review and analysis 3. NSS activities 4. Activity “Tech-Manthan” technical fare

6.1.2 What is the role of top management, principal and faculty in design and implementation of its quality policy and plans?

Quality policy: “To imbibe **global standards of excellence** in endeavors of institute and to **adhere with accountability towards society** through **best practices and techno economic prudence.**”

Role of top management:

- While designing the quality policy care is taken to achieve global standards and societal accountability.
- Management provides budgetary provision for achieving standard of excellence.
- Infrastructural provisions for endeavors of institute.
- The top management augments imparting quality Education in engineering and management students.
- Implementing appropriate plans for the betterment of quality to achieve the goals.

Envisioning the quality policy, the Principal monitors academic and other activities such as

- Faculty members are made aware of the quality policy and are encouraged to follow it in day to day practices.
- Weekly meeting are conducted with HOD for achieving standard of excellence in academics.
- Departmental meetings with faculty are conducted once in a semester.
- Adequate teaching learning method is administrated.
- Monitors academic performance along with placement activities.

- To motivate non-teaching staff, weekly meeting is conducted on every Monday.

In accordance with quality policy; the faculty undertake:-

- Departmental meeting headed by the HOD and to percolate policies and guidance for day to day working.
- Execution and planning of course material.
- Faculty ensures inculcate accountability towards society through techno-social activities.
- Mentoring for teaching learning practices to highest level of studies/research.
- For execution of quality policy, audio-visual /virtual classroom concept through the studio is being delivered to all level students simultaneously in all campuses.

6.1.3 What is the involvement of the leadership in ensuring?

- *The policy statements and action plans for fulfillment of the stated mission.*
- *Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan*
- *Interaction with stakeholders*
- *Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders*
- *Reinforcing the culture of excellence*
- *Champion organizational change*
- **The policy statements and action plans for fulfillment of the stated mission.**
The **policy statements** and **action plans** for fulfillment of the stated mission of the institute in terms of
 - Various policies with respect to academic excellence, research and entrepreneurship are been decided in the Governing body meeting which are conducted twice in a year. Stakeholder feedback, achievement of institute, proposal of various department and guideline from controlling body (AICTE, DTE, SPPU).
 - The policy decision is taken in the Governing body are percolated to HOD and activity coordinators by principal in weekly meetings and accordingly time bound action plan is decided.
 - HOD and coordinators executes the plan through faculty members by conducting departmental meetings. The problems in achieving the time limit given, are been discussed in the next departmental and principal meeting.
 - The status of execution of the policy is reported back to the governing body in the next bi-annual meeting.
- **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**

Leadership involves ensuring the operational plans to meet the requirement of student and faculty; accordingly outcome based education strategic plans are implemented by the leader based on our vision, mission and objectives. The principle of outcome based education (OBE) is incorporated for the quality development in institutional strategic plan. Thus the institute strictly observes and practices OBE.

- **Interaction with stakeholders**

- Leadership ensures coordination with internal (student, faculty, etc.) and external (parents, alumni, industry, etc.) stakeholders.
- Alumni meet is organized once in a year for formal discussion and tacking input for the cause of quality improvement.
- Parents also gives suggestion in the parents meet organized periodically, that serves as an input for “teaching learning process”.
- Industry is known to be most important stakeholder for all discipline so as to provide latest state of work / procedure of work in the industry. The interaction with industry through HR meet (TCS Pune, VISHAY components, ANSYS Inc Pune, KPIT, etc.) works as a facilitator for building a relationship and imparting valuable input for student, stakeholder.

- **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders**

- After consulting the stakeholders the leadership identifies the thrust area of development work, implement new strategy if required. Leadership also takes care of
- Research & development (R&D),
- Placement,
- Social activity and entrepreneurship development
- Alumni feedback
- External stakeholder feedback
- after analyzing research inputs and consultation with respective to above said points.

- **Reinforcing the culture of excellence**

To inculcate the culture of excellence, the institute practices (Originative Facial Approach, Guardian Faculty Member etc), reward culture and provide facilities (Virtual classroom, library, physical infrastructure etc.).

The management motivates and support student and faculty to achieve excellence in academics and profession in all dimension. By means of this culture our students are motivated for value added courses (Zensar ESD, Apart etc.) and higher education (ME, MS, MBA etc.). The leadership works to enforce the culture of excellence and observes the development in a closed cycle to develop the quality.



Figure 6.1.1 Reinforcing the culture of excellence

- **Champion organizational change**
 - Management is always in tunes with national / international the educational policies to fulfill expectation of industry and other stakeholders.
 - As a part of Champion organizational change; the institute has added the courses, increased intake, Post Graduate programs, Ph.D. programs etc. in accordance with the market/industries.
 - The institute has organized contemporary value added courses (Soft skill, Apart, training programs BSNL, CAD/CAE, Hadoop, etc) to meet the requirement of the industry. According to the need of industry, a proper coordination is set for placement of students with the potential employers. This includes input from alumina / Parents and the industry itself for the betterment.
 - Therefore all changes in such policy and its adaptation which is the quality of Champion organization are welcome through all means.

6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

The procedure adopted by the institution to monitor & evaluate policies & plans by **IQAC** of the institution for effective implementation shown in **PDEI** in diagram.

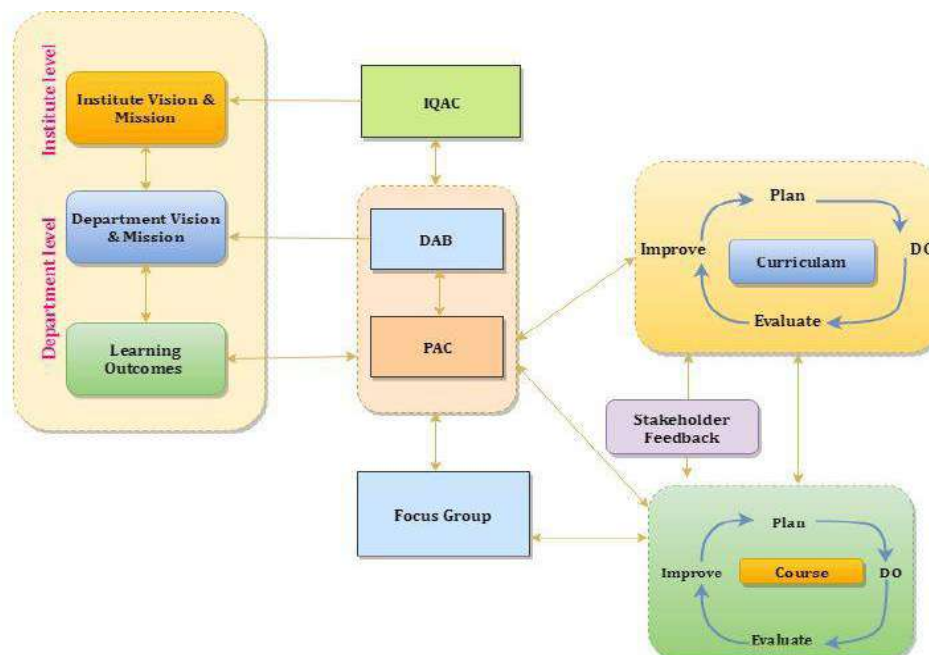


Figure 6.1.2 PDEI Cycle for effective implementation and improvement

The outcome of the above mentioned procedures ensure that the policies and procedures of the institution are monitored and evaluated for effective implementation & continuous improvement.

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

- The authority is provided to the faculty for managing and contributing in all academic process.
- Through the various committees appointed by academic leader works responsibly for the development and provide them leadership skills.
- Absolute freedom is given to faculty for research activity.
- The administration has faith in giving academic and authoritative independence to Principal who, thus, offers opportunity to HOD to plan and execute academic process in the perspective of vision and mission.

6.1.6 How does the college groom leadership at various levels?

Grooming of the **leadership** is carried out from the fundamental level by delegating the authorities at different levels for the cause of different works without compromising for the quality. Students are asked to coordinate various activities of professional societies, workshops, Seminars, placement, co-curriculum (GS, CR, LR) and so on.

The faculty & heads are groomed for academic and managerial leadership. Institute focus grooming of leadership at various levels as:

- **Student** level
 - Class coordinator
 - Departmental student association coordinator
 - Co-curricular (Tech-Manthan, seminar, workshop, etc.) coordinator
 - Extra-curricular Activity (Antarnad, Purshotam, etc.) coordinator
 - Placement coordinator
 - Social service group coordinator (NSS etc.)
- **Faculty** level
 - Class Coordinator, Placement coordinator, time-table in charge, Lab in charge.
 - Magazine coordinator.
 - Social coordinator, professional coordinator etc.
 - Coordinators for the preparation of NBA, NAAC documents.
 - Academic monitoring coordinator.
 - Organizing conferences, seminar, workshop coordinator
- **University** level
 - Academic council
 - Board of Study (BOS)
 - Paper Chairman
 - Paper Setter
- **Rational leadership**
 - Chief Exam Officer (CEO)
 - SPPU exam Senior/Junior supervisor
- **Intellectual leadership** – Grants, seminars, patent etc.
- **Societal leadership** - NSS

6.1.7 *How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?*

- Institute provides **autonomy** to execute curriculum for enhancing **teaching** and **learning** process for overall development of student.
- Institutes organizational chart provide the hierarchy of position and determine the operational flow of work from top management to IQAC – DAB – FG – PAC. The decentralization reaches to the module coordinator and faculty providing them teaching learning autonomy. This type of structure help faculty to adopt their own teaching learning methodology for overall development of students. This enhances the productivity of the students as well as faculty with respect to achieve goals and objective of the institute. Students are given liberty to select electives as per their interest / choice and future planning.

6.1.8 *Does the college promote a culture of participative management? If “yes” indicate the levels of participative management.*

YES,

The participative management concept is being observed by the top management in which any change or modification is being percolated with hierarchy to the last person getting affected. The institute promotes culture of participative management at all levels through which students, faculty and administration joins hand in hand to adopts / modify policy. **Internal as well as external stakeholders** are involved for any modification in teaching learning and administrative process or any similar process. This provides openness of culture and allows proper working culture amongst faculty and students, to enhance the quality.

6.2 Strategy Development and Deployment

6.2.1 Does the institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes, the Institute has set **quality policy** as

“To imbibe **global standards of excellence** in endeavors of institute and to **adhere with accountability towards society** through **best practices and techno economic prudence.**”

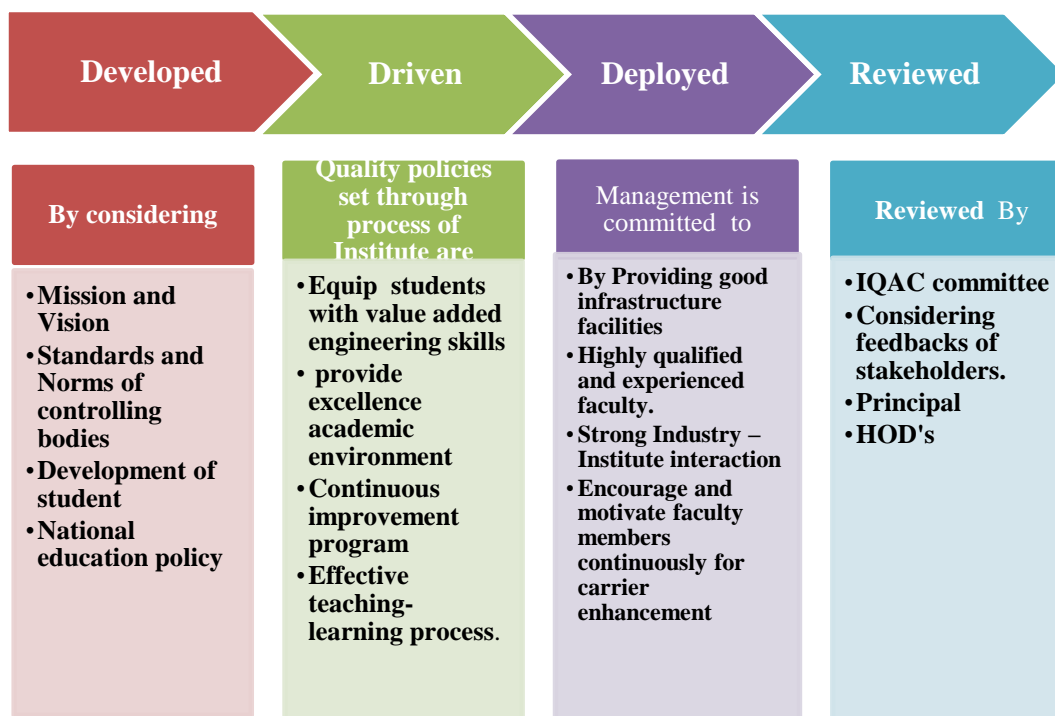


Figure 6.2.1 Characteristics of Quality Policy

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan

Yes, Institute has a **perspective plan** for **20 years**. Through which we plan to launch research project, better industry institute relationship with MOU and to enhance the activities of ED Cell. The Institute also has plans to achieve academic excellence, promoting students for higher studies and to attract students at the entry level. As part of perspective plan, the institute is working on research project (21 no of projects work appo. Rs. 1Cr), MOU's (07 no of MOU's) and number of students abroad ME / Ph.D/ MS (no. of students for higher studies).

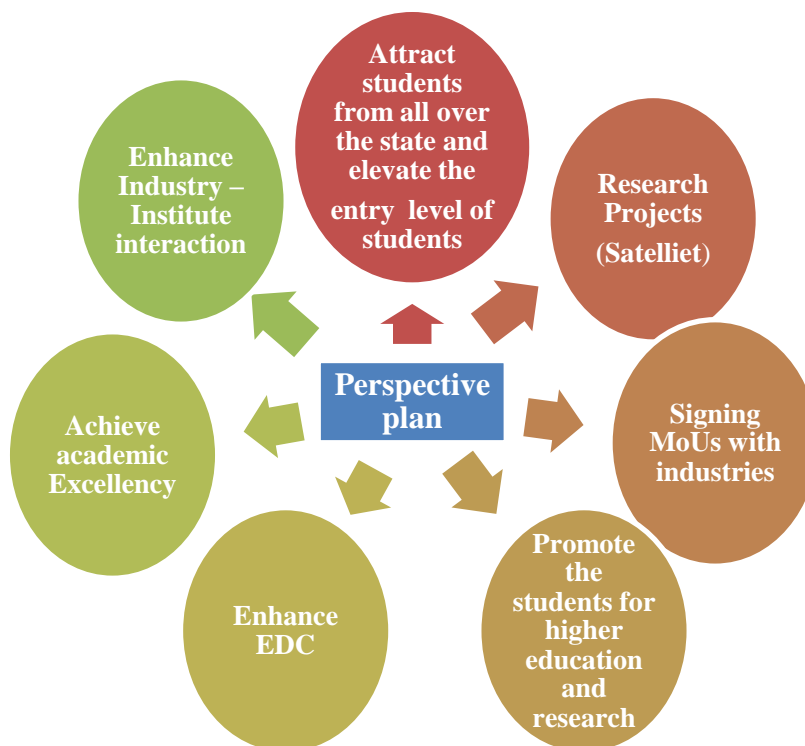


Figure 6.2.2 Institute Perspective Plan

6.2.3 Describe the internal organization structure and decision making processes.

The Internal **organization structure** of Institute for making and implementing the decisions is as shown below.

Decision making process: **Decision making process** is absorbed as a Top down Approach. Principal works with the four main sections as office administration, academics, training & placement, Extra-curricular activities and the auxiliary bodies. The auxiliary bodies work for alumni, anti-ragging, library, purchase and grievance. The Extra-curricular activities sports, magazines, NSS are looked after through students representatives and class representatives. Training and placement is independent department in association with the entire department for placement activities. Academic session is dealt through departmental advisory board (DAB) which provide input to heads, faculty members and technical staff. The office is administered through office superintendent for accounts and establishment sections.

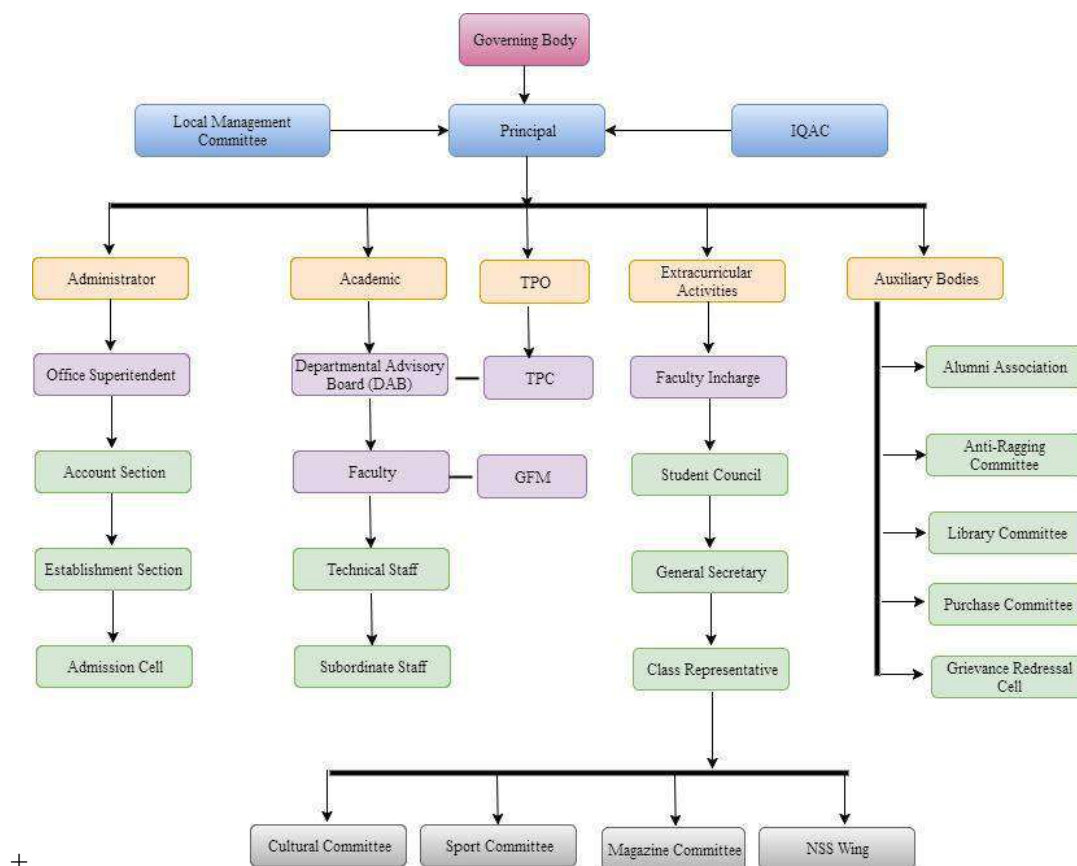


Figure 6.2.3 Internal Organization Structure

6.2.4 Give a broad description of the quality improvement strategies of the Institution for each of the following

- **Teaching and Learning**
- **Research and Development**
- **Community engagement**
- **Human resource management**
- **Industry interaction**

• **Teaching and Learning:**

The institute hire qualified, experienced faculty according to norms. Student feedback is taken once in a semester to analyze quality of teaching-learning which is useful for improving the teacher's skills. To enhance quality of teaching and learning, the institute has recently adopted Originative Facile Approach which is student-centric unlike the traditional mode of education.

Other initiatives taken for enhancing and encouraging faculty members for their carrier advancement such as:

- To attend and organize National and International Seminars/Workshops/Conferences.

- To equip themselves for using modern tools.
- To publish research papers and file patents.
- To encourage faculty members for bridging curricular gap by teaching content beyond syllabus
- To pursue higher educational programs.

- **Research and Development**

The Research and Development Cell, actively promote research aptitude among faculty and students by conducting different activities. The Research and development Cell has also been set up for promoting students for implementing their ideas. Quality research work taken under this cell. Research and development cell carried out various activities Robotics, SAE-BAJA etc. More experienced faculty are encouraged to apply and obtain research grants from various Government and non- Government, research funding agencies such as ISRO, IIT, IEEE, UGC, DST, AICTE, RGSTC, SPPU (BCUD) etc. increasing faculty and student publications. An initiative is taken by Library to help researchers in understanding recent updates of their publications in terms of citation index, h-index, etc.

- **Community engagement**

To achieve holistic development of student, it is necessary to make students aware about their social responsibilities. National Social Service (NSS) activities make students responsible towards society, environment, global issues, etc. and develop into responsible citizens. These units are shouldering social activities such as Blood donation camp, Plantation, NSS camp, handling of health related issues in consideration with students, faculty and community etc. These activities are conducted by the students and for the students. College participates in university health checkup for ladies. College has a separate community engagement cell in the form of SMILE FOUNDATION. They arrange various activities like lectures of social worker such as Sindhutai Sapkal, lectures of physical challenge government officer to motivate youth.

- **Human resource management**

The Institute has a well-defined, effective and merit based selection procedure, systematic performance appraisal system and promotion policies for the faculty members. In addition to these members are benefited with Provident Fund, Casual Leave, Earned Leave, Medical Leave, Maternity Leave, vacation etc. Faculty trainings are conducted periodically to acquire technical skills, teaching skills and soft skills. The institute arranges lectures for staff, to assist them for effective stress management and health.

- **Industry interaction**

To bridge the gap between academics and industry, the institute has established an Industry-Institute Interaction. Regular interaction with the industries is established through meetings, guest lectures, internships, projects and industrial visits.

Institute motivates and encourages students as well as faculty members to undertake the industry sponsored projects. Training and placement cell of Institute is taking efforts to enhance the employability of student. Experts from industry are also involved in the form of interaction with staff and students to achieve the necessary employability and Entrepreneur skills.

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

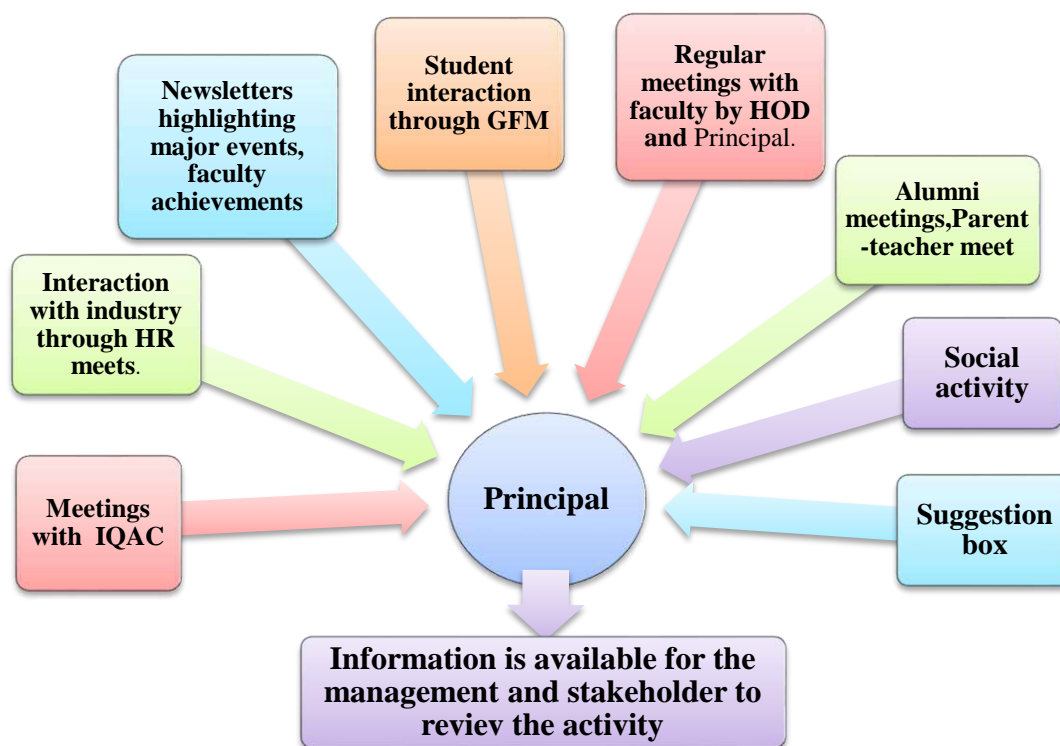


Figure 6.2.4 Management Information System

The adequate information is made available for the review of academic and other activities for the top management and stakeholders as shown in figure. Thus the head of the institute makes the information system strong enough and transparent for all stakeholders to review the activities.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

The management formulates the strategy and formulates policies for various fraternities. The inputs for the strategies and policies are provided by the IQAC. The institute level committees take the regular inputs from the respective Departmental

Advisory Board (DAB). The efficiency of the staff is improved through regular benchmarking. Benchmarking is carried out for various institutional processes like Curriculum (e.g. academics, results, assignments, MOODLE, etc.), Co-curriculum (e.g. EDC, Placements, paper presentations, patents, etc.) and Extra Curriculum activities (e.g. purshottam karandak, Firodiya karandak, Antharnad, etc.). IQAC with regards to above institutional processes encourages and support involvement of the staff in improving the effectiveness and efficiency. There is weekly meeting of Head of Departments conducted by the Principal. Hierarchies wise meeting at all levels to check evaluate and increase the efficiency of the process.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The resolutions made by the management council viz. Governing Body and Local Management committee during the last year i.e. 2015-16 and their corresponding status are as stated below.

Table 6.2.1 Local Management Committee: 2015-2016

Date	Resolutions	Action taken
19-09-2015	<ul style="list-style-type: none"> To confirm the minutes of LMC held on 14th March 2015. Admission 2014-15 To receive the result report of April –May 2015. Report of National Level Workshop. Academic calendar and activities in next academic year. 	<ul style="list-style-type: none"> Minutes Adopted CAP admission round completed. Appreciation of senior supervisor Coordinator deserves the appreciation for smooth conduct and completion of workshop. Academic calendar prepared.
12-03-2016	<ul style="list-style-type: none"> To confirm the minutes of LMC held on 19th Sept 2015. Training and Placement cell activity report. Lab Equipment for first SEM. Report of TECHMANTHAN and ANTARNAAD 2016. To receive the result report of Nov-Dec 2015. Any other point with permission of chair. 	<ul style="list-style-type: none"> Minutes Adopted Outside agencies and experts be called as per requirement of respective department. Quotation called and put before purchase committee for further requirement. Coordinator deserve the appreciation for smooth conduct and completion of TECHMANTHAN and ANTARNAAD 2016. Appreciation of senior supervisor for smooth conduct and completion of theory exam April-may 2015.

Table 6.2.2 Governing Body -2015-2016

Date	Resolutions	Action taken
20-09-2015	<ul style="list-style-type: none"> • To confirm the minutes of GBM held on 15th March 2015. • Budget for national level workshop “Advanced Technique to write and present research Paper”. • To receive the result analysis of April –May 2015. • Prizes and Awards to outstanding meritorious Students • The Principal, HOD & Prog. Coordinators are authorized to take necessary steps to implement OBE System. • Any other point with permission of chair. 	<ul style="list-style-type: none"> • Minutes Adopted • Rs.40,000/-budget sanctioned • Appreciation of good result & planning of remedial classes if needed for betterment of result. • Topper.-2015-Ketan Barbole. Felicitation of Topper in Alumni, Principal Address. • The Principal, HOD & Prog. Coordinators are authorized to take necessary steps to implement OBE System
13-03-2016	<ul style="list-style-type: none"> • To confirm the minutes of GBM held on 20th Sept 2015. • Budget Provision for final year in house Project. • Financial Supports to Faculty Development Programmers. • Approval to budget Techmanthan 2016. • Approval budget for ANTARNAAD 2016. • Result analysis of Nov-Dec 2015 • Any other point with permission of chair. 	<ul style="list-style-type: none"> • Minutes Adopted • Rs.1,00,000/-budget sanctioned. • Faculty members be permitted for various college related curricular and co-curricular development programs • Rs.17,30,000/-budget sanctioned. • Rs.3,50,000/-budget sanctioned. • Analysis of Result Nov-Dec 2015 are noted

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If ‘yes’, what are the efforts made by the institution in obtaining autonomy?

The SPPU has made provision for the status of autonomy to the affiliated colleges. However the institute has no immediate plans of going for autonomy. At present the institute makes provision of value added courses as per requirement of industry at institute level. Certified by professional bodies (German language course, EDC, Soft-skill, etc).

6.2.9 How does the Institution ensure that grievances /complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder relationship?

Institute promptly attends grievances /complaints and resolves them effectively to the best of satisfaction of aggrieved party through stakeholders like students, employees, alumni, employers and parents. The institute periodically attend to the disposed of cases. These are analyzed regarding the primary intent behind / motive behind them. Institute has a suggestion box placed to address the grievances and improvement in the present system. The institute also implements the system of Guardian Faculty Member (Mentorship) for the student which addresses the grievances if any.

Table 6.2.3 Grievance Committees

Sr. No.	Committee Name	Mechanism / Function	Remark
1.	Grievance redressal cell	<ul style="list-style-type: none"> - A grievance Redressal committee is formed to look in to the grievance from the aggrieved. - The report of grievance committee is forwarded to Principal for further action. - The corrective measures are taken and recorded in the register. 	Chairman + 3 members
2.	Sexual Harassment of Women	<ul style="list-style-type: none"> - To address the issues of female staff and students. - Committee is formed under the act, 2013 and rules, 2014 (Vishakha Judgement) 	Presiding officers, Member secretary +1 external member+2 internal member
3.	Anti-Ragging	To protect any type of physical and mental harassment.	Chairman + 1 member

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?

No court case has been filed or pending against the institute.

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

Yes; The Institution has a well-defined policy/mechanism for student feedback on institutional performances.

- The **feedback from the students** regarding the teaching learning, facilities and other service issues are received on regular basics.
- Such issues are discussed by HOD/Principal with concerned functionaries in meeting with focused agenda; difficulties faced by the students are rectified as far as possible.
- On the basis of such feedbacks, the Principal interacts with faculty and HODs to improve the Institutional performance. Also, Principal is able to convey the problems discussed in the meeting to IQAC.
- The IQAC finally gives guideline to Principal in taking proper decision & action to improve the overall performance/ image/brand of the institution.
- The Principal conducts the meeting with students and staff on regular basis. There are regular surprise visits conducted by Principal in classes. If any discrepancies or irregularities arise during the visits the Principal communicates this information to the teachers concerned and encouraged them to improve their performance.
- There is one to one interaction of Principal and students.
- The Principal also communicates this information to the teachers concerned. In some cases Principal also appreciate the efforts, which was a step to sustain the good performance of teachers.
- By means of alumni meet, the feedback is collected.

6.3 Faculty Empowerment Strategies

6.3.1 *What are the efforts made by the institution to enhance the professional development of its teaching and non-teaching staff?*

The efforts made by the institution to enhance the professional development of its teaching and non-teaching staff are as follows:

- The institution encourages and sponsors teaching as well as non-teaching staff to pursue their higher studies. As a result of effort put in by institute for the same, **65** teaching faculty and **36** nonteaching faculty availed for higher studies till date.
- **Institute organizes workshops, seminars to encouraged teaching faculty members** for interaction and participation in professional societal activities such as IEEE, IET and to present their research work at conferences (National and International) etc.
- **Nine** workshops sponsored by internal/external agencies are organized from 2014 to 2016.
- **Four** National conference programs are organized in 2016 with the help of BCUD and IEEE.

- **Faculty advancement programs** are arranged before commencement of semester. FAP enhances professional, teaching and communication skills and such **ten** programs were conducted from 2013 to 2016.

Workshop and motivational talks are arranged for non-teaching staff. **Non-teaching staff meeting** with **principal** on **every Monday** for motivation and encouragement. **Three** workshops are conducted for quality development.

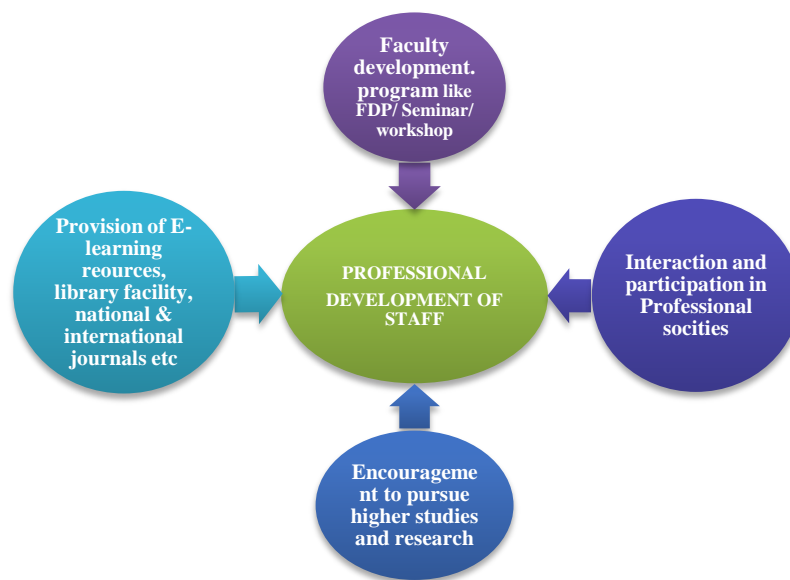


Figure 6.3.1 Efforts made by the institution to enhance the professional development of its teaching and non-teaching staff

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

The strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility as follow

Training and Retraining –

- In each department experienced faculty guides young faculty to teach a subject of his choice/ strength and to make lesson plan, schedule of lectures, course file, animations, and PPT slides as teaching tools before the commencement of Semester. During training period difficulties and queries faced by young faculty are resolved by experienced faculty.
- Training is provided to faculty regarding emerging technologies through workshop and seminars.
- After observing the performance of the faculty additional administrative responsibility is given to his/her capacity.
- Regular departmental meetings, informal discussions with experience faculty, interaction between teachers of different disciplines, interdisciplinary seminars

etc. bring clarity and motivate faculty to deliver their roles and responsibilities effectively.

Motivating the employees -

- Faculty is always Encourage and facilitate to acquire higher qualifications.
- Opportunities and platform are provided to showcase their strengths and talent through initiatives taken by institution.
- Faculty members are appreciated by giving awards for their achievement in academic, research and extracurricular activities.

6.3.3 *Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.*

The institute has **transparent performance appraisal** system of the staff to evaluate and ensure that information on multiple activities as follow:

- Institute adheres to UGC/GOI/State Govt. policies on performance appraisal based on roster considering gender sensitivity, equity; physically disabilities while recruitment of faculty members.
- Institute has **self, peer group** and **administrator appraisal** system, which implement to evaluate and ensure the information of multiple activities.
- In self-appraisal academic performance, performance as guardian faculty member, publications, research projects, student feedback, strengths and weaknesses of faculty members are mainly considered
- In the appraisal willingness to take responsibilities in new area of work, contribution in co-curricular/ extracurricular / extension activities, participation/organization of workshop /lectures, ability to inspire and motivate students, supervisory ability are mainly focused.
- In administrator appraisal system Recommended/ Not recommended for **annual increment / promotion** for the next grade is decided on the basis of self and peer group appraisal for this **performance budgeting as core planning** activity used by institution for inform decision making for appraisal.
- The institution / management evaluate staff based on teaching, research and participation in development activities in and outside the institute.
- The appraisal, due importance is given to all curricular /co-curricular /extra-curricular activities.
- The concerned administrator gives his remark on the performance of the faculty through formative evaluation.
- Based on this performance appraisal, the faculty is awarded with appreciation and additional motivation for further improvement in their performance.

6.3.4 *What is outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?*

The outcome of the review of the **performance appraisal reports** of faculty and staff are as follows:

- **Annual increments** to faculty based on their performance
- Appreciation is given to faculty for good performance
- Official warning /memos given to faculty for less result
- Faculty is monitored and guided by HOD of respective departments for better performance and improvement when needed. Due to the review of the performance appraisal reports faculty is motivated to carry their responsibilities actively

The outcome of the review of the performance appraisal reports are communicated to the appropriate stakeholders **through local administrator**.

6.3.5 What are the welfare schemes available for teaching and non teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

The institution has provided welfare schemes for teaching and non-teaching staff as follows:

- **Contributory Provident Fund** scheme to the teaching and non-teaching.
- **Personal loan**
- **Maternity leave**
- Sabbatical leave to promote R&D.
- Facility for education of child/ward of employees in institution.
- **Free uniform** to non-teaching staff
- ATM facility in the campus.
- **Subsidies Bus** facility and **medical assistance in case of emergency**
- Multistate credit co society in campus

Percentage of staff have availed the benefit of such schemes in the last four years are shown in following table:

Table 6.3.1 Schemes availed by staff

Sr. No.	Academic Year	Provident Fund Scheme availed in %		Personal Loan availed in %		Maternity leave
		Teaching	Non-teaching	Teaching	Non-teaching	
1.	2012-13	17.54	100	11.59	20.61	6
2.	2013-14	21.17	100	11.59	25.71	4
3.	2014-15	22.59	100	20.33	30.92	7
4.	2015-16	27.32	100	45.35	34.02	9

100% of non-teaching staff availed benefit of free uniform.

6.3.6 *What are the measures taken by the Institution for attracting and retaining eminent faculty?*

Measures taken by the Institution for attracting and retaining eminent faculty:

- Maintaining transparent administrative system
- Encouraging new ideas ,methodologies suggested by staff
- Institute takes initiative for attracting and retaining eminent personality by organizing various technical events.
- Higher start and higher packages are offered to eminent faculty
- Providing an academic environment for research, self-improvement along with teaching
- Providing and creating opportunities for faculty for active participation in curricular, co-curricular, training, workshops for professional skill improvement
- Motivating faculty by salary revision based on their performance and appreciation (Ph.D/Patents/research grants etc.) for efforts taken by them in all activities
- Implementing welfare schemes

6.4 Financial Management and Resource Mobilization

6.4.1 *What is the institutional mechanism to monitor effective and efficient use of available financial resources?*

The Institute has following mechanism to monitor effective and efficient use of available financial resources

- At the beginning of every financial year the estimated budget from each department is collected. This budget is based on the requirements raised by the staff and concerned HOD.
- The budget submitted by HOD is scrutinized by the principal.
- As and when **urgent requirements arise** it's given after sanctioned revived from corporate office.
- All the major financial transactions are analyzed and verified by the governing body under different heads like

➤ Research & Development	➤ Training & Placement
➤ Software & Internet charges	➤ Library Books / Journals
➤ Repair & maintenance	➤ Printing & stationary
➤ Equipment & Consumables	➤ Furniture & Fixtures
- After final approval of budget the purchasing process is initiated by purchase committee which includes all head of departments and account officer, accordingly the quotations called and after the negotiations purchase order are placed.

- The payments is released after delivery of the respective goods it is done as per the terms and conditions mentioned in Purchase order.
- All transaction has transparency through bills and vouchers.
- The bill payments are passed after testing & verification of items. Only authorized person operate the transaction through bank.
- Respective HOD ensures that whether suitable equipment/machinery with correct specification is purchased.
- The entire process of the procurement of the material is monitored by the HOD and Principal at institute level then the finance department at corporate office level.
- Financial audit is conducted by CA every financial year to verify the compliance.

6.4.2 What is the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections

Internal auditing is done by central corporate office after each **six months** & each financial year by certified CA. The last audit was carried out in the year April 2016.

6.4.3 What is the major source of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

The major source of institutional receipt is fees collected from students. The management looks into the matter if deficit arises. Institute **adhered to** Utilization of budget **approved** for **academic expenses** and **administrative expenses** by management shown in following table.

Table 6.4.1 Academic and Administrative Expenses

Details	Amount in Rs.			
	2015-16	2014-15	2013-14	2012-13
Income	29,07,49,255/-	24,87,25,034/-	23,93,91,649/-	20,67,19,710/-
Academic Expenses	24,03,57,427/-	24,73,96,780/-	23,80,36,524/-	20,62,12,890/-
Administrative Expenses	2,12,01,110/-	13,28,254/-	13,55,125/-	5,06,820/-

Table 6.4.2 Corpus fund/FD Details

Sr. No	Fund Details	Amount (in Rs)	Duration	Date of issue	Date of Maturity	Bank Name
1	Term Deposit	15,00,000/-	3 years	31-01-2013	31-01-2016	Axis bank
2		15,00,000/-	10 years	24-02-2015	24-02-2025	PNB bank
3		3,00,000/-	5 years	29-08-2012	29-08-2017	PNB bank
4		5,00,000/-	5 years	28-08-2012	28-09-2017	PNB bank
5		2,00,000/-	5 years	04-09-2013	04-09-2019	PNB bank
6		2,00,000/-	5 years	24-09-2011	24-09-2016	PNB bank
7		12,00,000/-	10 years	20-09-2012	20-09-2022	PNB bank
8		1,50,000/-	10 years	20-09-2012	20-09-2022	PNB bank
9		9,00,000/-	10 years	20-09-2012	20-09-2022	PNB bank
Total		Rs. 64,50,000/- Sixty Four Lakhs fifty thousand only				

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

The institute encourages all the faculty members to undertake the research projects funded by different agencies like SPPU (BCUD), ISRO, and DRDO etc. Details of grant revived from various agencies since inception of the college which are given below.

Institutional Procedure for Utilization of the funds:

The Institute has following rules for utilization of the funds received from funding agencies

1. The funds received are diverted to the individual account /Joint account of the investigator /principal that is a in charge of the funded project. The investigator with Academic Research Coordinator &Principal makes expenses for respective research project.
2. After verification the year wise statement of receipt and payment is audited by CA and then it is submitted to the funding agency for correspondence.
3. The status of the project undertaken is continuously monitored by the concerned Departmental head, and Principal. Time to time report submitted to external agencies.

6.5 Internal Quality Assurance Cell (IQAC)

6.5.1 a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Yes.

The Institute has established an Internal Quality Assurance Cell (IQAC) to develop system for consistent, catalytic action to improve upon the academic and administrative performance of the institution.

IQAC ensure the quality in teaching learning and administrative processes, with critical analysis and feedback response. The institute has developed student centric environment for quality education as per institute's quality policy.

- IQAC plays an important role in planning, executing and satisfying needs to achieve quality policy, mission and vision of the institute.
- Enhance the research quality with motivational support
- The processes are improved with the inputs of students, alumni, and parent's feedback.
- It contributes in enhancement of evaluation procedures in teaching learning assessment.
- IQAC proposes integration of **modern methods / Tools** in teaching and learning.
- Creates **e-learning platform** for student.
- This in turn again assures the quality improvement for the betterment of institute as well as the society.

b. *How many decisions of the IQAC have been approved by the management / authorities for implementation and how many of them were actually implemented?*

All the decisions of the IQAC are communicated and approved by the management for probable implementation. The care is taken that the required modifications (if any) are analyzed and further approved while implementation.

Table 6.5.1 Status of IQAC decisions and implementation

Sr. No.	Decisions of IQAC	Implemented	Status
1.	MOODLE, NPTEL	Yes	Working
2.	Faculty Development Program	Yes	At start of semester
3.	Lab as museum	Yes	Completed
4.	Student development Program	Yes	Conducted
5.	Seminars for staff	Yes	Conducted
6.	Workshops for student	Yes	Conducted
7.	Workshops for faculty	Yes	Conducted
8.	National conferences	Yes	Conducted
9.	Research	Yes	Ongoing research projects.
10.	Virtual Classroom	Yes	Completed
11.	OFA	Yes	Completed
12.	International conferences	No	In Planning
13.	STTPs	No	In Planning

c. Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

Yes. It has external member representatives for IQAC.

Table 6.5.2 External IQAC members and their significant contribution

External member	Name of person	Company/ Organization	Contribution
Industry Representative	Mr. Rajesh Askhedkar	GM, Kirloskar Oil Engine Ltd. Pune	Vision, Mission, PEOs, assessment tools for measuring outcomes.
Industry Representative	Mr. Parikshit Deshmukh	AGM, Vodafone India Ltd., Pune	Platform for Placement / research projects to students.
Alumni Representative	Mr. Ketan Barbole	IIT, Kharagpur	Convey the type of skills required in student from industry.
Parent Representative	Mrs. Nandini Avinash Wabale		Take feedback from parent for improvement in education system.

d. How do students and alumni contribute to the effective functioning of the IQAC?

Students:

- IQAC receive the feedback from students in order to improve the quality of teaching methodology, variations of teaching aids and administration processes.
- The statements of PO's, PEO's, are imbibed by the students and response is received towards the quality improvement in teaching learning process.
- It seeks contribution of students in the development of quality culture in the institute.

Alumni:

- IQAC interact with alumni for the opinions and suggestions for the up gradation in technology, teaching learning processes to improve the quality of education.
- It contribute in the gap identification

e. How does the IQAC communicate and engage staff from different constituents of the institution?

Every decision taken by IQAC is well communicated through circulars, emails and meetings to all stake holders and implemented for the cause of quality education.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalization.

Yes, the institute has integrated framework for quality assurance of the academics and administrative activities. As our mission comprises satisfaction of the aspiration and techno-economic development of the student and faculty, utmost importance is given for quality assurance. For the attainment of quality education, all parts of the system are integrated together as indicated by framework of Internal Quality Assurance Cell (IQAC).

- IQAC receives feedback from Stake holders such as Parents, Alumni, Industry and Experts etc. The gaps present in today's educational system and technologies used in the industries are communicated by our recruiters to the training and placement officer (TPO). TPO conveys these gaps to IQAC.
- IQAC give report based on feedbacks and comments from stake holders to management. After reviewing the common shortcomings, management allow to IQAC to plan for development program with the discussion of departmental head. Accordingly the FDP is conducted at start of every semester and course material with quality teaching learning material is produced. Course material is provided to the student during the course period. Feedback from the students to fulfill the need of quality education is received and PDEI cycle is completed.

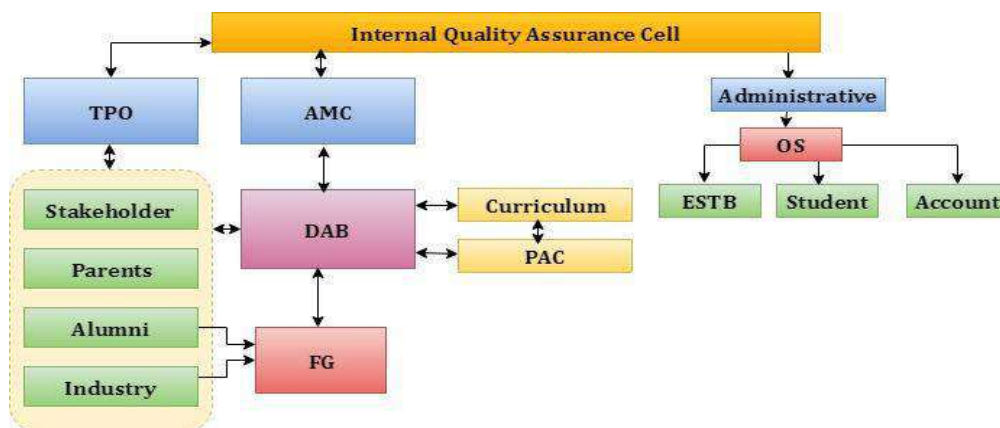


Figure 6.5.1 Internal Quality Assurance Cell

- PAC proposes necessary changes for continuous improvements, conduct survey with stakeholders receive the feedback from stakeholders motivates student for Student Training Program (STP) to make them fit for industrial challenges.
- DAB defines the Current & future issues related to program. Develop/recommends new or revised PEO's to enhance the teaching learning process and object based education

6.5.3 Does the institution provide training to its staff for effective implementation of

the Quality assurance procedures? If 'yes', give details enumerating its impact.

Yes, the institute provides training for effective implementation of the quality assurance procedure. Institute arranges **training programs** for **staff** to improve the **administrative and teaching learning skills**.

Training is provided to the faculty on the basis of parameters such as,

- | | |
|--|------------------------------|
| ➤ Departmental need and plan | ➤ Specialization |
| ➤ Expertise | ➤ Earlier Performance |
| ➤ Feedback/Result | ➤ Experience for the subject |
| ➤ Guardian faculty member | ➤ Willingness / Preference |
| ➤ Preventive maintenance & safety provisions | ➤ Applied research |

Feedback gives suggestion to faculty to improve teaching methods and skill. It leads to get good results. Lab training improves the proper use of equipment. Expertise of faculty in specific area helps to groom applied research work. GFM activity helps to maintain attendance and improve the result.

Autonomy is provided to the faculty for effective implementation of **innovative teaching learning** methods during departmental training sessions as per need & development for students.

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

Yes. IQAC also carries the internal audit to improve upon the quality and the institutional activities for all disciplines.

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

- The internal quality assurance mechanism takes the inputs from regulatory body (e.g. AICTE, DTE, SPPU) through circulars and notifications.
- It is analyzed by IQAC in the meetings of Principal and Heads of the departments.
- These decisions are implemented for ensuring the quality.
- The academic activities and processes are planned and implemented as per the guidelines set by the external regulatory bodies, IQAC.
- IQAC conducts the internal inspection of each department to assure alignment of internal quality based on the benchmarks. .
- The **suggestions** from the external bodies are considered for **compliance**.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

Institute has a practice of **reviewing teaching learning process** and **learning outcomes**.

- Principal and all heads of the departments through IQAC ensure the proper functioning of each committee for improvement of teaching learning process.
- Institute has well-defined mechanism for continuously reviewing teaching learning process.
- The mechanism consists of various bodies for continuous review of the teaching learning process, such as-
 - **Department advisory board (DAB):** conducts the meeting twice a semester
 - **Focus Group (FG):** conducts the meeting twice a semester
 - **Program assessment committee (PAC):** Conducts meeting twice a semester

The methodological operations and the outcome of the process are observed for teaching learning process in the institute would be as follows:

Role of Departmental Advisory Board (DAB)

1. Drafting of Vision, Mission of department
2. Drafting of PEOs Formulation of POs
3. Define Current & future issues related to program.
4. Develop/recommends new or revised PEO's
5. Recommends the proposal requirements for effective implementation curriculum.

It enhances the teaching learning process and object based education is satisfied.

Role of Focus Group (FG)

1. Verification & approval of curriculum gaps and content beyond syllabi
2. Methodology and assessment tools to bridge the gaps
3. Approval to co- curricular activities
4. FG helps to bridge the curriculum gap in between syllabi is minimized and industry institute interaction is enhanced.

Role of Program Assessment committee (PAC)

1. Evaluates and monitors the attainment of POs
2. Proposes necessary changes for continuous improvements
3. Preparation of periodic reports on program related activities, status, reports for managements and key stakeholder
4. Faculty motivation: attend/organized workshop/seminar/FDP paper publication development of model/lab.
5. Student motivation: attend/participate tech competitions paper presentations, mini projects/models social/cultural events and skill development programs.
6. Conduct surveys, interaction with faculty, coordinators and other stakeholders
7. Outcome of PAC improves overall curriculum and faculty development.

6.5.7 *How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders? Any other relevant information regarding Governance Leadership and Management which the college would like to include.*

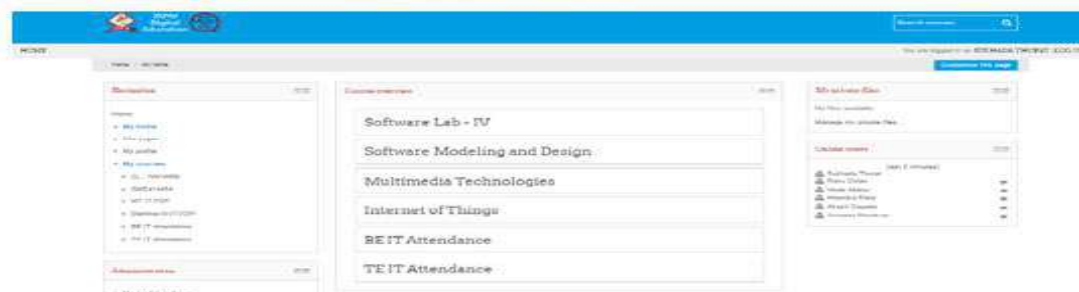
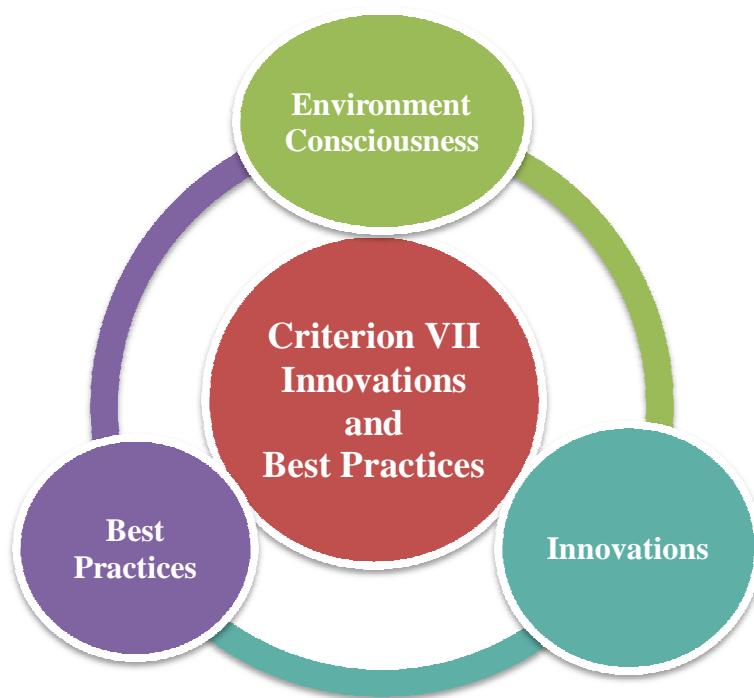
The institution communicates its quality assurance policies, working mechanism and outcomes to

- Internal stakeholders through notices, website, magazine, news-letter, information brochures etc.
- External communication of QAP through implementation & actions at various heads like
 1. Students – continues university rank
 2. Placement – Placement of student in well-known companies
 3. Student feedback
 4. Industry feedback
- While the same is communicated to external stakeholders through, departmental DAB meeting, alumni meet, HR meet, parent meet, emails, website, circulars.
- Leadership secretary to student & staff.
- Various external professional bodies like IEEE etc.

All above said is achieved because of the good governance, leadership and management approach.

CRITERION- VII

Innovations and Best Practices



CRITERION VII - INNOVATIONS AND BEST PRACTICES

Cr. No.	Key aspects	Assessment indicators	Outcomes
7.1	Environment Consciousness	Green Audit	Institute conducts green audit with the help of state government approved external agency.
		Promotion of eco-friendly campus	Eco friendly nature of the campus get exhibited through various implemented activities like institutional energy audit, rain water harvesting, reuse and recycling of paper
		e-waste management	E-waste of the institute is disposed with the help of Government approved agency.
7.2	Innovations	Teaching Learning methodology OFA	The innovative approach of teaching learning process namely OFA is adopted on pilot basis, this approach has extended the benefit of modifying the existing system to the student centric system.
7.3	Best Practices	Industry Institute Interaction	Training program like Zensar, Barclays conducted each year. Till date 20 entrepreneurs through EDC cell.
		Faculty Development Programs	Enrichment of curriculum to achieve the Institute objectives. Till date 14 University rankers and 10 students are gold medalist consecutively from last three years in SPPU. Improves in attainment of learning outcomes.

CRITERION VII

INNOVATIONS & BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the institute conduct a Green Audit of its campus and facilities?

Yes, institute conducts green audit with the help of state government approved external agency. Institute makes attempt to implement the suggestions (if any) given by auditor.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

Institute campus has full green surroundings which are not only pleasing to the eye, which also contributes to the mental, physical and emotional well-being of people. Campus land is properly utilized for gardening which is one of specialty of all JSPM group, same trend is maintained at JSCOE. Following are the initiatives taken by the Institute to make campus eco-friendly:

1. Energy Conservation

Every year electrical engineering department of the institutes undertakes energy audit of the institute. Suggestions evolved through the audit are implemented to possible extent. Solar street lights and solar water heater available in campus marks another feature of the activity. The planned and monitored system ensures optimum utilization of energy with minimum losses. Attempts are made to buy equipment consuming minimum energy such as replacement of CRT monitors by LCD monitors.

2. Water harvesting

With the current water shortages and changing water policy, at the institute recycled water is used for gardening purpose. Uses fixed overhead sprinkler systems and drippers to maintain greenery in the campus.

Also as per standard guidelines rainwater harvesting is made available in institute.

3. Efforts for carbon neutrality

Waste papers generated is send to vendor for recycling, and institute practices reusability of papers by taking print on one side used paper.

All type of institute related correspondence is done though e-mails, and social media.

- Previously course material was given to students in hardcopy, now the Institute is using e-learning platform-Moodle for teaching-learning and evaluation, which promote paperless environment.
- Car pooling and public transport facilities are used by some faculty and students and Institute promote use of bicycle once in a week to reduce air pollution.
- Separate garden is maintain near the Institute entrances for maintain carbon levels.
- For every functions invited guest and experts honored by presenting saplings instead of bouquets to promote greenery.

4. E-waste management

E-waste of the institute is disposed with the help of Government approved agency.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on functioning of the college?

To maintain consistency in improvement of quality education, Institute has introduced innovative approach Originative Facile Approach (OFA) teaching learning Approach.

OFA- Innovative Approach for teaching Learning

Originative Facile Approach

This new teaching learning approach is adopted by Department of Information technology as a pilot project to increase student's interest and excitement in learning.

Objective:

The main Goal of OFA is to enhance student learning and achievement by reversing the traditional model of a classroom, focusing class time on student understanding rather than on lecture. To accomplish this, we have six hours class once in a week for a course. This allows class time to be devoted to expanding on and mastering the material through collaborative learning exercises, projects, and discussions. Also, dividing a class of 60 students into group of 20 and one faculty is teaching only one subject throughout a day.

Process of Implementation of OFA:

1. After taking continuous feedback from faculty and students, disadvantages of traditional teaching method is identified and some of them are listed below:
 - Teaching is deeply teacher centered and teachers are the source of the knowledge, while learners are passive receivers that must memorize things.
 - No "student centered" method based on "help learning to happen."
 - Lack of communication, interaction and idea exploration among students and teachers.
 - Lakhs Emphasis on Critical Thinking
 - Lakhs Process Oriented Learning
2. Need for implementing new teaching learning method is discussed in brainstorming sessions with stakeholders and DAB members.
3. Requirement for resources, infrastructure was identified and accordingly plan developed.
4. Time table as per S⁶ cycles of OFA, refer Figure 7.2.3. Session Breakups are also introduced, refer Table 7.2.2.

5. SE and TE practical related courses are highlighted and given six hours session for group of 20 students. Theory related subjects are having continuous two hours sessions on each alternate day.
6. Faculty is informed about way of execution of this model and accordingly session breakup was prepared. Following is session breakup for DSF subject of second year.
7. All plan and curriculum design was put for approval in DAB meeting. According to suggestions and feedback received from members refinement is done. Finally it sent to IQAC for approval and then implemented. Pilot project is started from academic year 2016-17, SEM-II.
8. This model is implemented in department to enhance student learning abilities and to achieve objectives defined by the institute.

Table 7.2.2 Session breakup structure

Objectives	Contents	Methodology	Time	S ⁶ Cycle
Climate Setting	Objectives	Objective written on flip chart	15Mins	Start Sign-On
Convey Knowledge, Facts and Information	Concepts of Stack, Basic Operations, Stack as an ADT.	Lecture, Interactive Presentation, Animations, Simulation on Models	45Mins	Seek It
Convey Knowledge, Facts and Information	Implementation Of Stack Using Sequential and Linked Organization.	Lecture, Interactive Presentation, Animations, Simulation on Models	45Mins	Split Out
Overview/ A Synthesis	Learner Involvement and Summarize Key Points	Group Discussion/ Questionnaire/ Peer Reviews	15Mins	Split Out
Convey Knowledge, Facts and Information	Core Concepts of OOP using C++	Implementations of Beginners Level Programs using C++	120Mins	Split Out
Testing and Debugging of Assignment	Testing/ Debugging	Execution of Codes for different Input Classes.	60Mins	Stretch It
Assessment	Presentations by Students Quizzes Group-Discussion Objective Test Subjective Test	15 Questions- 1MK Each for Objective Test/ 3 Questions 6 MKS Each for Subjective.	60Mins	Size Up

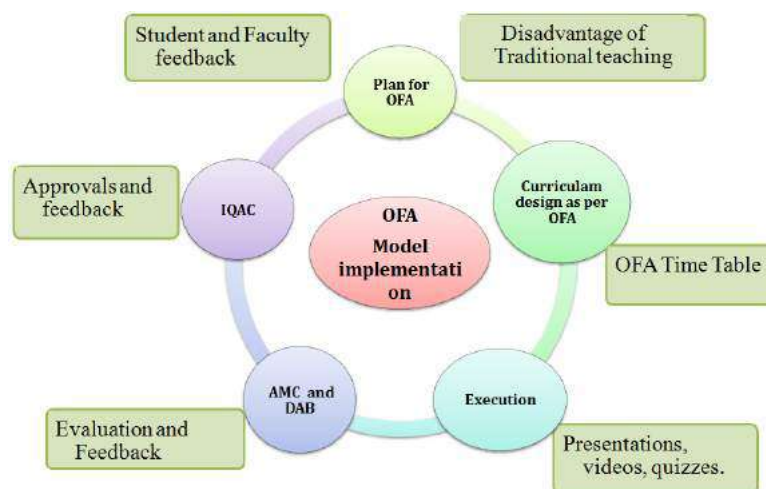


Figure 7.2.4 OFA implementation Process

Figure 7.2.4 explains process of OFA implementation. This approach mostly focuses on active learning by the students. This model follows facile approach for 6 hours class known as S^6 cycles.

S^6 cycles of OFA:

1. **Start**-starts activity for a batch of students for a scheduled course as per timetable
2. **Sign-on**- This Activity promotes students involvement in new topic in new excited way.
3. **Seek it**- This activity experiences tap into and activates student's prior knowledge.
4. **Spilt out**- This activity directs Instructions/Active Learning experiences, summarizations that implements content Knowledge.
5. **Stretch It**- This activity requires students to apply their understanding in new context and develops new ideas based on learned concept.
6. **Size up**- This activity experience enables both students and teachers to assess changes in ideas and development of new skills.

Advantages of S^6 Cycle:

- Project Based Learning
- Current Models operates as Antagonists
- Teaching Concepts Not Facts
- Forms Team and Networks
- Concept Mapping
- Self-Directed Learning
- Independent Study
- Maintaining the uniformity and effective utilization of S^6
- Attainment of Learning Outcomes

Impact of OFA:

Student's interest increased in attending sessions. Student experiences interest in lectures, more excitement and fun in learning. Continuous brainstorming sessions leads to generate innovative ideas and projects. This helps to attain the program and learning outcomes.

7.3 Best Practices

7.3.1 *Elaborate on any two best practices as per the annexed which have contributed to the achievement of the Institutional Objectives and/or contributed to the quality improvement of the core activities of the college?*

Best practice means a method or technique that has consistently shown results superior to those achieved with other means and that is used as benchmark. Institution has introduced two best practices listed below:

Best Practice 1

1. Title: Industry Institute Interaction cell

2. Goal:

- The main goal of I-I-I cell is to build a trustworthy channel between industry and educational institute and to fill the gap between requirement of industries and university syllabus.
- This cell guides the students to adapt ever-changing industrial needs by arranging various industrial training, workshops and research activity and helps the institute to achieve the stated objectives.

3. Context:

- Industry-institute interaction (I-I-I) is the most preferred activity for mutual benefit and growth of industries as well as institutions. I-I-I provides the platform for showcasing the best practices, latest technological advancements, their implementation and its impact.
- Employability demands for key competencies in the students during learning stage. The ultimate aim of this practice is to provide students with necessary industry exposure and opportunities. In the time when students are getting placed through campuses in multinational companies, institute provides a platform to enhance the abilities of students so as to increase the percentage of placement and develop a competent graduating engineer.
- It is necessary to expose the student to industrial training and industry environment. Industry-Institute Interaction thus provides a platform and opportunities for such activities.

Following are the major objectives of **I-I-I** Cell:

- To identify and bridge the curriculum gap by taking feedback and suggestion of industry person during curriculum development.
- Knowledge enrichment of student by arranging workshop, seminar.
- Arrange the industrial visit to get real-time experience on recent technology and trends of industries.
- Create the research culture by arranging seminar by researchers from renowned organization.
- Improve the T&P activity by arranging HR Meet every year.

4. Practice:

- I-I-I cell formed by institute is for overall development of students which includes curriculum enrichment and personal skill development of students.

Institute has a best practice of involving industry experts during curriculum design which plays a significant role in preparing the industry ready students. Soft skill is also important key factor for student's employability.

- In collaboration with different organizations / industries, institute organizes various seminars, technical training and soft skill training. This practice provides platform for students to enhance their knowledge, hands on recent trends in industry, and overall skill development.

Following are some key training program organized by institute:

Zensar ESD:

- Zensar ESD had conducted 200 Hrs. technical training program and started our student placement from 2012.
- Zensar conducts Pre assessment test of students in the form of aptitude, group discussion, and technical interview followed by personal interview. The shortlisted students are trained by expert faculty from Zensar.
- ESD program comprises of different module like soft skill, aptitude, recent technologies and programming languages.
- After completion of training program Zensar arranges placement drive.

Impact: Four students placed in Zensar.

Barclay's GTT Soft skill training:

- Good communication skills are an absolute necessity if students want to succeed in his career and have better job prospects.
- Institute provides platform for students to improve the interpersonal skills. Institute organizes 80 Hrs. soft skill training programs in collaboration with Barclay's GTT.
- This soft skill training program helps students imbibe 11th GA communication and leadership.
- This program covers the communication skill, resume preparation, group discussions, personal interviews etc.
- It is two step procedures where in first step students are assessed through L1 Tests and in next step are provided with L2 training of soft skill by industry experts appointed by Barclay GTT.
- Along with training some activities are conducted to develop some skills Interpersonal skills, Team spirit, social grace, Behavioral traits such as attitude, motivation, and time management.

Impact:

It helped student to crack personal interview during placement and hence overall placement count increases.

Industrial visits:

Institute designs its own curriculum for enrichment and assessment of the learning outcomes critically but the real time experience on some technology which is only available in industry, so to get this experience every department arrange industrial visit as per the demand by course coordinator. This activity helps students to know current technology & methodologies in industries. Table 7.3.1 shows few industrial visits undergone by each department.

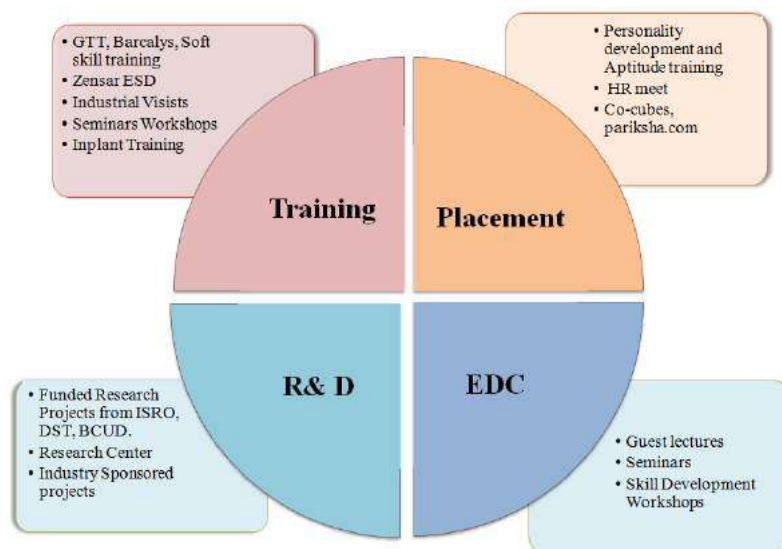


Figure 7.3.1 I-I-I activities

Table 7.3.1 Industrial visits

Sr. No	Name of Department	Place of Visit	Purpose
1	Mechanical Engineering	Bharat Forge, Pune	To expose students to state-of-the-art technologies related to forging of auto-components.
		Accurate Engineering, Pune	To expose students to measuring and measurement like coordinate measuring machine instrument along with quality control tools.
		Auto-cluster, Pune	To expose students to R&D facilities developed by government of India.
		Bhairavnath Sugar Industry Osmanabad	To expose students to function and maintenance of boilers in sugar factories
		Gas Turbine Power Plant	To expose students to SCADA system used for understanding the function of gas turbine power plant.
2	Electrical Engineering	MSEB sub Station Padge Dist. Thane	Study of power system and its component
		Shivshakti Power transformer Manufacturing, Narhe	Design and testing of transformer
3	Electronics & Telecommunication	TIFR ISRO	To understand research projects, information about satellite launching vehicles.
		BSNL & Doordarshan	To understand telephone switching systems and program broadcasting.
		Symbiosis studio of audio video film transmit	To understand Audio- Video recording technique used.
		FTTI (Film Institute) Pune	To understand Audio- Video recording technique used.
4	Computer & IT	Infosys Pvt Ltd. Pune	To know Software project development process
		Barclay's Pvt. Ltd Pune	To understand Project management and corporate work culture

Aptitude Training Courses:

- Aptitude training sessions are conducted by the Institute in the campus through private organization like Career corner, Apart, Gyantirth etc.
- Funded Research projects

- I-I-I cell regularly arrange seminar and guest lecturers of researchers from IIT's and ISRO to interact with faculty and student.
- I-I-I cell has conducted two day workshop on "How to write a research paper & Patent"

5. Problems encountered:

Provision is made in the academic calendar for I-I-I activities however due to unavoidable circumstances at industry side minor rearrangement in the schedule needs to be done at last movement. To compensate the missed lecture slot due to I-I-I activity, extra lectures are conducted.

Resources required:

For smooth conduct of I-I-I activities institute provides following resources and facilities:

- Seminar hall with ICT facility.
- Virtual classroom facility.
- Separate T&P cell
- EDC cell
- Research center

6. Evidences of success:

- Through industry interaction institute, Research and Development activities are enhanced and outcome of this more than 70 Lakhs research funded projects are carried out from ISRO, DST & BCUD in the institute. 25 patents and more than 500 research papers are published by faculty and students
- Students encouraged to undertake the final year projects in the industry with a joint supervisor from the industry.
- Every year more than 25% projects are sponsor by industry and remaining 75% projects are carried out as in-house project under the training of industry experts and faculty members.
- I-I-I innovation practice promotes development of entrepreneurs which further leads to rapid industrialization. Till date 20 entrepreneurs are developed as a result of Institute EDC cell activities.

Best Practice 2

1. Title: Faculty Development Programs (FDP)

2. Goal: Enrichment of curriculum to achieve stated learning outcome which are in-line with graduate attribute.

3. Context:

- Institute defines its vision, mission, quality policy and objectives. To achieve these, institute prepares well defined academic plan.
- Institute designs learning outcomes which are in line with 12 Graduate Attribute, Institute adheres to achieve these during the course of time. SPPU provides syllabus along with course objectives and course outcomes. According SPPU syllabus all learning outcomes are not achieved, so to

achieve them department arranges FDP before commencement of every semester for curriculum enrichment.

- At institute level IQAC and every department have administrative set-up which comprises of DAB, PAC and FG with well proven mechanism, DAB include industry, Alumni, Professional body members, parent and student representative.
- Before commencement of every semester FG members and module coordinator identify the gap in university syllabus with the help of industry and alumni representative.
- These gaps are put in DAB meeting and finalize.

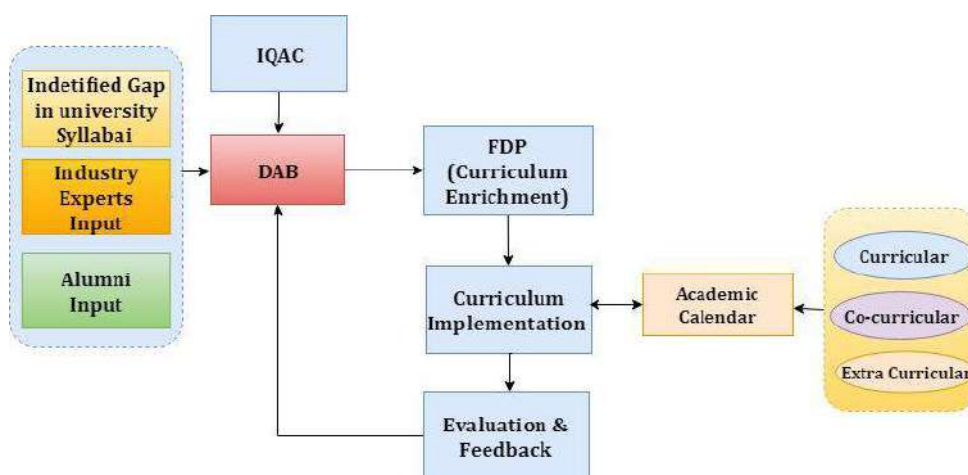


Figure 7.3.2 Administrative setup

- IQAC will design academic calendar by considering curricular, co-curricular and extra-curricular activity.
- IQAC will finalize the schedule for FDP for curriculum enrichment.
- Every department will design and develop their curriculum according to input from FG & MC.
- New curriculum is deployed at department and analyzed by PAC throughout the academic.
- Attainment level of learning outcome is evaluated and feedback is given to DAB for improvement.
- This activity done from last four years which helps to achieve stated objective and learning outcomes.

4. Practice:

- One month before commencement of every semester, FDP is planned. Subjects are allotted to each faculty.
- Contents and formats of FDP are finalized from experts of JSPM group and digital content management group.
- One week schedule was prepared and disseminated among all colleges under JSPM.

- 15 days prior, a course coordinator is selected for the subject who coordinates for his subject through the FDP along with faculty teaching the same subject from other the college.
- Unit wise distribution of syllabus is done among faculty members by course coordinator so that quality work can be done.
- On the start day of FDP, discussions are held on every topic from unit one. With the finalization of content from experienced staff & course coordinator the material are uploaded on MOODLE. Faculty members, who are teaching the subject for the first time, get benefitted by this activity.
- These are checked by MOODLE coordinator and head of department.
- Accordingly all theory and Lab manuals are prepared by the group.
- On the last day experts from industry check the developed contents and provide suggestions which leads to quality improvement.

5. Problems encountered:

- Teaching staff have to manage their workload as staffs are busy with invigilation duties during university exam.
- FDP Hosting college people are engaged in management of required resources and providing hospitality to guest staff.

6. Resources required:

For successful conduction of FDP institute provides following resources.

- ICT enable laboratories for content development
- E-leaning platform MOODLE
- Human resources (faculty)
- Industry experts
- Transport facility

7. Evidences of success:

- Enrichment of curriculum
- Attainment level of Learning outcomes is improved
- Enriched curriculum is in line with All 12 GA.
- On completion of syllabus, teaching material is ready with faculty well in advance.
- Proper functioning of academics due to well-planned curriculum design.
- Till date 20 University rankers and three students with first rank in university consecutively for last three years.

8. Contact Details:

Name of the Principal: Dr. M. G. Jadhav

Name of the Institution: Jayawantrao Sawant College of Engineering.

City: Pune. Pin Code: 411028

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E-mail: drmgjadhav@gmail.com

Mobile: 9422647123

6. EVALUATION REPORTS – DEPARTMENT WISE

Evaluation Report of Computer Engineering

1. Name of the department : Computer Engineering

2. Year of Establishment : 2004

3. Names of Programs / Courses offered:

Sr. No	Name of the program	Year of Establishment
1	UG intake 60	2004
2	UG intake 60(total 120)	2012
3	PG I Shift intake 18	2011
4	PG II Shift intake 24	2012

4. Names of Interdisciplinary courses and the departments/units involved:

Sr. No.	Semester	Name of Interdisciplinary Course	Department Involved
1	3rd	Digital Electronics and Logic Design	E&TC Engineering
2	3rd	Computer Organization and architecture	E&TC Engineering
3	4th	Microprocessor	E&TC Engineering
4	4th	Digital Signal Processing Applications	E&TC Engineering
5	4th	Mathematics III	Engineering science
6	6th	Embedded Operating Systems	E&TC Engineering

5. Annual/ semester/choice based credit system (program wise) :

Sr. No.	Name of the program	Pattern/System
1	UG/BE Computer	Semester, (Credit system implemented from 2015-16)
2	PG/ME Computer Shift-I	Credit system
3	PG ME Computer Shift-II	Credit system

6. Participation of the department in the courses offered by other departments:

Sr. No	Name of the department	Class	Course offered
1	Engineering Science	FE-Sem I	Fundamentals of Programming Languages- I
2	Engineering Science	FE-Sem II	Fundamentals of Programming Languages- II

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No	Certificate/Course Name	Collaborating Institution/Industry/Universities etc.
1	Zensar ESD program	Zensar Technologies, Pune
2	Soft Skill training program	Career Corner, Pune, APAART, Gyanteerth
3	CoCubes Pre assessment tests	Cocubes Technologies Pvt.Ltd
4	GTT-Barclays soft skill program	Global Talent Track,Pune

8. Details of courses/programs discontinued (if any) with reasons: NIL**9. Number of teaching posts**

Year	Post	Sanctioned	Filled
2016-17	Professor	3	1
	Associate Professor	6	3
	Assistant Professor	22	27

10. Faculty profile with name, qualification, designation, specialization, D.Sc./D.Litt./ Ph.D. / M. Phil. etc.)

Sr. No	Name	Qualification	Designation	Specialization	No. of Years of Experience
1	Prof H.A.Hingoliwala	M.E , PhD Pursuing	Associate Professor	C.S.E.	17 yrs.
2	Prof.M.D.Ingle	M.Tech, PhD Pursuing	Associate Professor	C.S.E.	19 yrs.
3	Prof. S.N. Kini	M.E , PhD	Professor	C.S.E.	24 yrs.
4	Prof.R.S. Parte	M.E, PhD Pursuing	Associate Professor	Process Instrumentation	16 yrs.
5	Prof D.R.Patil	ME	Assistant Professor	C.S.E.	14 yrs.
6	Prof. S.H.Patil	M.E	Assistant Professor	WSN	11 yrs.
7	Prof. A.S.Devare	M.E, PhD Pursuing	Assistant Professor	WSN	10 yrs.
8	Prof. M.V.Pawar	M. Tech , PhD Pursuing	Assistant Professor	C.S.E.	10.6yrs.
9	Prof R.S.Dixit	M.E.	Assistant Professor	C.S.E.	8.4 yrs.
10	Prof A. D.Pujari	M. Tech	Assistant Professor	C.S.E.	14 yrs.
11	Prof. H.J.Thanki	ME.	Assistant Professor	Computer Engineering	6.5 yrs.
12	Prof. BK. Saluja	ME	Assistant Professor	Computer Engineering	6.5 yrs.
13	Prof. N P.Saware	M.E, PhD Pursuing	Assistant Professor	Computer Engineering	5 yrs.
14	Prof N.B. Shardoor	M. Tech, PhD Pursuing	Assistant Professor	C.S.E.	4 yrs.
15	Prof. R. P. Bachate	ME	Assistant Professor	Computer Engineering	5.5 yrs.
16	Prof. V.VKondhalkar	M.E , PhD Pursuing	Assistant Professor	CSE-IT	9 yrs.
17	ProfA.M.Hattarge	ME	Assistant Professor	C.S.E.	7 yrs.
18	Prof. K.G Shinde	ME.	Assistant Professor	Computer Engineering	5 yrs.
19	Prof H.B Nikam	M. Tech	Assistant Professor	Computer Engineering	4.6 yrs.

20	Prof. A.Y.Syed	M.E , PhD Pursuing	Assistant Professor	C.S.E.	7 yrs.
21	Prof.D.Waghole	ME-IT, PhD Pursuing	Assistant Professor	C.S.E.	4.5 yrs.
22	Prof.N.B.Chopade	ME IT	Assistant Professor	Computer Engineering	4.6yrs.
23	Prof V.B.Khedekar	M. Tech, PhD Pursuing	Assistant Professor	C.S.E.	5 yrs.
24	Prof.D.T.Bodke	ME	Assistant Professor	Computer Engineering	7.6 yrs.
25	Prof.S.R.Suryawanshi	ME	Assistant Professor	Computer Engineering	4 yrs.
26	Prof. M.M.Bhajibhakre	ME	Assistant Professor	Computer Engineering	4 yrs.
27	Prof. M S.Gardi	ME	Assistant Professor	Computer Engineering	5 yrs.
28	Prof. C.V.Chandgude	ME	Assistant Professor	Computer Engineering	7 yrs.
29	Prof. S.D.Palve	ME	Adjunct Professor	Computer Engineering	7 yrs.
30	Prof.V.S.Suryawanshi	ME	Adjunct Professor	Computer Engineering	7 yrs.
31	Prof R.B.Waghe	ME	Adjunct Professor	Computer Engineering	7 yrs.

11. List of senior visiting faculty : NIL**12. Percentage of lectures delivered and practical classes handled (program wise) by temporary faculty : NIL****13. Student -Teacher Ratio (program wise):**

Sr. No.	Program	Student -Teacher Ratio
1	UG	15:1
2	PG	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Staff details	Sanctioned	Filled
Academic Support Staff	4+5(Lab assistant, Peon)	4+5 (Lab assistant, Peon)

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.:

Year	Ph.D	Ph.D Pursuing	PG
2012-13	-	1	15
2013-14	-	1	17
2014-15	-	4	22
2015-16	1	3	24
2016-17	1	11	16

16. Number of faculty with ongoing projects from National and International funding Agencies and grants received

Sr. No	National/ International	Number of Faculty	Total Grant Received
1	National	02	Rs- 550000/

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received : NIL**18. Research Centre /facility recognized by the University: NIL****19. Publications:**

Sr. No.	Parameters	Number
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	403
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	05
3	Monographs	-
4	Chapter in Books	-
5	Books Edited	-
6	Books with ISBN/ISSN numbers with details of publishers	-
7	Citation Index	75
8	SNIP	-

9	SJR	-
10	Impact factor	350
11	h-index	15

20. Areas of consultancy and income generated: NIL

21. Faculty as members in

- a) National
b) International Committees

Sr. No.	Name of the faculty	Name of the committee	National/ International	Nature of work/description
1.	Prof. Hingoliwala H. A.	IEEE committee	International	As a Reviewer in International Conference (CAST-2016)
2.		IEEE committee	International	As a Reviewer in International Conference on AACCT
3.	Prof. Dattatray Waghole	IEEE ComSoC Pune	International	OC Memeber, Treasurer
4.		IEEE Conference ICPC 2015	International	OC Memeber, Session Chair, Reviewer
5.		IEEE INDICON committee PUNE	International	OC member
6.		IEEE ComSoC committee	International	OC member in UG & PG Research Project Competition PUNE
7.		Reviewer Committee.	International	Reviewer in Scopus Journal of Wireless Communications and Mobile Computing Lancaster University,U.K.
8.		IEEE Bombay Section	International	Member
9.	Prof. M. V. Pawar	Advances in Technology Innovation (AITI)	International	As a Reviewer

- c) Editorial Board: NIL
d) Any other committee: NIL

22. Student projects

Program	Academic Year	Percentage of in- house projects	Percentage of sponsored projects
UG	2015-16	67.23 %	38.05 %
	2014-15	88.23 %	11.7 %
	2013-14	84%	15.9 %
	2012-13	100%	NA
PG	2015-16	100%	NA
	2014-15	100%	NA
	2013-14	100 %	NA
	2012-13	100 %	NA

23. Awards / Recognitions received by faculty and students:

Total Number of students awards	Total Number of Faculty awards
17	5

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Year	Name of Eminent, Academician, Scientist and Visitors.	Association/ Affiliation	Purpose of Visit
1.	2013-14	Dr.M.V.Talwar (Guest of Honour)	Dy. Director, DRDO Pune	Techmanthan-14
2.	2013-14	Dr.A.D.Karve (Chief Guest)	Director ARTI Pune	Techmanthan-14
3.	2015-16	Dr. B. A Chopada	Vice Chancellor, BAMU	Chief Guest- Techmanthan-16
4.	2015-16	Dr. G V Garje(PVGCOE)	Professors affiliated to SPPU and BOS Members.	A One day National Level workshop on “How to write technical paper”
5.	2016-17	Dr.N.N.Maldar	Vice Chancellor, Solapur University, Solapur	Chief Guest- Techmanthan-17 Inauguration
6.	2016-17	Prof. G.S. Mani	Professor, Sr. Scientist, DRDO.	TDCS, IEEE Event Inauguration

25. Seminars/ Conferences/Workshops organized & the source of funding.

Sr. No	year	Name of FDP/SDP/STTP/	National/International	Sponsoring /funding
1	2012-13	National Level Conference on "Intelligent Networking &	National	Institute
2	2013-14	Hadoop workshop	National	SPPU
3	2014-15	Advance Technique to write and present research papers	state	Institute
4	2015-16	Ethical Hacking and Computer Forensic" workshop	Internal	CESA

26. Student profile program/course wise

Name of the		Application	Selected	Enrolled		Pass %
Course	Year			*M	*F	
UG	2016-17	Student is admitted as per DTE allotment.	95	46	49	Currently in FE
	2015-16		109	70	39	Currently in SE
	2014-15		108	53	55	Currently in TE
	2013-14		116	56	60	Currently in BE
	2012-13		113	61	52	84%
	2011-12		64	39	25	75%
PG	2016-17		14	4	10	Currently in FE
	2015-16		39	8	31	Currently in SE
	2014-15		42	12	30	80.95%
	2013-14		42	42	26	78.57%
	2012-13		42	13	29	45%
	2011-12		18	8	10	27%

27. Diversity of Students

Name of Course/program		% of students from the same	% of students from the other	% of students from abroad
Course	Year			
UG	2015-16	92.66%	7.33%	0
	2014-15	96.29%	3.70%	0
	2013-14	93.33%	6.67%	0
	2012-13	97.34%	2.15%	0

28. How many students have cleared national and state competitive examinations such as NET, SET, GATE, Civil services, Defense services

Competitive Examination/Academic	No Of Students				
	2011-12	2012-13	2013-14	2014-15	2015-16
GRE/TOFEL	01	04	03	02	-

29. Student progression

Student progression	Against % Enrolled			
	2012-13	2013-14	2014-15	2015-16
UG to PG	2.08 %	6.67%	15.38%	4.10%
PG to Ph.D.	0.0%	0.0%	4.1%	0.00%
Employed				
Campus selection	11.11%	16.67%	9.23%	18.49%
Other than campus recruitment	81.20%	83.34%	89.23%	74.38%
Entrepreneurship/Self-employment	0.0%	0.0%	0.0%	0.0%

30. Details of infrastructural facilities

a) Library

Sr. No	Particulars	Number
1	Titles	379 (UG) + 155 (PG)=534
2	Volumes	1193 (UG) + 604 (PG) = 1797
3	National Journals	5 (UG) + 8 (PG) = 13
4	International Journals	1 (UG) + 2 (PG) = 03
5	CDs	100
6	e-Books and e-Journals	01 + 04

b) Internet facilities for Staff & Students

All staff and students are made available with computers with **high speed 48 MBPS** internet facility.

c) Class rooms with ICT facility

- Five (UG) and one (PG) acoustic classrooms equipped with computer, LCD projector facilities are available.
- There is one tutorial room of 46.58Sqm for UG.
- There is one Seminar halls of 134.6 Sqm area can accommodate 150 students.

d) Laboratories

Sr. No	Name of Lab	Major Equipment's in the department
1	Artificial Intelligent Lab	ESYS Wizard EZY-1854 RE5500/G31EK/320GB HDD/1GB ACER ACER DUAL CORE 3.5 GHZ/ LCD Projector, HP laserjet 1010 Printer , HP laserjet 1007 Printer, INTEX UPS,
2	Project Lab	Acer Dual core, Intel Dual core CPU G640(2.80 GHZ)2GB DDR3/500 GB HDD, DLINK 24 port Switch, Samsung LaserJet ML-1610.
3	N/W Lab	ACER DESKTOP DUAL CORE DESKTOP PROCESSOR 2.80 GHZ,2 GB, DDR-3, 500GB HDD,
4	Linux Lab	ACER DESKTOP ACER DUAL CORE DESKTOP 2N GEN/INTEL DUAL CORE CPU (2.80GHz)/H61 CHIPSET 2 GB
5	SL-I	Pentium Dual Core 2.80/1GB/320GB
6	Language Lab	ACER Vention M200-4 th Gen Processor 2 GB RAM 500 GB HDD
7	PG Lab	Acer Desktop Intel core i5,2GB DDR3 RAM,500HDD ,LBP Cannon2900B laser Printer, Switch DLink 24 port.
8	Research Lab	Acer Desktop Intel core i5,2GB DDR3 RAM,500HDD.
9	Programming Lab	Wipro Based Machine Intel P-IV, 3.0 Ghz DUAL Core Processor.
10	Multimedia Lab	Acer desktop acer dual core desktop 2n gen/intel dual core cpu (2.80ghz).
11	Software Engineering Lab	Intel P IV 2.4 Ghz, 128 MB RAM,ACER MONITOR'' , Mercury 845
13	Hardware Lab	Digital Trainer Kit Dyna 86 L, Advanced 8086 microprocessor trainer with 40*2 line

31. Number of students receiving financial assistance from college, university, government or other agencies

- UG

Year	No. of Students			
	College	University	Government	Other Agencies
2016-17	-	-	329	3
2015-16	-	-	331	1
2014-15	-	-	283	1
2013-14	-	-	245	-
2012-13	-	-	191	-

- PG

Year	No. of Students			
	College	University	Government	
			State	Central
2016-17	-	-	-	1
2015-16	-	-	-	-
2014-15	-	-	5	-
2013-14	-	-	2	2
2012-13	-	-	-	5

32. Details on student enrichment program (Special Lectures/workshops/Seminar) with external experts

Sr. No.	Academic Year	Guest Speaker, Designation , and Organization	Topic	Number of Participants	No. of Days	Date
1	2012-13	Mr. Sangeet Chopra	Hands on Linux Operating System	5	8	5/8/2012
2	2013-14	Mr. Akshay Khule	Python Technology	150	1	5/8/2013
3		Mr. Bhushan Patil	Cyber Security	120	2	7/10/2013 & 8/10/2013
4	2014-15	Mr. Hrishikesh Aranke	Workshop on Hadoop & Advanced Java for BE students	150	2	14/03/2015, 15/03/2015
5		Mrs.RashmiMarathe	Workshop on Soft Skills	150	2	3/2/2015, 4/2/2015
6	2015-16	Prof. Parikshit Mahalle	Advanced Techniques to Write a research paper	150	2	15/09/2015
7		Mr. Navnath Kamble	Workshop on Ethical Hacking	120	2	15/09/2015

Total 30 student enrichment program are conducted in the department and few remarkable program is given below:

33. Teaching methods adopted to improve student learning

To improve the quality of teaching material provided to students our Institute organizes FDP (Faculty development programme) for every subject (theory and practical) in every semester where different faculty members of respective subjects from all other institutes of JSPM comes together and prepare resource manual and laboratory manual. In FDP, senior faculty members guide the other faculty members of the subject in understanding the fundamentals. Common strategies of conducting the syllabus are finalized by senior faculty. Notes on each unit, presentations, assignments and question banks are prepared at the beginning of the semester. This activity helps the faculty members of the same subject to maintain quality and uniformity across divisions.

1. Moodle:

Faculty members uploads the study material like presentations, manuals, related videos and other links on Moodle so that students can access the material for their references. Also faculty members give different assignments to students through Moodle.

2. Use of NPTEL videos:

National Program on Technology Enhanced Learning (NPTEL) videos are shown to students for their better understanding of contents.

3. Group Discussion:

Teachers identify the weak and bright students through GFM. Weak student is paired with bright student and ask them to study together.

4. Power point Presentation:

Teachers use power point presentation to deliver contents to students. Presentations are prepared by all faculty members teaching that particular course from different colleges from our Institutes.

5. Seminars:

Group of students are made from a class and teacher assigns different topics to those groups. Every group is asked to give seminar on topics given to them.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Every year department organize

- Blood donation camp
- Tree plantation
- Money Contribution to Drought affected farmers under “Smile Foundation”
- Support Pune Traffic police in various festivals namely Ganesh Visarjan, etc.
- Swachha Bharat Abhiyan (Participation in Swachhata Karandak 2016)
- Various social activities in nearby villages under NSS

35. SWOC analysis of the department and Future plan

A. Strength:

1. Experienced faculty in adequate number with good retention ratio
2. The faculty is well qualified with good teaching and communication skills.
3. Use of E-learning Resource MOODLE
4. Department always motivates Staff for their Higher Studies and Research.
5. Laboratories are equipped with state of the art infrastructure.
6. Department student association CESA and IEEE students Society chapter under which cultural & technical events are organized.
7. Department organizes Soft Skill & Technical Skill development programs for students in coordination with T&P Department.
8. Strong GFM Support.
9. Good Placement Record.
10. Good number of student and staff publications.
11. Strong Industry Institute Interactions with MoU's.
12. Good Teaching and Learning centre.

B. Weaknesses:

1. Need to apply more Research grant proposals
2. Lack of senior faculty with PhD Qualification.
3. Lacuna in interdisciplinary projects.
4. Lack of flexibility for making changes in curriculum as per industry requirements
5. Consultancy needs to be improved.

C. Opportunities:

1. Fund raising through consultancy and project work with the help of Strong Alumni network.
2. Development of e-resources
3. Encouragement for pursuing research.
4. Potential to establish Center of Excellence in collaboration with Industries

D. Challenges:

1. Computer is dynamic and ever changing field so continuous improvement of staff and Students with latest and updated Techniques and technologies.
2. To develop a strong partnership with local industry.
3. To get national and international grants for research projects.

4. To increase interdisciplinary projects.

E. Future Plans

1. NAAC and NBA Accreditation
2. To commence Certification Programs and initiate Software Incubation Center Services in collaboration with industries/institutes with national repute.
3. Planning to apply for major/minor research projects to research and Government Institute like DRDO, DST, and AICTE.
4. Signing MOUs with core companies.
5. Planning for Centre of Excellence Labs.
6. Research centre Ph.D.
7. Consultancy services.
8. Implement Lab as Museum.
9. Project Implementation focus on inhouse JSPM Satellite .
10. To make the Department vibrant and a Hub for 'Entrepreneurship' and 'Placement' with the help of Alumni.

Evaluation Report of Electrical Engineering

1. Name of the department : Electrical Engineering

2. Year of Establishment : 2007-2008

3. Names of Programs / Courses offered:

Sr. No.	Name of the program	Year of Establishment
1	UG- Electrical Engineering	2007-2008

4. Names of Interdisciplinary courses and the departments/units involved

Sr. No.	Sem	Name of Interdisciplinary course	Department Involved
1	IV	Mathematic-III	Engineering Science

5. Annual/ semester/choice based credit system (program wise):

Sr. No.	Name of the program	Pattern/System
1	UG- Electrical Engineering	Semester pattern (Credit system implemented from (2015 course) from A.Y 2015-16)

6. Participation of the department in the courses offered by other departments

Sr. No.	Name of the Department	Class	Courses offered
1	Engineering science	FE	Basic Electrical Engineering
2	E&TC	SE	Electrical Circuits And Machines
3	MECH	SE	Electrical And Electronics Engineering

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No.	Certificate/Course Name	Collaborating Institution /Industry/Universities etc.
1	PLC SCADA Workshop	JNC Technology

8. Details of courses/programs discontinued (if any) with reasons: Nil

9. Number of teaching posts:

Post	Sanctioned	Filled
Professors	01	01
Associate professors	02	03
Assistant professors	10	10

10. Faculty profile with name, qualification, designation, specialization, D.sc/D.Litt/Ph.D/M. phil.

Sr. No.	Name of the Faculty	Designation	Qualification	Area Of Interest	Total Experience
1	Prof .N.G. Padulkar	HOD (Asso. Professor)	M.E Electrical	Control System	29
2	Prof. M. D. Takale	Professor	M.E. Electrical	Power system	30
3	Dr.Prof. V. M. Bugade	Asso. Professor	PH.D.	Power system	22
4	Dr. Prof .P. N. Gokhale	Asso. Professor	Ph .D.	Electrical Power And Control	22
5	Prof .P. N. Todkar	Asst Prof	M.E (Pursuing)	Power System	17
6	Prof. P. D. Shinde	Asst Prof	M.E Electrical	Control System	5
7	Prof .N. V. Tayade	Asst Prof	M. Tech.	Power System	4
8	Prof .D .Padhi	Asst Prof	M.E Electrical	Power Electronics And Drives	6
9	Prof. K. N.Nandargi	Asst Prof	M.E Electrical	Power Electronics And Drives	5
10	Prof .J. T	Asst Prof	M. Tech.	Electrical	5

	.More			Power System	
11	Prof S.H. Phand	Asst Prof	M.E Electrical	Energy & Environment Engg	1
12	Prof. A. A. Shinde	Asst Prof	M.E Electrical	Power System	4.6 Years
13	Prof. S. D. Gadekar	Asst Prof	M.E Electrical	Electronics	3.5 Years
14	Prof. R. K. Yadav	Asst Prof	M. Tech.	Power Electronics	5 Years

No. of Ph.D. Students guided for the last 4 years: NA

Total number of faculty=12

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (program wise) by temporary faculty: Nil

13. Student -Teacher Ratio (program wise:

Sr. No	Program	Student -Teacher Ratio
1	UG	13:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Staff details	Sanctioned	Filled
Academic Support staff (Technical)	02	02
Administrative Staff	02	02

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.:

Ph.D.	PG	UG
2	12	0

16. Number of faculty with ongoing projects from National and International funding agencies and grant received: Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil

18. Research Centre /facility recognized by the University: Nil

19. Publications:

Total paper published by faculty: **35**

Total paper published by students: **08**

Sr No	Parameters	Total
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	05
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus , Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host etc)	02
3	Monographs	Nil
4	Chapter in Books	Nil
5	Books Edited	02
6	Books with ISBN/ISSN numbers with details of publishers	Nil
7	Citation Index	Nil
8	SNIP	Nil
9	SJR	Nil
10	Impact factor	6.2
11	h-index	Nil

20. Areas of consultancy and income generated: Nil

21. Faculty as members in

a) **National committees: Nil**

b) **International Committees: Nil**

c) Editorial Boards:

Name of the faculty	Name of Journal/ conference/ magazine/ news paper
Dr. Prof. P. N. Gokhale	<ul style="list-style-type: none"> Reviewer of IEEE Transactions on Smart Grid. Reviewer of Indian Journal of Science and Technology

d) Any other committee:

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Dr. Prof. P. N. Gokhale	Entrepreneurship Development Cell	Secretary
2	Dr. Prof. P. N. Gokhale	Subject chairman, Paper Setter, SPPU	Subject chairman

22. Student projects

Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies

Program	Academic Year	No of projects	Percentage of in-house projects	Percentage of sponsored projects
UG	2014-15	19	100%	Nil
	2013-14	17	100%	
	2012-13	20	100%	
	2010-12	42	97.61%	2.39%

23. Awards and recognition received by Faculty and students

Total Number of students awards	Total Number of Faculty awards
26	04

24. List of eminent academicians and scientists / visitors to the department

Sr. No.	Name of eminent academicians, scientists, visitors	Association/Affiliation	Purpose of visit
1	Dr. G. S .Mani	IEEE Chairman IEEE Pune Section	TDCS-judge

2	Dr. Khurjekar	IEEE Vice Chairman IEEE Pune Section	JUDGE AT TECHMANT HAN EVENT
3	Dr. S. N. Bakare	MSETCL, Superintendent Engg. Trainee	Conference key note person
4	Dr. A. K. Singha	IEEE, Retired ISRO Professional	TDCS
5	Mr. Rahul Jagtap	Head IT officer, PMC	Conference key note person

25. Seminars/ Conferences/Workshops organized & the source of funding:

Sr. No	Year	Name of FDP / SDP / STTP / Workshop/ Webinar	National/ International	Sponsoring / Funding Agency if any
1	2015-16	Conference on "IET"	National	BCUD + IEEE Communication Society
2	2016-17	TDCS-2016	National	IEEE Pune chapter
3	2016-17	FDP	-	TSSM, Narhe
4	2015-16	FDP	-	RSCOE , Tathode
5	2014-15	FDP	-	JSCOE, Hadapsar

26. Student profile program/course wise:

Name of the Course/program		Applications received	Selected	Enrolled		Pass percentage
Course	Year	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra.		M	F	
UG	2015-16			37	10	-
	2014-15			35	10	-
	2013-14			41	9	-
	2012-13			51	4	98.89

27. Diversity of Students

Name of course/program		% of students from the same state	% of students from other states	% of students from abroad
Course	Year			
BE Electrical	2015-16	90.28	9.72	0
	2014-15	97.88	2.12	0
	2013-14	100	0	0
	2012-13	98.11	1.89	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.

Sr. No	Competitive Examinations /Academic	No of Students			
	Year	2012-13	2013-14	2014-15	2015-16
1	GATE	NIL	03	01	02
2	GRE/TOEFL	NIL	NIL	01	NIL

29. Student progression

Student Progression	Average Percentage of last four batches
UG to PG	5.57
PG to M.Phil	Nil
PG to Ph.D	Nil
Employed <ul style="list-style-type: none"> Campus Selection Other than Campus Recruitment 	13.93 59.25
Entrepreneurship/Self-employment	3.48

30. Details of infrastructural facilities**a) Library:**

Department specific titles, books, journals volumes are available in the central library. Details are as follows:

Sr. No.	Particulars	Number		Total
		Department Library	Central Library	
1	Titles	152	262	414
2	Volumes	171	3473	3644
3	National Journals	-	04	04
4	International Journals	-	02	02
5	CDs	-		93
6	e-Books and e-Journals	-		407

b) Internet facilities for Staff & Students

All staff and students are made available with computers with **high speed 48 MBPS** internet facility.

c) Class rooms with ICT facility

Adequate number of class rooms and Seminar Hall for lectures (core/electives), seminars, and tutorials with LCD projector and wired and Wi-Fi internet connections. A video conferencing room is shared and another with a capacity of 100 is exclusively with the department of Information Technology. Facilities are provided to each and every student for self-learning and specific learning. Effective use of MOODLE software and NPTEL online coerces ensures e- learning and collaborative learning facilities.

d) Laboratory details:

Sr.no.	Name of the lab	Major equipment's in department
1	Electrical Machine Lab	1. D.C. Shunt Motor 5H.P, 230V, 1500RPM coupled to 3 KW generators. 2.Three phase slip ring Induction motor 3.Synchronos motor 4. Three phase salient pole alternator.
2	Power System Lab	Long Transmission Line
3	Power Electronics Lab	3-ph Converter (R,RL,RLE Load) & Firing circuit for 3 -ph converter 3Phase HV Thyristor

		Control trainer
4	Microprocessor Fundamentals & Application .Lab	LABTOOL-48UXP Intelligent Universal Programmer with USB & Parallel Port Interface
5	SGP Lab	1. Simulation Model for Merz-price protective of alternator. 2.Switchgear / Protective relay testing kit
06	Computer lab	GMC make 7.5 KVA online UPS
07	PLC Lab	Allen Brately (Software) Micro ogix 1400 PLC, Control Panel , Software Logix 500
08	Power Quality lab.	3-phase power quality analyzer Mode 3197. Make- Hioki

31. Number of students receiving financial assistance from college, university, government or other agencies.

Sr. No	Year	No of students			
		College	University	Government	Other agencies
01	2015-16	NIL	NIL	150	-
02	2014-15	NIL	NIL	151	-
03	2013-14	NIL	NIL	134	-
04	2012-13	NIL	NIL	138	-

32. Details on student enrichment programmes (special lectures / workshops /seminar) with external experts.

Year	Name of Enrichment programs	Name of External Expert	Organization
2015-16	PLC SCADA Workshop	Mr. Jyotindranath Choudhary	JNC Technology
	Entrepreneurship Development	Dr.Priya gokhale	Entrepreneurship Development

	Program		cell, JSCOE.
	Workshop on designing of solar PV system	MR .Ajmera	Organized under EESA
2014-15	PLC SCADA Workshop	Mr. Sandesh Dumal	Prolific automation Pvt. Ltd.
	SOFT SKILLS WORKSHOP	Mrs. Rashmi Marathe	organized under EESA
2013-14	PLC SCADA Workshop	Mr. Jyotindranath Choudhary	JNC Technology
2012-13	ROBOT C Workshop	Mr.Ritesh Shah	ARK Technologies
	PLC SCADA Workshop	Mr. Sandesh Dumal	Prolific automation Pvt. Ltd.

33. Teaching methods adopted to improve student learning

Department prepare time table which includes theory and practical along with tutorial by considering university academic calendar .Every staff member prepare teaching plan which includes lecture wise topic plan ,planning for assignment ,internal test ,expert lectures and industrial visits . Faculty deliver lectures using chalk and talk, ppts, quiz , Group discussion, role plays. For slow learning students extra lectures and assignments are given for improvement. Videos from The National Program on Technology Enhanced Learning (NPTEL) of the subject related topics are shown to enhance understanding. Mini project work and assignments for specific subject Course material which includes presentations, case studies, lecture notes, lab manuals, code etc are provided with help of Moodle. .Brainstorming sessions for electives offered for BE students.. Mock, preliminary exams and assignments are given to students for practice.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Department is always focuses on participation in institutional social responsibilities by organizing,

- Blood donation camp (2013-14)
- NSS organizes residential Camps in rural areas every year .
- To increase social awareness , students Participated in traffic control activity and tree plantation .

- Students are giving their inputs for smart city project funded by government .

35. SWOC analysis of the department and Future plans

Department is highly committed towards student growth .Timely enhancement are done in department activities to achieve specific attainment levels.

Strength	Weakness
Well equipped laboratories, hardworking and experienced staff.	Maximum Students are interested towards IT/Software sector and very few companies are available from core sector
Relevant and collaborative with current industrial and research practices.	Lack of MOU's, Lack of availability of skilled personals from industry, Competitive exams to be focused,
Effective teaching, excellent academics, Good in house UG projects, consistent industrial visits.	Communication skill of students, industry interaction, Collaboration with the industry,
University Rankers , excellent University results	Less awareness among students about industrial scenario Less awareness among society about Electrical Engineering Branch.
Devoted teaching, organizing guest lectures, short term workshops for students and industrial visits	
Knowledge and continuous updating professional requirement ,experienced faculty	
Electrical Power System , Electrical Machines ,Control system, Power electronic and drives	
Opportunities	Challenges

Introducing new teaching learning platform like Moodle , NPTEL online courses, E-learning resources.	Awareness among students about future trends in electrical, To develop trained and skilled students required by Industry, More exposure of students to advance techniques adopted by Industry.
More training and placement, Development in software related to Electrical Engineering, More jobs in Non-conventional Sectors.	More focus on placements and entrepreneurship development,
Entrepreneurship development in India, more clean and green energy demand.	To full fill the energy demand in future, more trends of students towards IT sector .
Making students eligible for higher studies in renowned institutes and providing them more number of job opportunities.	

Future plan:

- Providing better platform for job opportunities
- Create a healthy environment for competitive examination like GATE, GRE, civil services.
- Increase the research oriented projects by interaction with industries and experts.
- Collaboration with industries related to research and MOU .

Evaluation Report of Electronics & Telecommunication Engineering

1. Name of the Department: Department of Electronics and Telecommunication Engineering

2. Year of Establishment: 2004

3. Names of Programs/ Courses offered:

Sr. No	Name of the program	Year of Establishment
1	UG-BE in Electronics and Telecommunication Engineering	2004
2	PG-ME in Electronics (Digital systems)	2012

4. Names of Interdisciplinary courses and the departments/units involved:

Sr. No.	Semester	Name of Interdisciplinary Course	Department Involved
1	III	Data structure and algorithms	Computer
2	III	Electric circuits and machines	Electrical
3	IV	Object Oriented Programming	Computer
4	IV	Mathematics III	Engineering science
5	VII	PLCs and Automation	Instrumentation

5. Annual/ semester/choice based credit system (program wise):

Sr. No	Name of the program	Pattern/System
1	UG-BE in Electronics and Telecommunication Engineering	Semester pattern, credit system implemented from (2015 course) from A.Y 2015-16.
2	PG-ME in Electronics (Digital systems)	Credit system implemented from (2013 pattern) A. Y.2013-14

6. Participation of the department in the courses offered by other departments:

Sr. No.	Name of the Program	Class	Courses offered
1	First year Department	FE	Basic Electronics Engg.

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No.	Certificate/Course Name	Collaborating Institution /Industry/Universities etc.
1	PLC, SCADA and Automation	Collaboration with Kadam Associates
2	Linux	MOU with JETKING
3	Computer Networking	MOU with JETKING
4	Training Program	Collaboration with APART

8. Details of courses/programs discontinued (if any) with reasons: NIL

9. Number of teaching posts:

Post	Sanctioned	Filled
Professors	3	4
Associate Professors	5	5
Assistant Professors	22	21
Total	30	30

10. Faculty profile with name, qualification, designation, specialization, D.Sc/D.Litt./Ph.D.,M.Phil. etc

Sr. No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
1	Dr. D. B. Salunke	Ph D(Electronics and Communication) M. E.(DE)	HOD & Professor	Electronics, communication, Antenna, VLSI	23	
2	Dr. P M. Patil	PhD (Electronics & Computer) M.E.(Electronics)	Professor	AI, ANN, DIP, PR, PE	28.5	11 +3+5= 19
3	Dr. A P. Rao	PhD(Luminescent), Msc (Solid state)	Professor	Optoelectronics	28	
4	Dr.S B Mohite	PhD(E&TC), M.E.(E&TC)	Professor	Embedded system, PE	13	
5	M B Tadwalkar	Ph.D(Pursuing), M.E.(Electronics)	Asso. Professor	Communication,	30	
6	V M Sardar	PhD Pursuing, M.E.(Electronics)	Asso. Professor	VLSI, Signal Processing	17	
7	C A Manjare	Ph.D(Pursuing), M. E. [Electronics], BE[Electronics]	Asso. Professor	Signal Processing	21	

8	P A Kalyankar	Ph.D. (Pursuing), M. Tech [Electronics] BE[Electronics]	Asso. Professor	Image Processing	15	
9	S M Hambarde	Ph.D. (Pursuing), M.E.(E&TC), BE(E&TC)	Asso. Professor	Image & Signalprocessing	13	
10	T S Mote	M.E.(E&TC), BE(E&TC)	Assistant Professor	VLSI, Communication	11	
11	S B Patil	M.E. (Elex), B.E.(Elex)	Assistant Professor	VLSI, Embedded	11	
12	D G Ingale	M.E.(Elex.) BE(E&TC)	Assistant Professor	Image Processing	9	
13	S M Pange	M.E. (Elex), B.E.(Elex)	Assistant Professor	Image Processing	9	
14	M B Hankare	M.E.(E&TC) BE(E&TC)	Assistant Professor	Microwave	7	
15	Hina Naaz	ME(comm), BE(E&TC)	Assistant Professor	Communication Systems	11	
16	V V Lembhe	M.E. (Elex), B.E.(Elex)	Assistant Professor	VLSI, Embedded Systems	7	
17	S V Malewar	M.E. (Elex), B.E.(Elex)	Assistant Professor	Signal Processing	10	
18	S S Taware	M.E.(E&TC) BE(E&TC)	Assistant Professor	VLSI, Embedded Systems	7.5	
19	B S Biradar	Ph.D.(Pursuing), MTech (Comm S)BE[E&TC]	Assistant Professor	Communication Systems	10	
20	S M Kshirsagar	M.E. (Elex), B.E.(Elex)	Assistant Professor	Communication	6	
21	S A Wakure	M.E.(E&TC) BE(E&TC)	Assistant Professor	Image Processing	5	
22	S S Dhamal	M.E. (Elex), B.Tech.(Elex)	Assistant Professor	VLSI, Embedded Systems	3	
23	P D Awate	M.E. (DIGITAL SYSTEM) BE(E&TC)	Assistant Professor	VLSI, Embedded Systems	5	
24	Y P Joshi	M.E. (DIGITAL SYSTEM) BE(E&TC)	Assistant Professor	Embedded Systems	4	
25	S S Pawar	M.E. (DIGITAL SYSTEM) BE(E&TC)	Assistant Professor	Power Electronics	5	
26	S B Jagtap	M.E. (DIGITAL SYSTEM)	Assistant Professor	VLSI, Embedded	6	

		BE(E&TC)		Systems		
27	S S Jawe	M.E.(E&TC) BE(E&TC)	Assistant Professor	VLSI, Embedded	8	
28	A S Manjare	BE(Instrumentation)	Adjunct Faculty	Control system, PLC	27	
29	D L Patil	BE (Mechanical)	Adjunct Faculty	Die and Mould machines	23	
30	P P Patil	M Tech (Metallurgy)	Adjunct Faculty	Research and development	9	

11. List of senior visiting faculty: Nil**12. Percentage of lectures delivered and practical classes handled(program wise) by temporary faculty: Nil****13. Student Teacher ratio(Program wise):**

Sr. No.	Program	Student - Teacher Ratio
1	UG-BE in Electronics and Telecommunication Engineering	14:1
2	PG-ME in Electronics (Digital systems)	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Staff Details	Sanctioned	Filled
Academic Support and Administrative Staff	3+1+5 (Lab assistant + Administrative staff + Peon)	3+1+5

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG:

Ph.D.	PG	UG
4+6*	17	3

*Ph D pursuing

16. Number of faculty ongoing projects from National and International funding agencies & grants received:

Name of funding Agencies	National/ International	Grants received	Faculty involved	Year
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BCUD	National	2,80,000	4	2014-17
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17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:

Sr. No	National /international	Name of faculty	Title	Project funded by	Grants received (Rs.)	Date of completion
1	National	Kalyankar P A	Development of brain tumor detection algorithm Based on MRI images	BCUD	1,40,000	2014-16
2	National	Manjare C A	Prosody generation in text to speech synthesis for Marathi speech signal	BCUD	1,40,000	2016-18

18. Research centre/facility recognized by University: Nil

19. Publications:

Sr. No.	Parameters	No.
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	122+80
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	18
3	Monographs	-
4	Chapter in Books	-
5	Books Edited	-
6	Books with ISBN/ISSN numbers with details of publishers	5
7	Citation Index	88 1
8	SNIP	-

9	SJR	-
10	Impact factor	17
11	h-index	13

20. Areas of consultancy and income generated: Nil

21. Faculty as members in

- a) National committees
- b) International Committees

Sr. No	Name of the faculty	Name of the committee	Nature of work/description
1	Dr. P. M. Patil	AICTE, BOS, LIC	Scrutiny for new college and Document verification Syllabus design Academic Monitoring
2	Dr. D. B. Salunke	BOS, LIC	Syllabus design Academic Monitoring
3	Mote Tushar Suresh	IEEE Pune section	Secretary, Education Society
4	Hankare Manisha Balasaheb	Institution of Engineers	Graduate Member

Reviewer in Journal:

Name of the faculty	Name of Journal/ conference/ magazine/ news paper
Dr. P. M. Patil	Reviewer for IEEE transaction, Springer
Prof. Manjare C A	Reviewer for Springer's Journal
Prof. Manjare C A	Reviewer for CoCOON conference
Prof. Kalyankar P. A.	Reviewer for CoCOON conference

c) Editorial Board: Nil

d) Any other Committee:

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Prof. Tadwalkar Milind B.	Subject chairman,	subject chairman and paper setter for UG: MC PG: WMT

2	Prof. Manjare C A	Subject chairman, Paper Setter, SPPU for UG and PG	Subject chairman as well as paper setter for UG: SS PG: ACA
3	Prof. Kalyankar P A	Subject chairman, Paper Setter, SPPU for UG	Acting as a subject chairman as well as paper setter for UG: ETL
4	Prof. Taware Sachin S.	Subject chairman, Paper Setter, SPPU for UG	Acting as a subject chairman as well as paper setter for UG: MEMS & SOC

22. Student projects

Percentage of students who have done in-house projects including inter departmental/ program.

Percentage of students placed for projects in organizations outside the institute i.e. in Research laboratories/Industry/ other agencies.

Program	Academic Year	Percentage of in-house projects	Percentage of Projects outside the Institute
UG	2015-16	96.75	3.27
	2014-15	95.66	4.34
	2013-14	86.28	13.72
	2012-13	94.45	5.55
PG	2014-15	87.5	12.5
	2013-14	92	8
	2012-13	-	-
	2011-12	-	-

23. Awards/Recognitions received by faculty and students()

Total number of students awards	Total number of faculty awards
30	A patent is awarded to one faculty.

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Name of eminent, academicians, scientists, visitors	Association/Affiliation	Purpose of visit
1	Dr. A. K. Sinha	Former member of ISRO	Lectures on “Revolution in Engineering Technology”
2	Col. Swami Das Sinha.	Class-I Army officer	“Opportunities and preparation for Engineering Graduates at Army/Navy/Air force of Govt. of India”
3	Mr. Pranav Shukla,	A Stronic Technosystem LLP , Bhosari, Pune	Workshop PCB Designing Using ORCAD
4	Mr. Vinod Shankar	Chairman Orlando Foods Pvt. Ltd	Inauguration of E.D. Cell
5	Mr. Jitendra Date	Founder, President & CEO - ARJ GROUP	Expert lecture Report for Industrial Management

c) International : Nil

25. Seminars/ Conferences/Workshops organized & the source of funding

Following table gives year wise details of events conducted in department for students

Sr. No	Name of the Society	Event organized	Date(s)	Year
2016-17				
1	TESA	Induction program to know your seniors.	12 th Sept. 2016	SE TE
2015-16				
2	IEEE	Lecture on “Revolution in Engineering Technology” on Dr.A.K.Sinha (Former member ISRO) and	5 th Feb. 2016.	BE
3	IEEE	Two day National Conference “IIET”	10 th & 11 th March 2016.	BE

2015-16				
1	IEEE	Workshop on PCB Designing Using OrCAD at Hadapsar Campus on Saturday	11 th July 2015.	BE
2	IEEE	“IEEE India Strategic Initiative Entrepreneurship Committee”	25 th July 2015	ALL

Sr. No	Name of the Society	Event organized	Date(s)	Year
2014-15				
9	IEEE	WORKSHOP on “Hands on Workshop for ARM-7 and Raspberry pi “.	19 th and 20 th March 2015	TE
10	IEEE	A one day Seminar on “Android and Apple MacOS Development“.	27 th March 2015	T E

26. Student profile program/course wise:

Name of the Course/Program		Applications received	Selecte d	Enrolled		Pass Percentag e
Course	Year			*M	*F	
UG	2016-17	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra.	40	22	18	Currently in FE
	2015-16		23	18	05	Currently in SE
	2014-15		33	19	14	Currently in TE
	2013-14		77	47	30	Currently in BE
	2012-13		102	67	35	97.4%

PG	2016-17		08	01	07	Currently in First year
	2015-16		18	03	15	Currently in Second year
	2014-15		24	05	19	95.33%
	2013-14		24	08	16	86.4%
	2012-13		25	06	18	86.4%

27. Diversity of students:

Name of the Course/program		% of students from the same state	% of students from other states	% of students from abroad
Course	Year			
UG	2016-17	95.23	4.76	0
	2015-16	95.83	4.16	0
	2014-15	91.66	8.33	0
	2013-14	97.46	2.53	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, defence services, etc.?

Competitive Examination /Academic Year	No of successful Students			
	2012-13	2013-14	2014-15	2015-16
GATE	3	4	10	2
GRE/TOEFL	1	3	1	0
GMAT/CMAT	2	0	0	0
NET/SET	0	0	0	0
Civil services	1	0	2	1
Defense services	0	0	0	0
Others	1	0	2	0

29. Student Progression:

Student progression	Against % Enrolled			
	2012-13	2013-14	2014-15	2015-16

	(102)	(118)	(151)	(130)
UG to PG	3%	2.8 %	2.6%	5%
PG to Ph.D.	0	0	0	0
Employed				
Campus selection	14 %	18 %	14%	11%
Other than campus recruitment	80 %	73 %	75.3%	25%
Entrepreneurship/Self-employment	0	0	1.5%	1.5%

30. Details if infrastructural facilities:

a) Library

Sr. No	Particulars	Number
1	Titles	622
2	Volumes	2543
3	National Journals	08
4	International Journals	04
5	CDs/Hard disk	100
6	e-Books and e-Journals	01 07

b) Internet facilities for Staff & Students

Name of the Internet provider	Bharat Sanchar Nigam Ltd.(BSNL)
Available bandwidth	48 Mbps
Wi Fi availability	Wi Fi facility is available
Internet access in labs, classrooms, library and offices of all Departments and staff offices.	Department has 100 desktop computers in laboratories, classrooms, library, college office. All these machines are connected by LAN. Internet access is available on all these machines.
Security arrangements	All machines are connected to the main Cyberom server.

c) Class rooms with ICT facility

Adequate number of class rooms for lectures (core/electives), seminars, and tutorials with LCD projector and Wi-Fi internet connections. Fully furnished Seminar hall with LCD projector and Wi-Fi internet connections to conduct Department programs. A video conferencing room is shared with other department. Adequate facilities are provided to each and every student for self-learning and specific learning. Effective use of MOODLE software ensures e -learning and collaborative learning facilities.

d) Laboratories

Sr. No.	Name of Lab	Major Equipment in the lab
1	Microprocessor and Microcontroller Lab(B-405)	1.Intel(R) Pentium CPU G3240 109 GHZ 2 GB RAM 500 GB HDD PS2 Keyboard, Mouse, 18.5 Inch ACER Veriton Monitor 2. ACER Computer Desktop SetVeriton M200 -A8-7600] A-55 /2GB RAM /500 GB HDD /DOS /Keyboard /Mouse /USB/No.ODD /18.5 Blacklil LED Monitor 3. Spartan –III based DSP in VLSI Trainer Model:MX53FK-DSP Sr No DSP00200802007 4.PIC_V1.2(PIC Microcontroller Development Board) 5. Simulation software for VHDL Language Sr. No. MXE 182330135 6.Microwind Package 3.1 include DSCH3 Schematic editor & simulator PIC 16 of modeler complier, SPICE extractor Microwind 3
2	Computer Lab Lab (B-413)	1.GMC make 7.5 KVA online UPS 2.TMS 320C6713 WITH CCS DSP STARTER KIT 3.Arm Development Board Micro A960 4. Intel Dual Core E5200 2.5 GHZ Intel G31 Motherboard IGB DDR RAM,160 GB HDD PS2 Keyboard /Mouse
3	PG Lab (B-513)	1. Intel(R) Pentium CPU G3240 3.109 GHZ 2 GB RAM 500 GB HDD PS2 Keyboard,Mouse, 18.5 Inch ACER Veriton Monitor 2. ACER Computer Desktop SetVeriton M200 -A8-7600] A-55 /2GB RAM /500 GB HDD /DOS /Keyboard /Mouse /USB/No.ODD /18.5 Blacklil LED Monitor
4	Research Lab (B-512)	1.HCL,Infinity 630 PDC Intel Dual Core IV,CPU 2.69 GHZ,2GB RAM,500 GB HDD PS2 Keyboard Mouse 18.5 Monitor

5	Computer Center (B-415)	1. Acer Power Comercial Desktop Processor Intel 2.5 GHZ 2MB Cache 500 MHZ FSB Motherboard 1GB Ram 160 GB HDD 17 Inch Flatron Monitor 2. Wipro Make Desktop Computer Intel Core 2 Duo 2.4 Ghz Processor 1 GB Ram 160 GB HDD CRT Monitor 3. Intel(R) Pentium CPU G3240 3.109 GHZ 2 GB RAM 500 GB HDD PS2 Keyboard, Mouse,
6	Instrumentation and Control Lab(B-406)	1.100MHz Colour digital Storage Oscilloscope 2. Spectrum Analyzer 3. PLC trainer
7	Communication Engineering Lab (B-416)	1.CRO (20MHz Model-INSTEK GOS-620 2. Spectrum Analyzer 3. 3GHZ Spectrum Analyzer with tracking generator Mono: GSP830+MAKE INSTECK
8	Analog Lab (B-509)	General Purpose Oscilloscope 3040
9	Digital Lab (B-510)	1.Logic Analyzer Model-480, ADM make pc based, 48 channel, 128 k mem'ICH with built in digital pattern generator 2.MT 9000 Microwave Test Bench 3. MT9001 Microwave Test Bench (Scientech) 4.Amitec Mech -Antenna Training Lab 5 Mhz –GHz with co-axial slotted line, 35 SmA AntennaS model ATS-20 5. Microwave set 1 6. Microwave set 2
10	IC & Power Lab(B-511)	General Purpose Oscilloscope 3040 Digital Storage Oscilloscope Dual Power Supply

31. Number of students receiving financial assistance from college, university, government or other agencies

Sr. No.	Year	No of students			
		College	University	Government	Other agencies
1	2016-17	NIL	NIL	269	
2	2015-16	NIL	NIL	335	-
3	2014-15	NIL	NIL	358	-
4	2013-14	NIL	NIL	341	-
5	2012-13	NIL	NIL	309	-

32. Details on student enrichment program (Special Lectures/workshops/ Seminar) with external experts

Year	Name of Enrichment program	Name of External Expert	Organization	Outcome
2015-16	Lectures on “Revolution in Engineering Technology”	Dr. A. K. Sinha	Former member of ISRO	Latest Technology in Engg. in communication field for satellite developments.
	Soft skill Workshop	Miss. Piyu	APPART education	Practice of English Language useful for Interview Skill.
2015-16	Workshop PCB Designing Using ORCAD	Mr. Pranav Shukla,	AStronic Technosystem LLP , Bhosari, Pune	In workshop modules like 1) Circuit design 2) Net list generation 3) foot print 4) Ready PCB layout in PDF.
	Seminar on “Future in E&TC”	Mr. Abhijit Murgunde and Mr.Saurabh Todkar,	Emmerson private limited.	Students got information about Various job opportunities in ENTC.
2014-15	Workshop on Embedded Linux	Mr. Suresh Patel	Jetking, Hadapsar	In Depth Knowledge of LINUX operating System.
	Workshop on Industrial Automation & PLC/SCADA	Sachin N. Kadam	“Sachin N. Kadam & Associates”	Hand on knowledge of handling Different types of PLC.
	Workshop on PCB Design	Mr. Pranav Shukla	Manager of Astronica	Get the knowledge about PCB making, circuit Testing for Projects.
	Expert lecture for Report on Industrial Management	Mr. Jitendra Date	Founder, President & CEO - ARJ GROUP	helpful for exposure of the students to Industrial scenario and Project selection.
	Expert lecture of ITCT Subject	Prof. Sharada N. Ohatkar	Assistant Professor, MKSSS's, Cummins College of Engineering for Women.	Understand different Algorithm required for coding Techniques.

33. Teaching methods adopted to improve student learning

Institute has developed IQAC to ensure improvements in quality of teaching learning process. IQAC has various committee formations to bridge the knowledge gap. To bridge these gaps, following activities are carried out for improvement of teaching learning process.

1. NPTEL videos, Simulation outputs, Online Virtual Labs, PPTs, datasheets and Charts are extensively used to extend the black board teaching.
2. Working prototype models are also shown in classroom.
3. Apart from syllabus teaching various surveys, group discussions and quizzes are also incorporated while teaching in classroom.
4. In the courses containing the laboratory experiments the students are encouraged to explore their ideas through the tools available in the laboratory.
5. The institute also encourages the e-learning through Moodle software platform.
6. Apart from classroom interactions training the students are also trained through workshops and industrial visits, paper presentations etc.
Industries, present papers, carry out in-house projects, and take up paper publication
7. Advance learner identification by GFM activity is regularly conducted for students.
8. Students are also involved in funded research projects namely DST, Kraft Powercon India Pvt. Ltd, Pune, ISRO-UoP and BCUD so that they obtain experience of working on live, challenging projects given by industry and research organizations.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Department organizes technical and social activities as binding to Society:

1. Project exhibition for Diploma and 12th students has been organized for awareness of different technologies.
2. Under IEEE dissemination activity, students visited to primary schools and demonstrated E&TC knowledge for real life applications.
3. NSS activity helps to contribute engineering students in social rural activities.
4. Girls health guidelines exclusively for women.
5. Blood donation camps organized in department.

35. SWOC analysis of the department and Future plan:

Strengths	Weaknesses
Effective teaching learning process which utilizes individual student's capabilities to full extent up to the last student.	No control on quality of students getting admitted.

Content beyond syllabus points are discussed by the teachers to bridge the curriculum gap by periodic expert lectures and workshops.	Due to decay in trades less admissions in spite of good academic outcomes.
Experienced, qualified, stable and dedicated staff	Less number of Electronics Core industries nearby Pune which affects in student's placement.
Well- equipped laboratories, stocked library and spacious ventilated classrooms.	Difficult to maintain consistency in Research
Opportunities	Challenges
The chances of good placements due to Govt. new policy "Digital India" mission.	Practical training for the fulfillment of industrial requirement.
Entrepreneurship development through Govt. policies in Non-conventional energy projects.	Technical events encouraging students for research projects for live applications.
Schemes like, Smart City Projects Metro Rails and IOT will be purely fulfilled by the Electronics and Telecommunication Engineers.	Inculcating multidisciplinary approach in order to work in all related domain
Participate in Satellite program run by Jayawant Shikshan Prasark Mandal (JSPM).	Multiple, curricular and extra-curricular activities in stipulated time and framework of SPPU

Future Plan:

- To improve research and development activities in the department by involving students in Research projects.
- To increase involvement of students in ICT based teaching learning process.

Evaluation Report of Information Technology

1. Name of the department : Information Technology

2. Year of Establishment : 2004

3. Names of Programs / Courses offered:

Sr. No.	Name of the program	Year of Establishment
1	UG in Information Technology	2004

4. Names of Interdisciplinary courses and the departments/units involved

Sr. No.	SEM	Name of Interdisciplinary course	Department Involved
1	III	Digital electronics & logic Design	Electronics & Telecommunication
2	IV	Processor Architecture and Interfacing	Computer, Electronics & Telecommunication
3	III	Digital Electronics Laboratory	Electronics & Telecommunication
4	IV	Processor Interfacing Laboratory	Computer, Electronics & Telecommunications
5	IV	Mathematics III	Engineering science

5. Annual/ semester/choice based credit system (program wise):

Sr. No.	Name of the program	Pattern/System
1	UG	Semester pattern, credit system implemented from (2015 course) from A.Y 2015-16.

6. Participation of the department in the courses offered by other departments

Sr. No.	Name of the department	Class	Courses offered
1	First Year Department	FE	Fundamentals of Programming Languages-I & II

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No.	Certificate/Course Name	Collaborating Institution /Industry/Universities etc.
1	Employability skill development Lab (TE IT – SEM-I Course) by SPPU	EMC company collaboration with university.
2	Training Program	Zensar ESD
3	Soft Skill development	Barclays Pvt. Ltd.
4	In-House Project development	Pantech Technology
5	Placement Enhancement	Pariksha.com

8. Details of courses/programs discontinued (if any) with reasons: Nil

9. Number of teaching posts:

Post	Sanctioned	filled
Professors	1	0
Associate professors	2	4
Assistant professors	10	10

10. Faculty profile with name, qualification, designation, specialization, D.sc/D.Litt/Ph.D/M.Phil.

Sr. No.	Name of the Staff	Designation	Qualification	Area of Interest	Total Experience	No. of Ph.D. Students guided for the last 4 years
1	Mr. Todkari Sachin.V.	HOD	M.E IT (Ph.D Pursuing)	Networking	Teaching - 10	NA
2	Mrs. Lambhate Poonam.D.	Asso. Prof	M.E COMP (Ph.D pursuing)	IR	Industry -2 Teaching - 16	NA
3	Ms. Patil Jyoti. S.	Asso. Prof	M.E IT (Ph.D pursuing)	Data Mining, Big data analytics	Teaching- 11	NA

4	Ms. Gupta Aruna. K.	Assoc Prof	M.Tech CSE	Mobile Computing	Teaching - 15	NA
5	Mrs. Ayachit Sumedha. U.	Asst Prof	M.E COMP	Data Mining	Teaching-10.8	NA
6	Ms. Gawali Madhuri. K.	Asst Prof	M.Tech Comp	Data Mining	Teaching-8	NA
7	Mrs. Deshpande Arati. V.	Asst Prof	M.Tech IT	Natural Language Processing, Image Processing	Teaching-11.9	NA
8	Mrs. Nannaware Suruchi. S.	Prof	ME Comp	Network	Teaching-8	NA
9	Ms. Kale Aarti. K.	Asst Prof	ME Comp	Data Mining	Teaching-5	NA
10	Mrs. Thorat Sukhada. S.	Asst Prof	ME Comp	Web Mining	Teaching-6.5	NA
11	Mr. Shastri Rakesh. V.	Asst Prof	M.Tech IT	Computer Network	Industry -2 Teaching-5	NA
12	Mr. Kalunge Vishwas. V.	Asst Prof	ME Comp	Image Compression Genetic Algorithm	Teaching-6	NA
13	Ms. Mankar Shraddha. P.	Asst Prof.	M.E IT	Network	Teaching-5.5	NA
14	Mr.S. V. Satav	Asst.Prof.	M.E.Comp	Network	System administrator-8.5	NA

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (program wise) by temporary faculty: Nil

13. Student -Teacher Ratio (program wise):

Sr. No	Program	Student -Teacher Ratio
1	UG	13:1

14. Number of academic support staff (Technical) and Administrative staff; sanctioned and filled:

Staff details	Sanctioned	Filled
Academic Support and Administrative Staff	5	5

15. Qualifications of teaching faculty with D.Sc/ D.Litt. /Ph.D. /M.Phil / PG.:

Ph.D.	PG	UG
3*	11	-

*pursuing Ph.D.

16. Number of faculty with ongoing projects from National and International funding agencies and grant received.

Sr. No.	National /international	Name of faculty	Title	Project funded by	Grants received (RS)	Date of completion
1	National	Prof. G. S. Mani	STAR (Synthesis of Thinned Antenna Array)	DRDO	7,00,000/-	2008-10
2	National	Prof. A. K. Gupta	Improving security using 3-D password	BCUD	1,20,000/-	2010-12
3	National	Prof. Aarti Deshpande	Interact with computer using Eyegaze	BCUD	50,000/-	2014-17
4	National	Prof.Sachin Todkari	Achieving reliability using mobile data collector in WS	BCUD	60,000/-	2014-17

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received.

Name of funding Agencies	National/International	Grants received(RS)	Faculty involved	Year
BCUD	National	9,30,000	4	2008-17

18. Research Centre /facility recognized by the University: Nil**19. Publications**

Sr. No.	Parameters	Total
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	70
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus , Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host etc)	1
3	Monographs	
4	Chapter in Books	
5	Books Edited	
6	Books with ISBN/ISSN numbers with details of publishers	2
7	Citation Index	12
8	SNIP	
9	SJR	
10	Impact factor	5.66
11	h-index	2

20. Areas of consultancy and income generated: Nil**21. Faculty as members in****a) National committees: Nil****b) International Committees: Nil****c) Editorial Boards: 2**

Name of the faculty	Name of Journal/ conference/ magazine/ news paper
Prof. P. D. Lambhate	CPGCON,IPGCON conference

d) Any other committee:

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Prof. P. D. Lambhate	Subject chairman, Paper Setter, SPPU	Acting as a subject chairman as well as paper setter for Discrete structure subject SEIT, SPPU.
2	Prof. Jyoti Patil	Paper setter, SPPU	BEIT subject, SPPU
3	Prof. Arati Deshpande	Paper setter, SPPU	TEIT subject ,SPPU

22. Student projects

Percentage of students who have done in-house projects including interdepartmental/program.

Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies.

Program	Academic Year	Percentage of in-house projects	Percentage of Projects outside the institution
UG	2015-16	68.42%	31.57%
	2014-15	44.44%	55.55%
	2013-14	41.17%	58.82
	2012-13	78.94%	21.05%

23. Awards and recognition received by Faculty and students

Total Number of students awards	Total Number of Faculty awards
30	2

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Name of eminent, academicians, scientists, visitors	Association/Afiliation	Purpose of visit

	Dr. G. Khillari	IEEE chairman, C-DAC	Chief guest for Techmanthan 2016 valedictory function
	Prof G. S. Mani	IEEE chairman ,PUNE	Workshop on “CAP TO CUP”
	Mr. Rahul Mishra	GTT Barclays	Workshop on soft skills
	Mr. Karan Kamble	Elementary Pvt Ltd	Project Guidance for How to select project domains
	Mrs. Rajashri Jain	WIE Chairman, IEEEpune chapter	Workshop on IOT and its applications
	Mr. Yogesh Chavan	IEEE Member, pune chapter	Workshop on IOT and its applications

25. Seminars/ Conferences/Workshops organized & the source of funding

Seminar conducted for students:

Sr. No.	Year	Module Description	Any other Contributory Inst./Industry	Develop or Organized by	Duration	Resource Persons	Targeted Audience
1	2012-13	Cloud Computing	Seed InfoTech	IT Dept JSCOE	03/02/13	Mr. Ibrahim	TE IT Students
2	2013-14	Seminar on GIS	JSPM	IT Dept JSCOE	27/1/14	Prof.G.S. Mani	BEIT students
3	2014-15	Seminar on Database Management system	PDEA COE pune	IT Dept JSCOE	05/8/15	Prof. Niraja Jain	TEIT students
4	2014-15	Seminar on Design Algorithm and analysis	Sinhgad Institute, Ambegaon	IT Dept JSCOE	20/03/15	Prof. Sushant Gote	TEIT students
5	2015-16	Seminar on Latex	JSPM	IT Dept JSCOE	17/3/16	S.B.Badhane	TE IT Students

Workshop arranged for students:

Year	Module Description	Any other Contributory Inst. /Industry	Develop or Organized by	Resource Persons	Targeted Audience
2012-13	Information Security & Cyber forensics	Cyber Cure	IT Dept JSCOE	Mr.RajatGarg Sangeet Chopra	TEIT and BEIT students
2013-14	Information Security & Cyber Forensics	Cyber Vault	IT Dept JSCOE	Anil Raj	TEIT and BEIT students
2014-15	TE-IT workshop on "Cyber Security"	'Cyber Vault Security Solutions Pvt. Ltd	IT Dept, JSCOE	Anil Raj	TE and BE IT Students
2015-16	1 day Workshop Big data and Hadoop	Clay system and services	JSCOE Institute	Atulphad	TEIT students
2015-16	1 day Workshop Internet of Things	Clay system and services	IT dept JSCOE	Atulphad	TEIT students
2015-16	Workshop on advance technique to write present research paper	Government Polytechnic, Karad	IT and computer department JSCOE	Dr.SanjayWagh Dr.P.N.Mahalle Dr.SunilThepade	Registered students from all colleges

26. Student profile program/course wise:

Name of the Course/program		Applications received	Selected	Enrolled		Pass Percentage
Course	Year			*M	*F	
UG	2016-17	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE),	55	31	24	Currently FE appearing
	2015-16		74	38	36	Currently SE appearing
	2014-15		64	32	32	Currently TE appearing
	2013-14		83	49	34	Currently BE appearing

	2012-13	Government of Maharashtra.	84	55	29	89.04
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27. Diversity of Students:

Name of course/program		% of students from the same state	% of students from other states	% of students from abroad
Course	Year			
2015	2016-17	94.54	5.45	0
2014	2015-16	91.89	8.10	0
2012	2014-15	95.31	4.68	0
2012	2013-14	97.59	2.40	0
2012	2012-13	97.61	2.38	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc?

Competitive Examinations /Academic Year	No of students			
	2012-13	2013-14	2014-15	2015-16
GATE	05	06	4	32
GRE/TOEFL	03	02	-	-
GMAT/CMAT	-	-	-	-
NET/SET	-	-	-	-
Civil services	01	-	-	-
Defense services	-	-	-	-
Others	01	-	-	-
	05	06	4	32

29. Student progression:

Student Progression	Against % enrolled			
Year	2012-13	2013-14	2014-15	2015-16
UG to PG	13.04	6.153	5.55	4.0
PG to M.Phil	-			
PG to Ph.D	-			
Employed	20.28	24.61	19.44	17.33
<ul style="list-style-type: none"> • Campus Selection • Other than Campus Recruitment 	52.17	52.30	61.11	20
Entrepreneurship/Self-employment	1.45	4.62	0.0	4.0

30. Details of infrastructural facilities**a) Library:**

Department specific titles, books, journals volumes are available in the central library. Details are as follows:

Sr. No.	Particulars	Number
1	Titles	883
2	Volumes	2259
3	National Journals	3
4	International Journals	3
5	CDs	400
6	e-Books and e-Journals	149

b)Internet facilities for Staff & Students

All staff and students are made available with computers with **high speed 48 MBPS** internet facility.

c) Class rooms with ICT facility

Adequate number of class rooms for lectures (core/electives), seminars, and tutorials with LCD projector and Wi-Fi internet connections. A video conferencing room facility is available. A seminar hall with seating capacity of 100 is exclusively with the department

of Information Technology. Adequate facilities are provided to each and every student for self-learning and specific learning. Effective use of MOODLE software ensures e - learning and collaborative learning facilities.

d) Laboratory details

Department comprises six major labs in which students practice daily with programming and designing skills. Lab details are as follows.

Sr. No.	Name of Lab	Lab Cost	Major Equipments
1.	Multimedia Lab	10,18,820	i) Acer Vention M200-5500 A55/2GB/500GB/HDD/
			ii) (01) D-Link 24port Switch.
			iii) (02) Printer Canon LBP2900
			iv) (01) Projector
2.	Digital lab	1,73,850	i) (16) Digital Trainer Kit
			ii) (01) Digital IC Tester
			iii) (01) IC Programmer
3.	Software Lab	6,34,811	Acer Vention M 200- 4 th Gen PDC G 3220/H81/2GB,500GB HDD
4.	Linux Lab	6,36,875	i) (HCL Infinity G-630 PDC Intel Dual Core 2.7 GHz (Second Generation Processor)RAM 2GB DDR3
5.	Project Lab	4,93,603	i) (20 computers) Intel PIV 2.66 GHz, 512MB RAM
6.	Internet Lab	9,16,623	i) (20 computers) Acer version M200-AB-7600 A55GBB/500 HDD/DOS Keyboard, Mouse, No ODD / 18.5” LED Monitor.

31. Number of students receiving financial assistance from college, University, Government or other agencies.

Sr. NO	Year	No of students			
		College	University	Government	Other Agencies
1	2016-17	NIL	NIL	98	NIL
2	2015-16	NIL	NIL	92	NIL
3	2014-15	NIL	NIL	79	NIL
4	2013-14	NIL	NIL	93	NIL
5	2012-13	NIL	NIL	93	NIL

32. Details on student enrichment programs (special lectures / workshops /seminar) with external experts.

Year	Module Description	Any other Contributory Inst. /Industry	Organized by	Resource Persons	Targeted Audience
2012-13	iphone	Seed InfoTech	IT Dept JSCOE	Mr. Amol	TE IT Students
2014-15	SE_IT _Soft Skill Programme	ACE language institute pune.	IT Dept, JSCOE, r	Bhagyawati Yadav	SEIT students
2015-16	Workshop of softskills	GTT Barclays	IT Dept JSCOE	Rahul Mishra	BEIT students
2016-17	Project development	Pantech softwares	IT Dept JSCOE	Mr. Ramesh	BEIT students
2015-16	Seminar on how to select Project Domains	Elementz solution	IT Dept JSCOE	Karan Kamble	TEIT students
2016-17	Ethical hacking and cyber forensics	JSPM	JSCOE	Mr. Balkrishna Jadhav	TEIT BEIT students
2016-17	Workshop on IOT and its applications	IEEE Pune chapter	JSCOE Institute	Mrs. Rajashri Jain Mr. YogeshChavan	All students of JSCOE

33. Teaching methods adopted to improve student learning

Originative Facile Approach, This new teaching learning approach is adopted by Department of Information technology as a pilot project to increase student's interest and excitement in learning.

The main Goal of OFA is to enhance student learning and achievement by reversing the traditional model of a classroom, focusing class time on student understanding rather than on lecture. To accomplish this, we have 6 hours class once in a week for a course. This allows class time to be devoted to expanding on and mastering the material through collaborative learning exercises, projects, and discussions. Also, dividing a class of 60 students into group of 20 and one faculty is teaching only one subject throughout a day.

S⁶ cycles of OFA

1. Start-starts activity for a batch of students for a scheduled course as per timetable
2. Sign-on- This Activity promotes students involvement in new topic in new excited way.
3. Seek it- This activity experiences tap into and activate student's prior knowledge.
4. Spilt out- This activity directs Instructions/Active Learning experiences, summarizations that implements content Knowledge.
5. Stretch It- This activity requires students to apply their understanding in new context and develop new ideas based on learned concept.
6. Size up- This activity experience enables both students and teachers to assess changes in ideas and development of new skills.

Student's interest is increased in attending sessions. Student experiences interest in lectures, more excitement and fun in learning. Continuous brainstorming sessions leads to generate innovative ideas and projects. This helps to attain the program and learning outcomes.

Institute provide e-learning platform MOODLE provided by JSPM for Digital content management. The faculty uploads his/her course material on e-learning platform which provide 24X7 learning support. Online tests are conducted using different software application like moodle, myexamo. An NPTEL online course, MOOC has been practiced to enhance learning and modern tool usage.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities
Department has student association named is ITSA through which different social activities are carried out such as career counseling at different regional schools and colleges, blood donation camp organized by Poona blood bank , street play arranged by TE students for woman empowerment, various competition, General health awareness for faculties ,health awareness for girl students, money and cloths donation for SindhutaiSapkal'sorphanage, Collections for Army welfare fund, collection for draught relief fund etc. Some of students and staff are working with NGOs like MSF for providing support healthcare in tribal areas. Students of IT department are participating different NSS activities like tree plantation, Swacch Bharat Abhiyan, Digital India organized by Government of India.

35. SWOC analysis of the department and Future plans

Strengths	Weaknesses
A.Highly qualified, committed, experienced and dedicated faculty. B. Good visionary management to take the institution to highest levels of quality. C. Well establish infrastructure. D. Transparent Governance and Administration. E. Personalized attention to every student. F. Good quality graduates (Active Alumni in India & abroad. The alumni are in coveted positions both in India & abroad). G.E-learning resources and OFA (originative Facile Approach)model as exemplars Good technical resources, training and placement activities, GFM systems.	A. Research activities should be strengthened. B. Communication skills of students should improved C. Less Institution- Industry interaction required more attention. D. Industrial consultancy & applied research should be strengthened.
Opportunities	Challenges
A. Enhance research activities through sponsored R&D projects. B.Research project aligned with industry C.Digital India, Make in India campaigning D. Enhance communication skills Establishing the center of excellence in emerging areas F. Networking with premier institutes &Industry for advanced, applied research & Academic interaction through MOUs.	A.Quality of incoming students B. Analytical thinking ability needs improvement. C. Students trends towards seeking admission to IT engineering D. Research based education E. Possibility of declining quality of students admitted because of the extremely large number of institutes that are being setup in nearby area.

Future Plan of Department

- Department is highly committed towards student's growth. Timely enhancement is done in department activities to achieve specific attainment levels.
- Enhance industry institute interaction through more MOUs and Industry supported Laboratories.

Evaluation Report of Mechanical Engineering

1. Name of the Department : Mechanical Engineering

2. Year of Establishment : 2004

3. Names of Programs / Courses offered:

Sr. No.	Name of the Program	Intake	Year of Establishment
1	UG-B.E.(Mechanical Engineering)	60 90 120 180	2004 2007 2008 2012
2	PG-M.E. (Heat Power) & M.E. (Design Engineering)	24 & 24	2012
3	Ph.D.-Mechanical engineering	8	2015

4. Names of Interdisciplinary courses and the departments/units involved:

Sr. No.	Semester	Course	Department Involved / Unit
1	III	Engineering Mathematics III	First Year Engineering Department
2	IV	Electrical & Electronics Engineering	Department of Electrical Engineering

5. Annual/ semester/choice based credit system (program wise):

Sr. No.	Program	Annual/ semester/choice based credit system
1	UG	Semester pattern, credit system implemented from (2015 course) from A.Y 2015-16.
2	PG	Semester pattern, credit system implemented from (2013 course) from A.Y 2015-16.

6. Participation of the department in the courses offered by other departments:

Sr. No	Name of the Department	Class	Courses offered
1.	Engineering Science	FE	<ul style="list-style-type: none"> • Engineering Graphics I • Workshop Practice • Basic Mechanical Engineering • Engineering Graphics II

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No.	Certificate/Course Name	Collaborating Institution /Industry/Universities etc.
1	Soft skill training program	Barclays
2	Aptitude Training Program	Gyanteertha Institute
3	Aptitude Training Program	APAART Institute
4	NX Software	3 M Solutions
5	Pro-E and ANSYS	Infinite Solutions
6	CFD in Heat Transfer	Helix Ingrated
7	Pro-E software	PTC Technology

8. Details of courses/programs discontinued (if any) with reasons : NIL**9. Number of teaching posts:**

Post	Sanctioned	Filled
Professors	6	05
Associate Professors	10	06
Asst. Professors	26	32
Total	42	43+5* (*5 faculty to FE)

10. Faculty profile with name, qualification, designation, specialization, D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)

Sr. No.	Name	Qualifications	Designation	Specialization	No. of years of experience	No. of Ph.D. students guided for the last 4 years
1	Dr. M. G. Jadhav	Ph.D.	Professor & Principal	Heat Power	33	3
2	Prof. (Mrs) Suneeta Phadkule	Ph.D. (Pursuing)	Associate Professor & V. Principal	Design	26	NA
3	Dr. P. A. Patil	Ph.D.	Professor & HOD	Heat Power	17	4
4	Dr. P. G. Kadam	Ph.D.	Professor	Design	18	NA
5	Dr. V. K. Bhojwani	Ph.D.	Professor	Heat Power	09	6
6	Dr. V. S. Jatti	Ph.D.	Professor	Design	8	NA
7	Prof. S. S. Kelkar	Ph.D. (Pursuing)	Associate Professor	Design	17	NA
8	Prof. M. K. Gaikwad	Ph.D. (Pursuing)	Associate Professor	Design	11	NA
9	Prof. (Mrs) P. E. Kosbe	Ph.D. (Pursuing)	Associate Professor	Design	11	NA
10	Prof. L. N. Mane	M. E. (Heat Power)	Associate Professor	Heat Power	12	NA
11	Prof. S. K. Maknikar	M. E. (Heat Power)	Asst. Prof.	Heat Power	18	NA
12	Prof. U. A. Malawade (FE)	Ph.D. (Pursuing)	Asst. Prof.	Design	8	NA
13	Prof. (Mrs) S. S. Ghadge	M. E. (Heat Power)	Asst. Prof.	Heat Power	5	NA
14	Prof. A. P. Kokare	M. E. (Design Engineering)	Asst. Prof.	Design	8	NA
15	Prof. (Mrs) M. A. Nalawade	M. E. (Design Engineering)	Asst. Prof.	Design	10	NA
16	Prof. F. H. Kharadi	M. E. (Design Engineering)	Asst. Prof.	Design	9	NA

17	Prof. P. V. Shah (FE)	M. E. (Design Engineering)	Asst. Prof.	Design	9	NA
18	Prof. S. B. Patil	M.Tech (META)	Asst. Prof.	Metallurgy	4	NA
19	Prof. S.S. Talwar	M. E. (Heat Power)	Asst. Prof.	Heat Power	4	NA
20	Prof. A. D. Lagad	M.E. (Production)	Asst. Prof.	Production	3	NA
21	Prof. S. S. Gawade	M.Tech (META)	Asst. Prof.	Metallurgy	8	NA
22	Prof. S. M. Shinde	Ph.D. (Pursuing)	Asst. Prof.	Design	9	NA
23	Prof. N. S. Chavan	Ph.D. (Pursuing)	Asst. Prof.	Automobile	10	NA
24	Prof. R. K. Siddheshwar	M.Tech (Thermal Power Engg)	Asst. Prof.	Heat Power	3	NA
25	Prof. N. U. Patil	M.Tech (CIM)	Asst. Prof.	CIM	3	NA
26	Prof. A. S. Bawane	M. E. (Heat Power)	Asst. Prof.	Heat Power	2	NA
27	Prof. P. P. Tale	M. E. (Design Engineering)	Asst. Prof.	Design	2	NA
28	Prof. R. S. Deore	M. E. (Heat Power)	Asst. Prof.	Heat Power	6	NA
29	Prof. R. A. Bhalerao (FE)	M. E. (Design Engineering)	Asst. Prof.	Design	4	NA
30	Prof. P. N. Patil	M. E. (Heat Power)	Asst. Prof.	Heat Power	4	NA
31	Prof. P. K. Bhuse	M. E. (Design Engineering)	Asst. Prof.	Design	2	NA
32	Prof. S. C. Bandekar	M.Tech (CAD/CAM)	Asst. Prof.	Design	2	NA
33	Prof. C. C. Mane	M. E. (Heat Power)	Asst. Prof.	Heat Power	3	NA
34	Prof. N. B. Nikhare	M. E. (Heat Power)	Asst. Prof.	Heat Power	2	NA
35	Prof. A. S. Athare	M. E. (Design Engineering)	Asst. Prof.	Design	2.5	NA
36	Prof. (Mrs) S. A. Dhanawade	M.E. (Design Engineering)	Asst. Prof.	Design	8	NA

37	Prof. M. B. Patil	M. E. (Design Engineering)	Asst. Prof.	Design	3	NA
38	Prof.(Mrs) N. D. Ranaware (FE)	M. E. (Heat Power)	Asst.Prof	Heat Power	4	NA
39	Prof. M. A. Shaikh	M.E. (Heat Power)	Asst. Prof.	Heat Power	2	NA
40	Prof. N. V. Kamlapure	M. E. (Heat Power)	Asst. Prof.	Heat Power	2	NA
41	Prof. G. N. Wakchaure (FE)	M. E. (Heat Power)	Asst. Prof.	Heat Power	4.5	NA
42	Prof. N .U. Alone	Ph.D (Thesis submitted)	Asso. Prof	Design	5	5
43	Prof. A.Y. Momin	BE(Mechanical)	Adjunct Prof.	MQC	25	NA
44	Prof. R.R. Askhedkar	ME Design Ph.D. (Pursuing)	Adjunct Prof.	Noise control	20	NA
45	Prof. Shivkumar Kalluriya	ME (Heat Power)	Adjunct Prof.	RAC	30	NA
46	Prof. P.D. Patil	BE (Mech)	Adjunct Prof.	Automobile	20	NA
47	Prof. R.H. Gamopadhye	BE (Mech), MBA	Adjunct Prof.	Automobile	20	NA
48	Prof. Sudhir Mali	ME (Design Engg)	Adjunct Prof.	Water Turbines	20	NA

11. List of Senior visiting Faculty: NIL

12. Percentage of lectures delivered and practical classes handled (program wise) by temporary Faculty: NIL

13. Student -Teacher Ratio (program wise):

Sr. No	Program	Student -Teacher Ratio
1	UG	15:1
2	PG	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Staff Details	Sanctioned	Filled
Academic Support and administrative staff	8	8

15. Q

Qualifications of teaching faculty with DSc/D.Litt/Ph.D./M.Phil/PG:

Qualifications	No. of Faculty
Ph.D.	5 +8*
PG	32
UG	3

*Pursuing-Ph.D.

16. Number of faculty with ongoing projects from National and International funding Agencies and grants received

a) National: 02

b) International: Nil

Sr. No.	Name of the faculty	Project funded by	Duration	Total grants received
1	Dr. V. K. Bhojwani	ISRO-UoP STC**	2016-19	15.52 Lakhs
2	Prof. U. A. Malwade	BCUD	2016-18	1.9 Lakhs
Total				17.42 Lakhs

** Grants sanctioned 22.1 lakhs

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:

Sr. No.	Name of the faculty	Project funded by	Duration	Total grants received (in Rs)
1	Dr. V. K. Bhojwani	Department of Science and Technology, Gov. of India*	2013-16 (Completed)	16.36 Lakhs
2	Dr. V.K. Bhojwani	IIT Mumbai ONGC	2017-2018 (Ongoing)	5,00,000/-

3	Dr. V.K. Bhojwani	ISRO-UOP	2016-2019 (Ongoing)	2,21,0000/-
4	Dr. V.K. Bhojwani	GOI	2013-2016 (Completed)	2,274,000/-
5	Prof. R.A. Solunke	BCUD- SPPU	2007-2009 (Completed)	1,50,000/-
6	Prof. (Ms) P.E. Kosabe	BCUD- SPPU	2007-2009 (Completed)	1,50,000/-
7	Prof. A.D. Sathe	BCUD- SPPU	2007-2009 (Completed)	90,000/-
8	Prof. M.J. Naidu	BCUD- SPPU	2009-2011 (Completed)	1,50,000/-
9	Prof. N.G. Narve	BCUD- SPPU	2009-2011 (Completed)	1,50,000/-
10	Prof. (Ms) Suneeta Phadkule	BCUD- SPPU	2011-2013 (Completed)	2,00,000/-

1. *Grants sanctioned 22.74 lakhs.
2. Project Completed and UC submitted to DST for final settlement in October 2016.

18. Research Center / facility recognized by the university:

YES

Savitribai Phule Pune University reference: CA/ 7196 dated 1 July 2014)

Renewal No.

CA/127 dated 7 July 2017

19. Publications:

Sr. No.	Parameters	Number
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	170
2	Number of publications listed in International Database (For E.g.: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	93
3	Patents Published	11
4	Monographs	-
5	Chapter in Books	-
6	Books Edited	-

7	Books with ISBN/ISSN numbers with details of publishers	-
8	Citation Index	57
9	SNIP	
10	SJR	
11	Impact factor	3.508 Max
12	h-index	4 max

20. Areas of consultancy and income generated:

Following students from various academic institutions have been working at JSCOE Research laboratory for completion of their dissertation work.

Sr. No.	Name of the Faculty / student	Organization	Program (UG /PG / PhD)	Revenue Generated
1	Prof. Sagar Mane Deshmukh	SKNCOE, Vadgaon, Pune	PhD	Academic support was provided. No charges applied.
2.	Prof. Amit Jomde	SAE, Kondhwa, Pune	PhD	
3.	Prof. Pralhad Tiplole	SAE, Kondhwa, Pune	PhD	
4.	Mr. Muddu Krishna	ALVA's Institute of Engg. & Tech.	M.Tech	
5.	Shrikant Dhavale	RSCOE, Tathawade, Pune	M.Tech	
6.	Vaibhav Walde, Amol Gojre, Amol Tekade, Ganesh Raut	SAE, Kondhwa, Pune	B. E.	
7.	Niramay Ketkar, Kiran Kolhe, Neeraj Jawale, Sanket Kale	SKNCOE, Vadgaon, Pune	B. E.	

21. Faculty as members in

- a) **National committees:** Nil
- b) **International Committees:** Nil
- c) **Editorial Board:** 3

Name of the faculty	Name of Journal/Conference/Magazine/News paper
Dr. P. A. Patil	Experimental Thermal and Fluid Sciences (Elsevier)
Dr. P. A. Patil	Journal of Basic and Applied Research international
Dr.	1. Journal of Mechanical Science and

Vijaykumar S. Jatti	<p>Technology, Springer Publisher.</p> <p>2. Engineering Science and Technology: an International Journal, Elsevier Publisher.</p> <p>3. Indian Journal of Engineering and Material Science, NISCAIR Publisher.</p> <p>4. Particulate Science and Technology, Taylor & Francis</p> <p>5. Materials and Manufacturing Processes, Taylor & Francis</p>
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d) Any other committee:

Sr. No.	Name of the faculty	Name of the committee/Role	Nature of work/description
1	Dr. M. G. Jadhav	SPPU-BOS member	Member- Subject Expert & LIC
2	Dr. V. K. Bhojwani	Sathyabama university, Chennai	BoS Member (External Expert)
3	Dr. P.A. Patil	SPPU-LIC	Member- Subject Expert
4	Dr. P.A. Patil	SPPU-Interview Panel	Member- Subject Expert
5	Prof. S. V. Phadkule	SPPU-Interview Panel	Member- Subject Expert

22. Student projects

Program	Academic Year	Percentage of in-house projects	Percentage of Projects Outside the institution
UG	2015-16	89.74	10.25
	2014-15	62.96	37.03
	2013-14	62.96	37.03
	2012-13	62.69	37.31
PG	2015-16	100	Nil
	2014-15	77.78	22.22
	2013-14	42.85	57.14
	2012-13	100	Nil

23. Awards / Recognitions received by faculty and students:

Total Number of students awards	Total Number of Faculty awards
64	1

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Name of the eminent academicians and scientists / visitors	Designation	Organization	Purpose of Visit
1	Dr. S. L. Bapat	Ex-HOD Mechanical,	IIT, Bombay	An expert lecture on “How to boost Research” at University level.
2	Dr. K. G. Narayan Khedkar	Chancellor,	MGM Institute of health Sciences	FDP held in December 2016.
3	Dr. C. Uttam	Head	ISRO-UoP-STC Cell	Visited research laboratory in the institute to monitor the progress of the ISRO sponsored project in the institute.
4	Dr. Sunil Kulkarni	Director	Emerson Climate Technologies, US	An expert lecture on Studying in US for pursuing higher education
5	Mr. Prasad Hirekar	Sr. Manager	Triveni Turbines	Steam Turbines
6	Mr. Rajesh Kulkarni	Dy. Manager	Thermax Pune	Energy Audit
7	Mr. Rushikesh Datar	Sr. Manager	Accurate Engg., Pune	Metrology and Quality control
8	Mr. Yuvraj Patil	Sr. Manager	Tata Motors	Automotive Heat Exchanger Design
9	Mukesh Hingwe	Sr. Manager	Whirlpool Pvt. Ltd., Pune	Refrigeration & Air Conditioning

25. Seminars/ Conferences/ Workshops organized & the source of funding

Year	Name of STTP/ FDP/ STP/ Workshops / Webinar etc.	Name of the collaborative institute/ Insudtry/	Dates of Workshop	Target Audience	Name of Sopnsor / funding agency	Revenue generated
2016-17	1 Day Student workshop for Hydraulics and Pneumatics in association with India soft technologies.	India soft Technologies	10 th September 2016	TE [Mech] Students	Self-Funded	3900/-
	1 Day Student workshop for Heat Transfer in association with Helix Integrated Learning.	Helix Integrated Learning	24 th September 2016	TE [Mech] Students	Self-Funded	2725
2015-16	1 Day Students workshop for Mechatronics in association with India soft technologies.	India soft Technologies	13 th February 2016	National	Self-Funded	NIL
2013-14	2 week FDP for JSPM faculties	JSPM	1 st -12 th December 2014	National	Self-Funded	NIL
2012-13	2 Day National Conference on “Inovations and imerging trends in Mechanical Engineering”	JSPM	21 st and 22 nd March 2013	National	SPPU	NIL

26. Student profile program/course wise:

Name of the Course or Program		Shift	Applications Received	Selected	Enrolled		Pass Percentage
Course	Year				Male	Female	
	2012-13	1st	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra		172	8	86.11 %
	2013-14	1st			170	10	Currently appearing in BE
	2014-15	1st			155	08	Currently appearing in TE
	2015-16	1st			158	09	Currently appearing in SE
	2016-17	1st			116	11	Currently appearing in FE

*NA - Not Applicable

Name of the Course or Program		Shift	Applications Received	Selected	Enrolled		Pass Percentage	Remark
Course	Year				Male	Female		
	2011-12	Design	NA		*NA	*NA		*NA
		HP			*NA	*NA		*NA
		Design	-80 % quota admission		23	01		Total 24

PG	2012-13	HP	process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra. - 20% quota admission filled through merit and entrance test	22	02		Total 24
	2013-14	Design		21	03		Total 24
		HP		19	05		Total 24
	2014-15	Design		19	05		Total 24
		HP		19	05		Total 24
	2015-16	Design	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra	14	10		Total 24
		HP		13	06		Total 19
	2016-17	Design		12	02		Total 14
		HP		04	00		Total 04

*NA - Not Applicable

27. Diversity of Students

Name of the Course or Program		Shift	% of Students from the same state **	% of students from other states **	% of students from abroad **
Course	Year				
	2011-12	1 st	123	03	NA
		2 nd	NA	NA	
	2012-13	1 st	123	03	
		2 nd	59	00	

UG	2013-14	1 st	125	01	
		2 nd	55	04	
	2014-15	1 st	120	05	
		2 nd	38	00	
	2015-16	1 st	120	05	
		2 nd	47	04	
	2016-17	1 st	86	03	
		2 nd	38	00	

** Number is taken instead of percentage.

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Competitive Examinations /Academic Year	No of Students			
	2012-13	2013-14	2014-15	2015-16
GATE	2	4	2	10
GRE/TOEFL	4	3	3	3
GMAT/CMAT	5	1	1	-
NET/SET	-	-	-	-
Civil services	-	-	-	-
Defense services	-	-	-	1
Others	-	-	-	-

29. Student progression:

Student progression	Against % Enrolled			
	2012-13	2013-14	2014-15	2015-16
UG to PG	9.2	16.5	35.93	1.72

PG to Ph.D.	0	0	0	0
Employed				
Campus selection	22.14	26.6	11.71	8.18
Other than campus recruitment	50.4	30.46	27.93	42.65
Entrepreneurship/Self-employment	-	0.7	-	0.4

30. Details of infrastructural facilities:**a) Library**

Sr. No.	Particulars	Number
1	Titles (UG+ME DESIGN+ME HEAT POWER)	872
2	Volumes Titles (UG+ME DESIGN+ME HEAT POWER)	4298
3	National Journals	19
4	International Journals	3
5	CDs	1200
6	e-Books and e-Journals	E books-1700 &1300 Journals

b) Internet facilities are available for Staff & Students.

1. Staff cabins are fully furnished and equipped with computers, Internet connections of 48 Mbps, Book Racks and Pin Board.
2. All staff rooms and department office have EPABX system facility.
3. Wi-Fi and wired network facility is available in the building, labs and classrooms.
4. Power back-up is also provided in GM lab for smooth conduction of practical and classes.

c) Class Room with ICT (Information Communication Technology) Facility:

Adequate number of six class rooms and well equipped seminar hall are available with LCD projector and wired and Wi-Fi internet connections. Adequate facilities are provided to each and every student for self-learning and specific learning. Effective use of MOODLE software ensures e learning and collaborative learning facilities.

d) Laboratories

Sr. No.	Name of Lab	Major Equipment's in the Department
1	Power Plant Lab	Steam Boiler

2	Applied Thermodynamics Lab	Multistage Compressor, Single Cylinder Diesel Engine & Multi Cylinder Petrol Engine
3	Heat Transfer Lab	Mixed Convection Experiment
4	Strength of Machine Lab	Torsion Testing Machine
5	Refrigerator and Air-Conditioning Lab	Ice Plant, Refrigerator Test Rig and Air Conditioning Test Rig
6	Dynamics of Machinery Lab	Universal Vibration Apparatus
7	Theory of Machine Lab	Epicycle Gear Train Apparatus
8	Turbo Machinery Lab	Impulse, Kaplan, Francis Turbine Test Rig, Centrifugal and Reciprocating Pump Test Rig
9	Hydraulic and Pneumatics Lab	Vane Pump Test, Hydraulic & Pneumatic Trainer and Hydraulic Press
10	Metrology and Quality Control Lab	Floating Carriage Micrometer and Profile Projector
11	Mechatronics Lab	PID and PLC Trainer, Flow Transducer Trainer and Rotary Positioning System
12	Fluid Mechanics Lab	Venturimeter Calibration, Calibration of V-notch, Determination of Major & Minor Losses
13	Metallurgy Lab	Vickers cum Brinell hardness tester, Trinocular microscopic with CCTV, CCD camera set and Non-destructive test –magnaflux model DY-1000
14	Computer Graphics Lab	30computers ,Printer , Plotter and Creo 1.0 license SW
15	Geometric Modeling lab	30 Computers , Printer, Scanner, Matlab 2010 license SW
16	CAD/CAM Lab	30 Computers , Printer, Scanner, Ansys 11, 12 license SW, Master CAM X9 license SW Pro-E 6.0 license SW
17	PG Computer Lab	30 Computers , Printer
18	Self-Learning Lab	10 Computers.
19	Research Lab	Wind Tunnel, Compressor calorimeter and FFT Analyzer

20	Workshop	CNC machine and Conventional machining centers
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31. Number of students receiving financial assistance from college, university, government or other agencies:

Sr. No	Year	No of students			
		College	University	Government	Other agencies
01	2016-17	NIL	NIL	479	-
02	2015-16	NIL	NIL	495	-
03	2014-15	NIL	NIL	423	-
04	2013-14	NIL	NIL	329	-
05	2012-13	NIL	NIL	335	-

32. Details on student enrichment program (Special Lectures/workshops/Seminar) with external experts:

Sr. No.	Name of Enrichment program	Name of external expert	Organization
1	Introduction to CFD	Mr. Nathaji Shelke	-----
4	Automobile Workshop	Robosapiens pvt. ltd.	-----
7	Refrigeration & Air Conditioning	Mukesh Hingwe	Whirlpool pvt. Ltd., Pune
8	GATE Preparation	Mr. Devendra Marathe	-----
12	Steam Turbines	Mr. Prasad Hirekar	Triveni Turbines
14	Global Energy Scenario	Dr. N. K. Sane	-----
15	Meditation & Pranik Healing	Mrs. Poonam Dhepe	-----
17	Air Distribution system	Prof. A. H. Bulbule	-----
18	Energy Audit	Mr. Rajesh Kulkarni	Thermax Pune
19	Metrology and Quality control	Mr. Rushikesh Datar	Accurate Engg.Pune

23	Automotive Heat Exchanger Design	Mr. Yuvraj Patil	Tata Motors
24	Design of Spring	Mr. Hingole R. S.	Professor BSIOTR Wagholi
25	Soft skill development	Mrs. Madhavi kale	Professional

33. Teaching methods adopted to improve student learning:

The teachers in mechanical department follow the Program Outcomes, based on Outcome Based Education and try to fulfill the **learning** objectives to improve the quality of teaching. They use assessment/evaluation as an indicator for evaluating students' performance, achievement of learning objectives and planning.

All students of Mechanical Engineering Department use Moodle for uploading unit wise Teaching-Learning material such as lecture notes, PPTs, NPTEL video / PDF, list of product brochure, assignment along with solutions, objective type questions, unit wise question bank, topic wise list of recommended books, list of mini projects allocated to students. All the students as well as faculty are insisted to join **online courses** conducted by **NPTEL** in every semester. For enhancing the students learning, **knowledge wall** is designed and displayed at the various location of department. Knowledge wall includes the significance of the studying different specialization of Design and Theory of Machine, Thermal and Fluid, Manufacturing and Material Science and Allied Engineering. Further it includes the historical developments in the area, recent trends, job potentials, knowledge, skills and attitude required to grab the job, mapping of program specific outcomes with the knowledge, skills and attitude, industry visits and guest lecture planned for achieving the outcomes.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

During academic year span 2015-2016, NSS unit of Jayawantrao Sawant College of Engineering, Hadapsar, Pune has participated in various activities such as Blood donation camp, Traffic duty, Swachha Bharat Abhiyan etc. Glimpses of such activities are as below:

1. Speech on "Social Awareness and Responsibilities to reduce Social Inequality" and fund raising for Anathashram
2. Traffic Duty in Ganesh Visarjan
3. Swachha Bharat Abhiyan (Participation in Swachhata Karandak 2016)
4. Environmental Awareness Special Program
5. Blood Donation Camp

6. Free Health Checkup and Seminar on “Importance of Health Check for Women”

7. NSS Special Camp at Vanpuri, Tal. Purandar, Dist. Pune (Duration 7 days)

35. Result of SWOC analysis of the Mechanical Engineering department and Future Plan:

A. Strength

Sr. No	Identified Strength
1.	Devoted faculty - Good combination of doctorate senior faculty and young obedient faculty.
2.	Effective teaching learning process, team work, Good in-house UG projects
3.	University Rankers and Gold Medalists consistently from 2012 to 2016.
4.	Excellent academic backgrounds
5.	Well-equipped laboratory, library and IT facilities
6.	Good infrastructural facilities
7.	Good retention ratio of faculty.
8.	Good research culture in department

B. Weakness

Sr. No	Identified Weakness
1.	Placement in core areas needs to be enhanced.
2.	English communication and personality development of students.
3.	Need to improve the interaction with industries.
4.	Lack of Intellectual Property Rights

C. Opportunities

Sr. No	Identified Opportunities
1.	Strengthen involvement of Alumni in placement and academics.
2.	"Make in India" and "Digital India" policy demands more job opportunities in Mechanical Engineering.
3.	Making students eligible for higher studies in renowned institutes and providing them more no of job opportunities.
4.	New trends in multi-disciplinary professional education and new teaching Methods.
5.	Pune, being Engineering hub, opportunities for more no of MOUs with

	industries.
6.	Colleges at outskirts of Pune are facing problem of admission and our college being within the city may be free up to certain extent from this problem
7.	Increasing the facility of latest trends in mechanical field, Infrastructure, Participation in technical and non-technical fields.
8.	Motivating students to become entrepreneur through “Start Up India”.

D. Challenges

Sr. No	Identified Challenges
1	Rapid changes in technology need to be incorporated in curriculum.
2	Growing competition from nearby institutions.
3	To attract highly meritorious and intellectual students.
4	Exam oriented learning attitude of students

Future Plan of the Mechanical Engineering department:

- To work towards improving teaching learning process by using ICT facilities.
- To provide more Industry-Institute relationship to take up real time needs of the industry as students/faculty projects.

Evaluation Report of Engineering Sciences

1. Name of the Department: Department of Engineering Sciences

2. Year of Establishment: 2004

3. Names of Programs/ Courses offered:

Department of Engineering Science runs First Year (F.E.) of Computer engineering, Electronics and Telecommunication Engineering, IT engineering, Mechanical Engineering and Electrical Engineering undergraduate programs.

4. Names of Interdisciplinary courses and the departments/units involved:

Sr. No.	Semester	Names of Interdisciplinary Courses	Departments Involved
1	I, II	Basic Electronics Engineering	E&TC Engineering
2	I, II	Basic Electrical Engineering	Electrical Engineering
3	II	Basic Mechanical Engineering	Mechanical Engineering
4	I,II	Engineering Graphics-I& II	Mechanical Engineering
5	I	Workshop Practices	Mechanical Engineering
6	I,II	Fundamentals of Programming Languages-I& II	Computer Engineering & IT Engineering

5. Annual/ semester/choice based credit system (program wise):

Sr. No	Name of the program	Pattern/System
1	UG-FE all Branches	Semester pattern, credit system implemented from (2015 course) from A.Y 2015-16.

6. Participation of the department in the courses offered by other departments:

Sr. No.	Semester	Names of Interdisciplinary Courses	Departments Involved
1	III	Engineering	Computer Engineering, Mechanical

		Mathematics-III	Engineering, Electrical Engineering, Information Technology, Electronics & Telecommunication Engineering
2	I	Advanced Mathematics and Numerical Methods, Advanced Mathematics	ME Mechanical Engineering

7. Courses in collaboration with other universities, industries, foreign institutions:
NIL

8. Details of courses/programs discontinued (if any) with reasons: NIL

9. Number of teaching posts:

Post	Sanctioned	Filled
Professors	3	1
Associate Professors	6	0
Assistant Professors	27	35
Total	36	36

10. Faculty profile with name, qualification, designation, specialization, D.Sc/D.Litt./Ph.D.,M.Phil. etc

Sr. No	Name	Qualification	Designation	Specialization	Total Experience
1	Dr. P. A. Thakre	Ph.D.	Professor	Mathematics	22
2	Prof. A.B. Gawand	Ph.D (Pursuing) M.Sc, M.Phil., M.B.A, B.Ed	Asst. Prof.	Mathematics	14.5
3	Prof. D. S. Shelar	Ph.D (Pursuing), M.Phil., M.Sc	Asst. Prof.	Mathematics	14.5
4	Prof. M. M. Rane	M.Sc,B.Ed, DEE,M.B.S (HR)	Asst. Prof.	Mathematics	10.5

5	Prof. S. H. Kurhade	M.Sc	Asst. Prof.	Mathematics	2.5
6	Prof. R. B. Tope	M.Sc	Asst. Prof.	Mathematics	2
7	Prof. S.A. Patil	M.Sc, B.Ed	Asst. Prof.	Mathematics	8.5
8	Prof. M. R. Pansare	M.Sc	Asst. Prof.	Physics	14.5
9	Prof. R. H. Mhamane	M.Sc	Asst. Prof.	Physics	8.5
10	Prof. D.K. Kolhe	M.Sc, B.Ed	Asst. Prof.	Analytical Chemistry	9
11	Prof. M. S. Bobade	M.Sc, B.Ed, NET, Ph.D (Pursuing)	Asst. Prof.	Organic Chemistry	6
12	Prof. S.S. Jawe	M.E	Asst. Prof.	Electronics	8
13	Prof. S.B. Jagtap	M.E(DS) B.E.(E&TC)	Asst. Prof.	Electronics	4
14	Prof. M. K. Bharambe	M.E	Asst. Prof.	Power System	T-6,I-4
15	Prof. V.D. Malwade	M.E	Asst. Prof.	Electrical Engineering	T-5.5,I-2.3
16	Prof. A. G. Hore	M.E	Asst. Prof.	Environmental	I-8,T-7
17	Prof. S. S. Jadhav	M.E	Asst. Prof.	Structures	4
18	Prof. M.B. Hosmani	M.E	Asst. Prof.	Structure	INDUS-1 TEACH-0.1
19	Prof. A.A. Pawar	M.E	Asst. Prof.	Construction and Management	1
20	Prof. P. V. Shah	M.E	Asst. Prof.	Mechanical	9
21	Prof. M. B. Hankare	M. E.	Asst. Prof.	Microwave	9
22	Prof. U. A. Malawade	M.E	Asst. Prof.	Design	8.5
23	Prof. G.N.	M.E. (Heat	Asst. Prof.	Heat Power	1.5

	Wakchaure	Power),			
24	Prof. N.D. Ranaware	M.E.	Asst. Prof.	Mechanical	I-1,T-5
25	Prof. R.A. Bhalerao	M.E.	Asst. Prof.	Mechanical design	4
26	Prof.M. M. Bhajibhakare	M.E	Asst. Prof.	Computer Engineering	4.5
27	Prof. S.R. Rangari	M.Tech	Asst. Prof.	CSE	TEACH-3,INDUS-1.5
28	Prof. V.R. Pawar	M.E	Asst. Prof.	Computer Engineering	11
29	Prof. M.S. Gardi	M.E.	Asst. Prof.	Computer Engineering	4.5
30	Prof. S. P. Kuber	M. E. Heat Power	Adjunct Professor	Compressor design	15
31	Prof. M.S. Hingawe	M.E. Heat Power	Adjunct Professor	RAC	10
32	Prof. C. A. jadhav	M. E. heat Power	Adjunct Professor	Heat power	10
33	Prof. G. S. Khot	M. E. heat Power	Adjunct Professor	RAC	20
34	Prof. R. A. Dhepe	B.E. Design	Adjunct Professor	Maintenance	20
35	Prof. P. M. Tale	B. E. Mechanical	Adjunct Professor	Manufacturing	25
36	Prof. Mrs. U. A. Shrotri	B. E. Mech, MCS	Adjunct Professor	Computer application	27

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled(program wise) by temporary faculty: Nil

13. Student Teacher ratio(Program wise):

Sr. No	Program	Student -Teacher Ratio
1	UG-FE all Branches	15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Staff Details	Sanctioned	Filled
Academic Support and Administrative Staff	3+1+4 (Lab assistant + Administrative staff + Peon)	3+0+4

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG:

Ph.D.	PG	UG
1+4*	29	2

*Ph D pursuing

16. Number of faculty ongoing projects from National and International funding agencies & grants received:

Name of funding Agencies	National/ International	Grants received	Faculty involved	Year
BCUD	National	1,94,000	2	2016-18

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:

Sr. No	National /international	Name of faculty	Title	Project funded by	Grants received (Rs.)	Date of completion
1	National	Malwade U. A.	Investigation of high performance alternative sound absorbing materials	BCUD	1,94,000	2016-18
2	National	Thakre P. A.	Teachers evaluation software using fuzzy logic	BCUD	90,000	2009-10

18. Research centre /facility recognized by University: NIL

19. Publications:

Sr. No.	Parameters	Number
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	42
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	1
3	Monographs	-
4	Chapter in Books	-
5	Books Edited	-
6	Books with ISBN/ISSN numbers with details of publishers	-
7	Citation Index	23
8	SNIP	-
9	SJR	-
10	Impact factor	53.858
11	h-index	2

20. Areas of consultancy and income generated: Nil**21. Faculty as members in**

- a) National committees: Nil
- b) International Committees: Nil
- c) Editorial Board: Nil
- d) Any other Committee:

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Prof. Gawand A. B.	Subject chairman, Paper Setter, SPPU for UG	Acting as a subject chairman as well as paper setter for UG: Engineering Mathematics I, II, III
2	Prof. P. A. Thakre	Subject chairman, Paper Setter, SPPU for UG	Acting as a subject chairman as well as paper setter for UG: Engineering Mathematics I, II, III

22. Student projects

Percentage of students who have done in-house projects including inter departmental/ program: NIL

Percentage of students placed for projects in organizations outside the institute i.e. in Research laboratories/Industry/ other agencies: NIL

23. Awards/Recognitions received by faculty and students

Total number of students awards	Total number of faculty awards
45	1

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Name academicians and scientists / visitors	Association / Affiliation	Purpose of visit
1	Dr. Aditya Abhyankar	Dean, Faculty of Technology, SPPU	To identify curriculum gap in syllabus of Engineering Mathematics
2	Surendra Desai	Consultant in Supreme industry.	Industry Expectations from students
3	Sujeet Dhere	Director, Technovision and solution	To identify curriculum gap in syllabus of Engineering Mathematics

25. Seminars/ Conferences/Workshops organized & the source of funding

Year	Name of Enrichment program	Name of External Expert	Organization
2016-17	Chemistry of carbon and Hydrogen	Prof. S. T. Gavhale	AISSMS COE, Pune
	Partial Differential Equation and its applications	Prof. N.S. Mujumdar	RSCOE, Pune
2015-16	Multiple Integral	Prof A. B.Patil	AISSMS COE, Pune

	Complex Numbers	Prof. Avinash Thakre	AISSMS COE, Pune
	Single phase transformer	Prof. S.S. Patil	SAE, Kondhwa
2014-15	Workshop for “Engineering Graphics-I” subject (F.E.) for all JSPM campuses	Prof. P. V. Shaha	JSCOE, Pune
	Friction	Prof. H. D. Joshi	RSCOE, Pune
2013-14	Superconductivity	Prof N. D. Dharmadhikari	SAE, Kondhwa
	Multiple Integral And applications	Prof. Avinash Thakre	AISSMS COE, Pune
	Corrosion science	Prof. S. T. Gavhale	AISSMS COE, Pune
2012-13	Complex Numbers and sequence and series	Prof. N.S. Mujumdar	RSCOE, Pune
	Rectilinear motion and Curvilinear motion	Prof. R. G. Biradar	Siddhant College of Engg, Pune
	Physics of Nanoparticles	Dr. H. R. Kulkarni	Trinnity College of Engg, Pune

26. Student profile program/course wise:

Name of the Course/Program		Applications received Selected	Enrolled		Pass %
Course	Year		*M	*F	
UG	2016-17	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra.	261	108	Awaited
	2015-16		314	83	79.73
	2014-15		279	102	88.79
	2013-14		344	127	83.75
	2012-13		380	122	86.38%

27. Diversity of students:

Name of the Course/program		% of students from the same state	% of students from other states	% of students from abroad
Course	Year			
UG	2016-17	99.42	0.58	0

	2015-16	97.96	2.04	0
	2014-15	98.59	1.41	0
	2013-14	99.32	0.68	0
	2012-13	99.40	0.59	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, defence services, etc.? NIL

29. Student Progression:

Student progression	Against % enrolled
UG to PG	NA
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed Campus selection Other than campus recruitment	NA
Entrepreneurship/Self-employment	NA

30. Details if infrastructural facilities:

a) Library

Sr. No	Particulars	Number
1	Titles	12
2	Volumes	138
3	National Journals	NIL
4	International Journals	NIL
5	CDs/Hard disk	10
6	e-Books and e-Journals	NIL

b) Internet facilities for Staff & Students

- Staff cabin are fully furnished with storage capacity, equipped with computers, Internet connections, Laser Printer.

- Wi-fi and wired network facility is available in the building, labs and classrooms.
- Power back-up is also provided in labs for smooth conduction of practical and classes.
- Separate Internet Lab as well as through Wi-Fi and broadband facility with speed 48 Mbps is available in the Institute.

c) Class rooms with ICT facility

Internet is available in classroom through Wi-Fi facility. Every Classroom to support audio/visual learning aids such as LCD projectors as per requirement of faculty. All Computer Laboratories are provided with internet facility.

d) Laboratories

Sr. No.	Laboratory Description	Major Equipment
1	Physics Lab	Setup for hall effect experiment, , plane diffraction grating, He-Ne LASER, Spectrometer, Cathode Ray Oscilloscope, Absorption Coefficient of sound set with sound level meter , Digital Multi-meter, Newton's rings setup.
2	Chemistry Lab	PH Meter, Digital Colorimeter, Hot Air oven , Digital Conductivity Meter, Electrical Analytical Balance , Distillation plant, Spectrophotometer, Magnetic stirrer with hot plate
3	Basic Mechanical Engineering Lab	Models of brakes, Models of bearings, Models of clutch, Models of drive, Models of coupling, Models of engine, Plummer block assembly, window A. C.
4	Basic Civil and Engineering mechanics Lab	Dumpy Level DI-9 Model In Wooden Case With T. W. Stand, Aluminium Levelling Staff 4m In Canvass Bag, Cross Staff With Pole, Space Force Apparatus And Circular Ring Fixed To It, Curvilinear Motion Apparatus, Combined Coil And Belt Friction Apparatus, Parallelogram Of Forces Apparatus With Iron Slotted Weights, Apparatus For Reaction Of Forces In Beam Dial Type Balance 20kg With Iron Conical Weights, Electronics Distance Meter, Laser Distance Meter, Extra-Vista H(Gps), Prismatic Compass 10 Cm Diameter With Pole, Line Ranger,

		Ranging Rods, Speed Chain Pulley Block (Worm Gear Type, Digital Stop Watch, Spring Balance
5	Basic Electronics Engineering Lab	Dc dual power supply, CRO, Function generator, Digital multi-meter, common emitter amplifier, regulated DC power supply, Astable multi vibrator.
6	Computer Lab 1, 2 and 3	HCL Infinity G-630PDC Intel Dual Core 2.7 GHz (2nd Gen Processor) Ram2GB- 60Qty, IBM Lenova make Desktop Intel core 2 dual 2.4 GHZ processor Intel Chipset Motherboard,1GB Ram, 160 GB sata hard disk –Qty 27, HP DJ 1050 Printer + Scanner- Qty 1, Printer Jet laser- Qty 4, Dot matrix printer- 4 Qty, UPS -Qty 2, Projector- Qty 1, Intelli CAD software- Qty 1

31. Number of students receiving financial assistance from college, university, government or other agencies

Sr. No.	Year	No of students			
		College	University	Government	Other agencies
1	2016-17	NIL	NIL		
2	2015-16	95	NIL	207	-
3	2014-15	95	NIL	204	-
4	2013-14	6	NIL	64	-
5	2012-13	5	NIL	249	-

32. Details on student enrichment program (Special Lectures/workshops/ Seminar) with external experts

Year	Name of Enrichment program	Name of External Expert	Organization
2016-17	Seminar on Satellite Model Making	Dr. Mohite S. B. & Dr. Kini Shrinivasan	JSCOE, E & TC Department
	Leadership Development Skills	Mr. Digambar Mane	Neharu Yuva Kendra, Pune
2015-16	ChakraVyuha of Engineering Admission	Prof. Ulhas Malwade	JSCOE, Mechanical Engg Department
	Seminar on Training & Placement by	Prof. Sachin Kangutwar	JSCOE, TPO, E & TC Department
	Womens Day – Self	P.I. Rupali Memane &	P.I. Hadapsar

	Defence Skills for Girls	Mr. Nilesh Gangawane	Police station, Marshal art Expt.
2014-15	Seminar on Personality Development	Dr.P.A.Patil	JSCOE, Mechanical Engg Department
	“Chala Abhyas Karu”	Mr.Vijay Kulkarni	Career Counsellor, Pune
2013-14	Seminar on Scientific Approach for research	Dr. V. K. Bhojwani	JSCOE, Mechanical Engg Department
2012-13	Seminar on Scientific Approach for research	Dr. V. K. Bhojwani	JSCOE, Mechanical Engg Department

33. Teaching methods adopted to improve student learning

FDP (Faculty Development Programme) for every subject has been started by Department. For understanding the fundamentals the senior faculty members guide the other faculty members of the subject. Common strategies are finalized by senior faculty.

Workshops/ Conferences: To improve the technical skills, faculty is encouraged to attend workshops/ conferences. It helps the faculty to update with the current technologies. Assignments and prelims examination: Assignments are given on each topic on regular basis to make students familiar with the problems asked during examination and for preparation of university examinations, prelim examinations are conducted. Feedback Analysis: For continuous improvement in the quality of teaching-learning process, feedback is a key tool. The feedback is taken from students and parents in order to analyze and implement their suggestions. For student's improvement, on Moodle software notes, university question bank with solution is uploaded. For preparation of online exam, On My Examo, practice session is conducted.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Department organizes technical and social activities as binding to Society:

- Project exhibition for FE students has been organized on Real life application of basic science
- NSS activity helps to contribute engineering students in social rural activities.
- Women health awareness program is organized exclusively for women.
- Blood donation camps organized.

35. SWOC analysis of the department and Future plan:

Strengths	Weaknesses
1. Strong Academic Monitoring: Strong academic monitoring network help in academic monitoring. 2. Multi-disciplinary faculty: Hybridization of curriculum involves multi-disciplinary faculty having different perception and ideas makes the department more vibrant. 3. Coordination: Coordination between staff helps to achieve the common goal of the department. 4. Counseling Ability: Counseling by faculty to FE students helps them to set goals & achieve them.	1. Unchallenging Subject: Teaching one subject over and over again for years is not challenge for faculty. 2. Fewer opportunities to teach higher class student: Less opportunity to teach higher classes and guide third or final year in project. 3. No control on quality of students getting admitted.
Opportunities	Challenges
1. To give carrier path to student: There is a huge opportunity to identify student's strength and interest by interacting with them. This is helpful to build up their carrier path.	1. Strengthening research activities: Strengthening research activities because of time constraint, Student centric curriculum is challenge for department. 2. Bridging the academic gap in student: FE students come from diverse academic, social and regional backgrounds. Bridging the academic gap and bringing them on a common platform is a challenge

Future Plan:

1. To have more faculty for Ph.D
2. To provide more self-learning platform for student.
3. To arrange workshops/trainings for students.

Evaluation Report of Master of Business Administration

1. Name of the Department: Master Of Business Administration Department

2. Year of Establishment: 2006

3. Names of Programs/ Courses offered:

Sr. No	Name of the program	Year of Establishment
1	PG-Masters of Business Administration	2006

4. Names of Interdisciplinary courses and the departments/units involved: NIL

5. Annual/ semester/choice based credit system (program wise):

Sr. No	Name of the program	Pattern/System
1	PG -Masters of Business Administration	Semester/Choice Based Credit System since 2013

6. Participation of the department in the courses offered by other departments: NIL

7. Courses in collaboration with other universities, industries, foreign institutions:

Sr. No.	Certificate/Course Name	Collaborating Institution /Industry/Universities etc.
1	German language	Max Muller Bhavan Pune
2	EDP	NIESBUD, New Delhi

8. Details of courses/programs discontinued (if any) with reasons: NIL

9. Number of teaching posts:

Post	Sanctioned	Filled
Professors	1	1
Associate Professors	2	2
Assistant Professors	5	5
Total	8	8

10. Faculty profile with name, qualification, designation, specialization, D.Sc/D.Litt./Ph.D.,M.Phil. etc

Sr. No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
1	Prof. Dr. Sawant Sanjay Kalidas	PhD, MBA	Professor	FIN	09	--
2	Prof. Ganbote Akshay .N	MBA	Asso. Prof.	HRM	09	--
3	Prof. Deshmukh Shital Omprakash	MBA	Asso. Prof.	HRM	11	--
4	Prof. Hake Chandrakant Dattatraya	MBA	Asst. Prof.	MKT	09	--
5	Prof. Dr. Deshpande Revati Lalitkumar	PhD, MBA	Asst. Prof.	FIN	06	--
6	Prof. Mule Sonali	MBA	Asst. Prof.	Fin	05	--
7	Prof. Jawale Manoj	MBA	Asst. Prof.	MKT	06	--
8	Prof. Khade Sandesh	MBA	Asst. Prof.	MKT	06	--

11. List of senior visiting faculty: NIL

12. Percentage of lectures delivered and practical classes handled(program wise) by temporary faculty: NIL

13. Student Teacher ratio(Program wise):

Sr. No	Program	Student -Teacher Ratio
1	PG-MBA	15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Staff Details	Sanctioned	Filled
Academic Support and Administrative Staff	03	03

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG:

Ph.D.	Ph.D. Pursuing	PG
3	2	3

16. Number of faculty ongoing projects from National and International funding agencies & grants received: NIL**17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: NIL****18. Research centre/facility recognized by University: NIL****19. Publications:**

Sr. No.	Parameters	Number
1	Number of papers published in peer reviewed journals (National /International) by faculty and students	28
2	Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	02
3	Monographs	-
4	Chapter in Books	-
5	Books Edited	-

6	Books with ISBN/ISSN numbers with details of publishers	-
7	Citation Index	-
8	SNIP	-
9	SJR	-
10	Impact factor	03
11	h-index	-

20. Areas of consultancy and income generated:

Sr. No.	Area of Consultancy	Organisation	Income generated
1	Market Analysis	Adi Foods	Income not generated as they were started by the students.
2	Market Analysis	Universal Classes	
3	Entrepreneurship	----	

21. Faculty as members in

- a) National committees: NIL
- b) International Committees: NIL
- c) Editorial Board:

Name of Faculty	Name of Journal
Prof. Ganbote Akshay .N	Corporate Mantra ISSN 273375

- d) Any other Committee:

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Prof Ganbote Akshay Narayan	Project Viva Voce Year: 15-16 & 16-17 As Chairman	Evaluation of MBA SIP
2	Prof Hake Chandrakant Dattatreya	Paper Setting Committee As Member	Paper Setting of MBA Course for SPPU exams
3	Prof Deshmukh Shital Omprakash	Paper Setting Committee As Member	Paper Setting Committee As Member

22. Student projects

Program	Academic Year	Percentage of in-house projects	Percentage of sponsored projects
PG	2015-16	NIL	100
	2014-15	NIL	100
	2013-14	NIL	100
	2012-13	NIL	100

23. Awards/Recognitions received by faculty and students:

2 students have received the first prizes at national level management competition in the year 2015-16.

24. List of eminent academicians and scientists / visitors to the department:

Sr. No.	Name of eminent, academicians, scientists, visitors	Association/Affiliation	Purpose of visit
1	Dr. E. B. Khedkar	Dr. Ajeenkya D. Y. Patil University (Vice Chancellor) Savitribai Phule Pune University (Dean)	Guest Lecture
2	Dr. Ashok Gandhe	NIPM (Secretary, Pune Chapter)	Guest Lecture
3	Mr Sharad Tandale	Innovation Engineers & Contractors	Guest Lecture (Youth Business International Young Entrepreneur Award Winner at hands of Prince Charles)
4	Mr. Klin Chuaychamnaek from Thailand	HR Transformation	Guest Lecture (International resource Person from Thailand)
5	Mr. Vinod Shankar	CEO Orenda food Pvt Ltd	ED cell Lecture About growth of Food industry.

25. Seminars/ Conferences/Workshops organized & the source of funding:

Sr. No	Name of Event (Seminars/ Conferences/Workshops)	Year	Source of Funding
1	Seminar on Management techniques	2007	Self
2	Seminar on Marketing mix	2007	Self
3	Seminar on Human resource and personnel management	2010	Self
4	One day seminar on Knowledge Management: Catalyst for IT & ITES	30/01/2010	Self
5	Project Risk Management-International Seminar	21& 22/10/2010	Self
6	One day Colloquium on Information Security Current issues and challenges	22/2/2011	Self
7	One Day Colloquium on inventive strategic management and business luminosity.	1/2/2011	Self
8	International Seminar on Information Technology management	11&12/10/2011	Self
9	One day seminar on Corporate at crossroads: Lets energize our entrepreneur skills	1/2/2012	Self
10	National Seminar Quality management in higher education	2 to 4 Feb. 2012	Self
11	International Conference on Technology and business innovation	30&31/10/2012	Self
12	One day workshop on research methodology	7/5/2012	Self
13	International Conference on Management System	18&19/10/2013	Self

26. Student profile program/course wise:

Name of the Course/program		Application Received	Selected	Enrolled		Pass Percentage
Course	Year			*M	*F	
PG-MBA	2016-17	Admissions	58	39	19	Pursuing
	2015-16	Through CAP;	59	34	25	Pursuing
	2014-15	Governed by	17	11	06	82.35
	2013-14	DTE Govt. OF	02	02	-	100
		Maharashtra	24	16	08	95.83

27. Diversity of students:

Name of the Course/program		% of students from the same state	% of students from other states	% of students from abroad
Course	Year			
PG	2016-17	100	NIL	NA
	2015-16	100	NIL	
	2014-15	94.11	5.88	
	2013-14	100	NIL	

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, defence services, etc.? NIL**29. Student Progression:**

Student progression	Against % Enrolled				
	2006-08	2012-13	2013-14	2014-15	2015-16
PG to Ph.D.	3	0	0	0	0
Employed					
Campus selection	100	100	100	86.66	67.79
Other than campus recruitment					
Entrepreneurship/Self-employment	NIL	NIL	NIL	2.34	10.3

30. Details if infrastructural facilities:**a) Library**

Sr. No	Particulars	Number
1	Titles	1359
2	Volumes	3162
3	National Journals	12
4	International Journals	1
5	CDs/Hard disk	--
6	e-Books and e-Journals	02 Packages

b) Internet facilities for Staff & Students

- Department utilizes internet facility with speed of 48 MBPS. The Staff cabins are fully furnished with storage capacity, equipped with computers, Internet connections, Laser Printer.
- Staff rooms and department office have EPABX system facility.
- Wi-Fi and wired network facility is available in the building, labs and classrooms.
- Power back-up is also provided in labs for smooth conduction of practical and classes.

c) Class rooms with ICT facility:

There are adequate number of air conditioned class rooms for lectures (core/electives), seminars and tutorials with LCD projector and wired and Wi-Fi internet connections. Seminar Hall with aforementioned facilities with a capacity of 250 is shared with all departments.

d) Laboratories: NIL**31. Number of students receiving financial assistance from college, university, government or other agencies**

Year	No of students			
	College	University	Government	other agencies
2015-16	---	---	46	---
2014-15	---	---	11	---
2013-14	---	---	02	----
2012-13	----	---	26	----

32. Details on student enrichment program (Special Lectures/workshops/ Seminar) with external experts

Year	Name of Enrichment program	Name of External Expert	Organization
2016-17	Interview techniques & Personality Development	Col. Vineet Bhatia	Indian Army
	Stock exchanges in India	Mr Ajay Prabhu	BSE
	Career mantra & How to choose MBA Specialization	Mr. Imtiyaz Shabir Shaikh	Get Set Growth

	Entrepreneurship Development Program	Mr. Sanket Chothe	Ynext Conslutancy Pvt Ltd
2015-16	E D Lecture	Mr Sharad Tandale	Innovation Engineers & Contractors
	A session on growth of Food industry	Mr. Vinod Shankar	Orenda Food Pvt Ltd
	Contemporary HR Solutions	Mr. Klin Chuaychamnaek from Thailand	HR Transformation
2014-15	Stress and Spiritual Management	Dr. A. P. Rao	NLT Trainer
	German language Workshop	Ms. Vartika Mishra	Maxmuller Bhavan

33. Teaching methods adopted to improve student learning

In alignment with Central government policy of Make in India, Skill India, and Digital India Department has shaped the teaching methodology and implementation of curriculum.

- College endows mini project work and assignments for specific subjects.
- Educational visits to the manufacturing and service industries and guest lectures from experts.
- Brainstorming sessions for electives offered for MBA I and MBA II students.
- Group discussion, role plays, quizzes in regular and proxy lectures.
- Mock practical, preliminary exams and written assignments are given to students for practice; before final examinations.
- Department has started activity NPTEL and E learning courses to be taken over by students.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Students takes part for various activities such as Computer Literacy, Swatch Bharat, Tree Plantation, career counseling, blood donation, street play, various competition, General awareness, books and cloths donation.
- Department provides free CET Classes coaching classes.

35. SWOC analysis of the department and Future plan:

<p>Strength: Department cherishes the environment of research and innovative academics. Department provide state of art infrastructure and value added intellectual resource to aspirants. Department nurtures student with activities related to Entrepreneurship, competitive examinations, German language classes, field activities, subject related certification viz., NISM, NIESBUD's EDP. Workshops on Stock Exchange, Soft skills, interview techniques, subject coherent industrial visits. Department undertakes various webinars and video based case studies. Department endows placements to aspirants with best of corporate exposures and market practices.</p>	<p>Weakness: Ascertained gap in the industry expectation and the contextual delivery of curriculum.</p>
<p>Opportunity: Make in India, skill India and digital India campaign has opened the doors of infinite opportunities to MBA institutes. This has led to not only providing the job opportunities but also the opportunities in entrepreneurial endeavors. This has enhanced the outreach of management institutes curriculum and its effectiveness in diverse fields viz., agriculture, hospitality, tourism, digital marketing, hospital, family business etc.</p>	<p>Challenges: The market downturn and recession are major hindrances in the training and placement activities. The dynamic economic activities and the changing business environments has become major challenge for management institute. The digitalization of many elements of business management has lead to increase in dynamic activities.</p>

Future plan:

- Department plans to introduce the research centre and enhance the research activities.
- Department also envision MOUs with industries on various areas like research, placements, projects and consultancy.

Evaluation Report of Masters of Computer Application

1. Name of the department : Department of Masters of Computer Application

2. Year of Establishment : 2006

3. Name of Programs / Courses offered :

Sr. No.	Name of Program	Year of Establishment
1	PG (Masters of Computer Application)	2006

4. Names of Interdisciplinary courses and the departments/units involved : Nil

5. Annual/ semester/choice based credit system (program wise):

Sr. No.	Name of Program	Pattern/System
1	PG (Masters of Computer Application)	Semester - Pattern

6. Participation of the department in the courses offered by other departments:
Nil

7. Courses in collaboration with other universities, industries, foreign institutions: Nil

8. Details of Courses /programs discontinued (if any) with reasons: NIL

9. Number of teaching post :

Post	Sanctioned	Filled
Professors	1	1
Associate Professors	2	2
Assistant Professors	9	9
Total	12	12

10. Faculty profile with name, qualification, designation, specialization, (D.Sc. /D.Litt./ Ph.D. / M. Phil. etc.):

Name	Qualification	Designation	Specialization	Total Experience
Mr. Swayam Shashank Shah.	MCA	HOD	Programming	12
Mrs. Badhe swati bharat	MCA	Assist. Prof	Programming	11

Miss. Landge Anjali Ambadas	MCA	Assist. Prof	DBMS	7
Mrs. Ghule Suvarna Rajesh	MCA	Assist. Prof	C, C++, DS	7
Mr. Satav Sandip Dattatraya	MCA	Assist. Prof	Android	7
Miss. Lokare Sonali Shahaji	MCA	Assist. Prof	EOM, PPMOB	5
Mrs. Apruva Rushikesh saoji	MCA	Assist. Prof	Mobile Computing	4
Miss. Zende Monali Dattatraya	MCA	Assist. Prof	Cloud Computing	3
Miss. Game Swapnali Gangadhar	MCA	Assist. Prof	Software Testing	2
Mr. Hapse Devendra	MCA	Assist. Prof	DM, RM, OT	1
Mr. Jagani Tajagn Natwarlal	MCA	Assist. Prof	Operating System	1
Mr. Rangari Sudhir Ramrao	MCA	Assist. Prof	Software Engineering	1

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (program wise) by temporary faculty: Nil

13. Student -Teacher Ratio (program wise):

Sr. No	Program	Student-Teacher ratio
1	PG (Masters of Computer Application)	15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Staff Details	Sanctioned	Filled
Academic Support Staff	1	1

15. Qualifications of teaching faculty with DSc/ D.Litt / Ph.D / MPhil / PG :

Ph.D.	Ph.D. Pursuing	PG	UG
0	0	12	0

16. Number of faculty with ongoing projects from National and International funding agencies and grants received: Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil

18. Research Centre /facility recognized by the University : Nil

19. Publications: Publication per faculty : Nil

20. Areas of consultancy and income generated Nil

21. Faculty as members in

- a) **National committees** : Nil
- b) **International Committees** : Nil
- c) **Editorial Board** : Nil
- d) **Any other committee** :

Sr. No.	Name of Faculty	Name of the committee/ Role	Nature of work/description
1	Prof. Swayam Shashank Shah	Paper Setting Committee As Member	Paper Setting of MCA Course for SPPU exams
2	Prof. Hiremath S G	Chairman Paper Setting Committee	Chairman for JAVA Programming
3	Prof. Swayam Shashank Shah	Examiner	Examiner for JAVA Programming

22. Student projects

Program	Academic Year	Percentage of in-house projects	Percentage of sponsored projects
PG (Masters of Computer Application)	2014-15	NIL	100 %
	2013-14	NIL	100 %
	2012-13	NIL	100 %
	2011-12	NIL	100 %

23. Awards / Recognitions received by faculty and students:

Total Number of students awards	Total Number of Faculty awards
02	00

24. List of eminent academicians and scientists / visitors to the department:

Sr. No	Name of eminent academicians, scientists, visitors	Association/Affiliation	Purpose of visit
1	Dr. E B Khedkar	Dr D Y Patil University	Student Orientation Program
2	Mr. Rizwan Khan	Unisys Pvt Ltd	Guest Lecture

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National: Nil

b) International: Nil

26. Student profile program/course wise:

Name of the Course/ program		Applications Received	Selected	Enrolled		Pass Percentage
Course	Year			Male	Female	
PG	2015-16	Admission process in the state is only through CAP and governed by Director of Technical Education (DTE), Government of Maharashtra.	27	17	10	pursuing
	2014-15		15	11	4	86.66
	2013-14		35	12	13	94.28
	2012-13		38	25	13	86.84

27. Diversity of Students:

Name of the Course/program		% of students from the same state	% of students from other States	% of students from abroad
Course	Year			
PG (Masters of Computer)	2015-16	100	NIL	NIL
	2014-15	100	NIL	NIL
	2013-14	100	NIL	NIL

Application)	2012-13	94.74	5.26	NIL
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28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?
NIL

29. Student progression:

Student progression	Against % Enrolled			
	2012-13	2013-14	2014-15	2015-16
UG to PG	NA			
PG to Ph.D.	NIL			
Employed				
Campus selection	86	94	76	Appearing
Other than campus recruitment	14	6	11	
Entrepreneurship/Self-employment	NIL	NIL	13	

30. Details of infrastructural facilities

a) Library

Sr. No.	Particulars	Number
1	Titles	656
2	Volumes	2897
3	National Journals	11
4	International Journals	1
5	CDs	--
6	e-Books and e-Journals	07 Packages

b) Internet facilities for Staff & Students

- Staff cabins are fully furnished and equipped with computers, Internet connections, Laser Printer, Book Racks.
- All staff rooms and department office have EPABX system facility.
- Wi-Fi and wired network facility is available in the building, labs and classrooms.

c) Class rooms with ICT facility

- Adequate number of classrooms for lectures (core/electives), seminars, and tutorials with LCD projector and wired and Wi-Fi internet connections.
- Seminar Hall with a capacity of 250 is shared with all departments.

d) Laboratories

Sr. No	Name of Lab	Major Equipments in the Department
1	Software Lab	Computers, Laptops, Laser Printers, Scanner, External DVD Writer, External HDD, Switches
2	Project Lab	
3	Computer Lab	
4	LEC Lab	

31. Number of students receiving financial assistance from college, university, government or other agencies:

Year	No. of Students			
	College	University	Government	Other Agencies
2015-16	--	--	42	--
2014-15	--	--	47	--
2013-14	--	--	75	--
2012-13	--	--	100	--

32. Details on student enrichment program (Special Lectures/workshops/Seminar) with External experts

Year	Name of Enrichment Program	Name of External Expert	Organization
2015-16	Android Workshop	1. Sagar Chauhan 2. Harshal Gaikwad	Upside Learning Solution Pvt. Ltd KPIT Pune
2013-14	Oracle Workshop	Mr. Rizwan Khan	Unisys Pvt. Ltd
2012-13	Seminar on Business Intelligence		Sponsored By SPPU
2011-12	Workshop on “Green Technology for better		Sponsored By SPPU

	tomorrow”		
2011-12	Workshop on “Adobe Flex”		Adobe
2010-11	Workshop on Linux		
2010-11	PHP	Shreyas Ubale	Lamban soft pvt Ltd.

33. Teaching methods adopted to improve student learning

- Mini project work and assignments for specific subjects
- Course material, which includes presentations, lecture notes, program code etc are provided in the form of hard or soft copy.
- Educational visits to the IT industries and guest lectures from experts.
- Practical, preliminary exams and written assignments are given to students for practice before final examinations.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Students & Staff participated in Blood Donation activity.
- Faculty members conducts “Expert lectures on latest technologies” in various colleges under social responsibility cell.
- Department has organized
 1. Friendship Day
 2. Teachers Day
 3. Cultural Day

35. SWOC analysis of the department and Future plan

Strength	Weakness
<ul style="list-style-type: none"> • Department provide state of art infrastructure and value added intellectual resource to aspirants. • Department nurtures student with activities related to Entrepreneurship, competitive examinations, subject related certification viz., OCJP, MCP and Software Testing. • Workshops on Soft skills, interview techniques and GD. 	<ul style="list-style-type: none"> • Ascertained gap in the industry expectation and the contextual delivery of curriculum.
Opportunity	Challenges

<ul style="list-style-type: none"> • Make in India, skill India and digital India campaign has opened the doors of infinite opportunities to MCA institutes. • This has led to not only providing the job opportunities but also the opportunities in entrepreneurial endeavors. 	<ul style="list-style-type: none"> • The market downturn and recession are major hurdles in the training and placement activities. • The dynamic economic activities and the changing business environments has become major challenge for management institute.
--	--

Future plan:

- Institute nurtures the research activities in-house and wishes to take sponsored projects.
- Institutes also envision MOUs with industries on various areas like research, placements, projects and consultancy.



JAYAWANT SHIKSHAN PRASARAK MANDAL's

Jayawantrao Sawant College of Engineering

(Approved by AICTE, New Delhi, Govt. Of Maharashtra and affiliated to University of Pune.)

[Id. No.: PU / PN / Engg. / 199 / (2004)]



Prof. T. J. Sawant
D.E.E., B.E.(Elec.), MISTE
Founder Secretary

S. No. 58, Handewadi Road, Hadapsar, Pune - 411 028.
Ph : 020 - 26970911, 26970886 / 887 Telefax : 020- 26970880.
E-mail : jscoehadapsar@rediffmail.com Website : www.jspm.edu.in

Dr. Jadhav M. G.
M.E. Ph D. (Mech-Engg) F.I.E(I)
Principal

Ref. No. : JSCOE/NAAC/2016-17/1296 Date : 27-03-2017

7. Declaration by the Head of the Institution

I certify that the data included in this Self-study Report (SSR) is true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

Signature of the Head of the institution with
seal:

Place: Hadapsar (Pune)
Date: 27-03-2017



Principal
J.S.P.M.'s Jayawantrao Sawant
College of Engineering
Hadapsar, Pune - 411 028



JAYAWANT SHIKSHAN PRASARAK MANDAL's

Jayawantrao Sawant College of Engineering

(Approved by AICTE, New Delhi, Govt. Of Maharashtra and affiliated to University of Pune.)

[Id. No.: PU / PN / Engg. / 199 / (2004)]



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Dr. Jadhav M. G.
M.E. Ph D. (Mech-Engg) F.I.E(I)
Principal

Certificate of Compliance (Affiliated Institution)

This is to certify that *JSPM's Jayawantrao Sawant College of Engineering, Hadapsar, Pune* fulfils all norms.

1. Stipulated by the affiliating University [SPPU] and/or
2. Regulatory Council/Body [such as AICTE and DTE] and
3. The affiliation and recognition is valid as on date.

The affiliation / recognition letter of the affiliating university (SPPU) for the academic year 2017-18 is attached herewith.

It is noted that NAAC's accreditation, if granted, shall stand cancelled automatically, once the institution loses its University affiliation or Recognition by the Regulatory Council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college website.

Date: April 21, 2017

Place: Pune



M. Jadhav
Principal

J.S.P.M.'s Jayawantrao Sawant
College of Engineering
Hadapsar, Pune - 411 028

Savitribai Phule Pune University
(Formerly University of Pune)

Telephone Nos. :
020 - 25691233
25601258
25601259
25601257



ACADEMIC SECTION
Ganeshkhind, Pune - 411007, INDIA
Telegraph : 'UNIPUNE'
Fax : 020-25691233
Website : www.unipune.ac.in
E-mail : dvracademic@unipune.ac.in

Ref. No. : CA/248

Date : 23/03/2017

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Jayawant Shikshan Prasarak Mandal's Jayawantrao Sawant College of Engineering, S. No. 58, Handewadi Road, Hadapsar, Pune 411 028 is affiliated to the Savitribai Phule Pune University, since 2004 (PU/PN/Engg/199/2004) and the following courses are taught in the said college as per approval.

Courses <u>Under Graduate</u>	Duration of the Course	Affiliation (Permanent / Temporary)	Validity Period
Information Technology	4 Year	Temporary	Upto 2016-17
Electrical Engineering	4 Year	Temporary	Upto 2016-17
Electronics and Telecommunication Engineering	4 Year	Temporary	Upto 2016-17
Computer Engineering	4 Year	Temporary	Upto 2016-17
Mechanical Engineering	4 Year	Temporary	Upto 2016-17
Mechanical Engineering (Second Shift)	4 Year	Temporary	Upto 2016-17

P.T.O.

Courses <u>Post Graduate</u>	Duration of the Course	Affiliation (Permanent / Temporary)	Validity Period
Electronics (Digital Systems)	2 Year	Temporary	Upto 2016-17
Computer Engineering	2 Year	Temporary	Upto 2016-17
Computer Engineering (Second Shift)	2 Year	Temporary	Upto 2016-17
Mechanical Engineering (Heat Power) (Second Shift)	2 Year	Temporary	Upto 2016-17
Mechanical Engineering (Design)	2 Year	Temporary	Upto 2016-17
M.B.A.	2 Year	Temporary	Upto 2016-17
M.C.A.	3 Year	Temporary	Upto 2016-17

The said certificate is issued as per the request application received from the Principal of the college Ref. No. JSCOE/AFFILIATION/2016-17/1196, dated 22/03/2017 so as to submit it to the National Assessment and Accreditation Council (NAAC), Bangalore.



Dy. Registrar
(Academic Section)



तंत्र शिक्षण संचालनालय, महाराष्ट्र राज्य,

महापालिका मार्ग, पत्र पेटी क्रमांक १९६७, मुंबई ४०० ००१.

दूरध्वनी - २२६२०६०१, २२६९०६०२, २२६४११५०/५१,

फॅक्स - २२६९२१०२.

तार - EDUTECH

E-mail : desk2@dte.org.in

Internet : http://www.dte.org.in

क्रमांक : २/एनजीसी/२००४/मान्यता/११-१८२

दिनांक :

7 जून २००४

प्रति,
प्राचार्य,
जयवंत शिक्षण प्रसारक मंडळाचे,
जयवंतराव सावंत कॉलेज ऑफ इंजिनिअरिंग,
सर्व्हे नं. २८ इंद्रायणीनगर,
हाडिवाडी रोड, हडपसर, पुणे ४११ ०२८

विषय- शैक्षणिक वर्ष २००४-२००५ पासून विना अनुदान नत्वावर अभियांत्रिकी

पदवी अभ्यासक्रमाची नवीन संस्था सुरु करण्यास परवानगी देण्याबाबत...

संदर्भ १. उच्च व तंत्रशिक्षण विभागाचा शासन निर्णय क्रमांक टीईएम-२००४/(२३५/०४)

तांशि-१, दिनांक १ जून २००४

उपरोक्त विषयाबाबत आपणांस कळविण्यांत येते की, संदर्भाधीन शासन निर्णयाद्वारे शासनाने आपणांस शैक्षणिक वर्ष २००४-०५ पासून खालील अभ्यासक्रमाची नवीन संस्था सुरु करण्यास परवानगी दिलेली आहे.

अ.क्र.	अभ्यासक्रमाचे नांव	प्रवेशक्षमता	नियत ठेवीची रक्कम
१	इलेक्ट्रॉनिक्स अँड टेलिकम्यु. इंजि.	६०	प्रथम वर्ष - रु. १५.०० लाख
२	मेकॅनिकल इंजि.	६०	द्वितीय वर्ष - रु. १५.०० लाख
३	कॉम्प्युटर इंजि.	६०	
४	इन्फर्मेशन टेक्नॉलॉजी	६०	

तरी सदर अभ्यासक्रमासाठी संचालक, तंत्र शिक्षण व संस्थाचालक यांच्या संयुक्त खात्यात नॅशलाईज किंवा शेड्युल बँकेत प्रथम वर्षासाठी रु. १५.०० लाख शैक्षणिक वर्ष २००४ - २००५ साठी जमा करावेत व द्वितीय वर्षासाठी रु. १५.०० लाख पुढील शैक्षणिक वर्षात असे एकूण रु. ३०.०० लाख नियत ठेव ५ वर्षांच्या मुदतीकरीता जमा करावी. रु. ५०/- च्या स्टॅम्प पेपरवर नोंदणीकृत हमीपत्र या संचालनालयास तात्काळ सादर करावे. (सोबत प्रत जोडली आहे.) त्यानंतर अभ्यासक्रम सुरु करण्याची या संचालनालयाची अंतिम परवानगी देण्यात येईल. या संचालनालयाची अंतिम परवानगी मिळाल्याशिवाय विद्यार्थ्यांना प्रवेश देण्यांत येऊ नयेत याची नोंद घ्यावी.

(पो.डब्ल्यू. वाणी)

उपसंचालक

तंत्रशिक्षण संचालनालय महाराष्ट्र राज्य मुंबई.

प्रत

- मा. कुलगुरु, पुणे विद्यापीठ, पुणे यांना मानार्थ सादर. त्यांना विनंती करण्यांत येते की, उपरोक्त रक्कम संस्थाचालकांच्या संयुक्त खात्यात जमा केल्याची खात्री केल्याशिवाय विद्यार्थ्यांचे एनरोलमेंट करू नये.
- सहसंचालक, तंत्रशिक्षण विभागीय कार्यालय, पुणे यांना माहितीसाठी. तसेच त्यांना कळविण्यांत येते की, संयुक्त खात्यात पैसे भरल्याची खात्री केल्याशिवाय गुणवत्ता यादी प्रमाणित करू नये.



क्रमांक 3521 रुपये 50/-

दिनांक 26-06-2004

श/प्रति जयवंत शिक्शा प्रसारक मंडळ

पता ता. 26/6/04 पुणे

हस्तें आ. कृ. श. वै. क. म.

ला. नं. 58, हान्देवाडी रोड, हदपसर,

पुणे-411028.

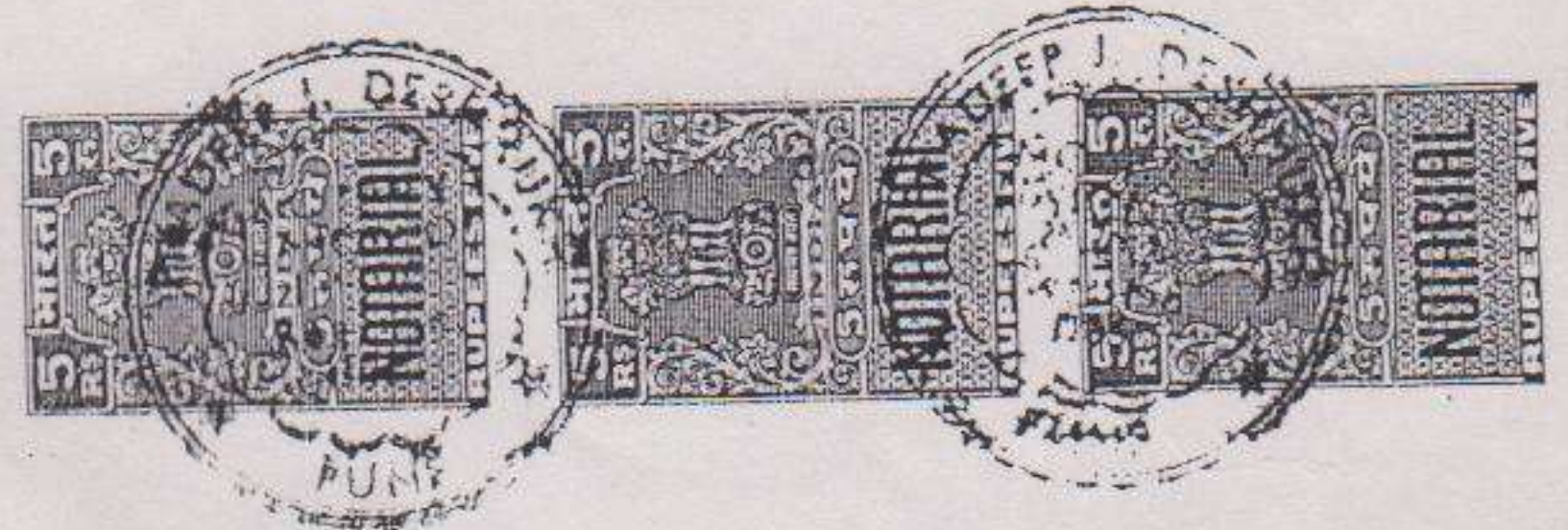
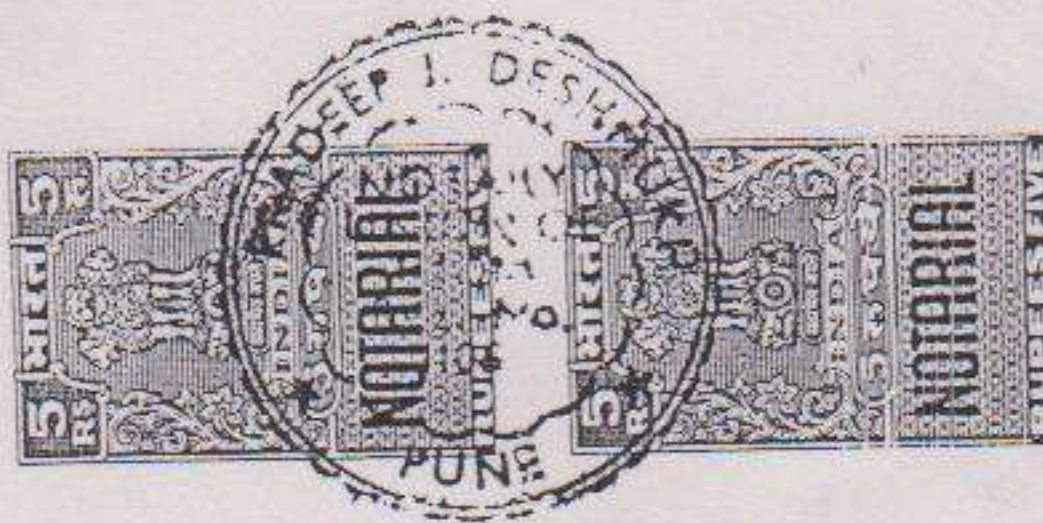
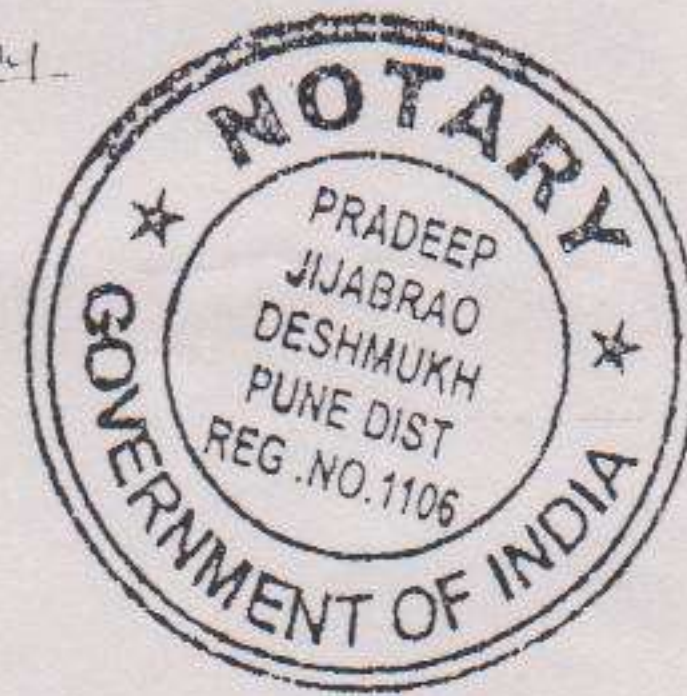
सो. प्रजा. प. प्रभु. P. P. Prabhakar

Amul
25/6/04



JUN 2004

प्रमाणित अधिकारी
पुणे नगर पालिका



AGREEMENT

For observance of conditions prescribed by the A.I.C.T.E./ State Government for

1. Starting of New Degree Engineering College.

Information about institution & sanction of course etc.

1. Name of the Society:- JAYAWANT SHIKSHAN PRASARAK MANDAL
2. Registration No.: - Maharashtra/632/98 Pune dated: 06/06/1998.
3. Name of the College: - JAYAWANTRAO SAWANT COLLEGE OF ENGINEERING
4. Address: - S.No.58, Handewadi Road, Hadapsar, Pune - 411028.
5. Letter No. & Date of A.I.C.T.E.: - F.No. 06/07/MS/ENGG/2004/009, dt. 11/05/2004
6. G.R. No. & Date of State Government: - TEM - 2004/(235/04)/TES. - 1, dt. 01/06/2004

7. Courses and Intake: -

(A) Existing				(B) Newly Approved			
Sr. No.	Full Name of the courses	Duration	Intake	Sr. No.	Full Name of the courses	Duration	Intake
N.A.				1.	E & TC	4 years	60
				2.	Computer	4 years	60
				3.	IT	4 years	60
				4.	Mechanical	4 years	60
				Total (B)			240

Total (A)+(B)= 240

Conditions:

- Rules and regulations for the regular admissions shall be observed as the same as announced every year by the director of Technical Education, Maharashtra State, Mumbai and there shall be no difference in the rules and regulations of the admissions.
- Building requirement for each course shall be as per the plans approved by the Director of Technical Education, Maharashtra State, Mumbai in conformity with requirement laid down by the All India Council for Technical Education or the affiliating body.
- Institute must recruit sufficient and eligible staff as per norms for running and maintenance of institution and pay scales of the teaching & non teaching staff should be observed as per the directives given by the State Govt., Director of Technical Education and the All India Council for Technical Education.
- Machinery and Equipment shall be as per requirement of the All India Council for Technical Education or the affiliating body.
- (I) Management must produce a document to the Director of Technical Education, M.S., Mumbai stating therein the availability of land as per the prescribed requirement at the site shown in the plan, so that the College can function smoothly.

(II) Management has deposited prescribed amount with nationalized or scheduled bank in joint fixed deposit account in the name of the President/Secretary of the Society and the Director of Technical Education, Maharashtra State, Mumbai for minimum five years period before starting of the new College or starting of newly approved courses.

The details of joint fixed deposit are given bellow,

Name of the Bank: **UTI Bank Ltd.**, Chinchwad Branch, Pune – 411 033.

Amount of fixed Deposit Rs. 15,00,000/- (Rs. Fifteen Lac only)

Period of Deposit: **Five** years.

Fixed Deposit Receipt No. **103010400044350**

Date: - 25/06/2004.

(III) The Original receipt/ document of fixed deposit should be shown to the Director of Technical Education, M.S., Mumbai and after taking note of it in Director's Office the Original receipt will be kept in safe custody of the College.

(IV) The amount so deposited will not be unilaterally withdrawn by the management without the concurrence of the Director of Technical Education, M.S., Mumbai.

- As far as possible conventional courses will not be run by the College. A proposal will be made by the Society for starting of the courses in emerging technological field in future.



7. The College will be established by the society registered for the purpose and observe rules and regulations pertaining to admissions, Governing Body, staff selection, running and maintenance of institution.
8. Institute will be permitted to charge fees as decided by the Government of Maharashtra and permitted by the Director of Technical Education, Maharashtra State, Mumbai for different courses.
9. No Capitation fees or donation either in cash or in kind will be taken from the student or his/her parents by the society for admission.
10. There will be no transfer of students from one institution to other institutions on any ground at any stages, except it is within the rules or permitted by the Director of Technical Education, M.S., Mumbai.
11. As far as possible hostel accommodation for the girls will be provided by the management and efforts will be made to provide the hostel accommodation to boys also.
12. Claims for grant-in-aid for recurring and non-recurring expenditure will not be permitted by the Government at any time, at any stage and for any reason.
13. Recognition by the Government and affiliating body will be withdrawn on the advice of the Director of Technical Education, Maharashtra State, Mumbai on the grounds of poor academic performance, financial irregularities, malpractice, disobedience of government orders, not following rules and regulations framed by the government for maintenance and running of institution.
14. The institute will not close down at its own accord without the permission of the AICTE or state Govt. as the case may be. In case the institute is closed down for whatever reasons or closes its courses for whatever reason it should submit no objection certificate from course affiliating body and also submit affidavit on notarized stamp paper that no salaries or payment of arrears of staff or any other liability is pending with it and even after closing down the institute if such type of liabilities arises afterwards the institute will remain sole responsible for it.
15. The society will pass the resolution in the General Body stating that, all the above conditions from 1 to 14 are acceptable to the society and binding on the society.

On behalf of the society (Name of the Society/Trust): - **JAYAWANT SHIKSHAN PRASARAK MANDAL, PUNE.**

I, Prof. Tanaji Jayawant Sawant, Founder Secretary of the above named society will agree and promise that, the society will pass a resolution in a General Body stating that, all condition are acceptable and binding on the society.

Witness:

1. Prof. M. D. Salunke

2. Prof. M. D. Takale.

R.S.C.O.E.
Place: - Pune

Date: - 16/06/2004

Prof. T. J. Sawant

Founder Secretary
Jayawant Shikshan Prasarak Mandal



ATTESTED
PRADEEP J. DESHMUKH
NOTARY
UNION OF INDIA
PUNE

Noted and Registered 1401



अखिल भारतीय तकनीकी शिक्षा परिषद्
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
(भारत सरकार का एक सांविधिक निकाय) (A STATUTORY BODY OF THE GOVT. OF INDIA)

S.no.1

F. No.: 06/07/MS/ENGG/2004/009

Dated: 11.05.2004

To
The Secretary
Higher & Technical Education
and Employment Department,
Govt. of Maharashtra, Mantralaya,
Mumbai - 400 032.
MAHARASHTRA.

Sub: **AICTE approval to JAYWANT SHIKSHAN PRASARAK MANDAL SAWANT PLAZA, 21/2, PUNE-SATARA ROAD, BALAJINAGAR, DHANKAWADI, PUNE - 43, MAHARASHTRA, for establishment of JAYWANTRAO SAWANT COLLEGE OF ENGG., S.NO.58, INDRAYANI NAGAR, HANDEWADI ROAD, HADAPSAR, PUNE - 28, MAHARASHTRA, for the Academic year 2004-2005.**

Sir/Madam,

The Application/ Proposal received from **JAYWANT SHIKSHAN PRASARAK MANDAL SAWANT PLAZA, 21/2, PUNE-SATARA ROAD, BALAJINAGAR, DHANKAWADI, PUNE - 43, MAHARASHTRA**, has been processed as per laid down procedure, guidelines, policy and/or norms & standards of AICTE, mentioned in **AICTE Regulations and/ or "AICTE Hand Book for Approval Process"**.

I am directed to state that the All India council for Technical Education (AICTE) is pleased to accord approval for Establishment of **JAYWANTRAO SAWANT COLLEGE OF ENGG., S.NO.58, INDRAYANI NAGAR, HANDEWADI ROAD, HADAPSAR, PUNE - 28, MAHARASHTRA**, for the academic year 2004-2005 to conduct **under-graduate degree level course(s) in Degree Engineering & Technology** with annual intake as given below:

FULL TIME COURSE(S)	ANNUAL INTAKE	ENTRY LEVEL	DURATION (YEARS)	PERIOD OF APPROVAL
Electronics & Tele Communication Engg.	60	10+2	4	2004-2005
Mechanical Engineering	60	10+2	4	2004-2005
Computer Engineering	60	10+2	4	2004-2005
Information Technology	60	10+2	4	2004-2005

Total Annual Intake = 240

Rt

Cont...2/

Rt

The approval accorded above is subject to fulfillment of the following Conditions:

1. The Institution must appoint Principal and other faculty members as per AICTE Norms with pay scales as prescribed by AICTE, before making any admission..
2. The Institution must have Affiliation to a University for the above courses before making admissions. In the absence of such Affiliation, this Letter of approval shall be treated as Withdrawn. (Order of the High Court of Madras in W.P. No. 33256 of 2002 and other Batch of Petitions).
3. No admission shall be made by the institution, contrary to the guidelines issued by AICTE, for the academic session 2004-2005. All the admissions must necessary be made through Entrance Test.
4. All the required Laboratories/ Workshops/ Machineries/ Equipment, as per approved syllabi of the affiliating University, must be operational before making admissions.
5. The approved course(s) shall commence as per the academic calendar of the Affiliating University.
6. If this Letter of approval is received by you after the closing date of State / National Level Central Counseling for Admissions in the concerned State / Union Territory, this Letter of approval shall not be valid for making any admission, and shall be treated as withdrawn.
7. No excess admission shall be made by the Institution during any academic year.
8. The approval is valid only for the academic year 2004-2005. This Approval Letter will not be valid for making any admission for the subsequent years.
9. In exercise of power conferred under 10(p) of the AICTE Act, AICTE, may inspect the Institution any time it may deem fit to verify the progress/ compliance or for any other purpose.
10. Any other condition(s) as may be specified by AICTE from time to time.
11. Consequent to the Supreme Court Judgment the Model Constitution of Governing Body as notified by AICTE in it's approval Regulations 1994, stands overruled. "It has been decided that while AICTE will not insist of any nomination in the Governing Body of Private unaided Institutions, the Affiliating University/ State Government shall impose minimum condition of affiliation, such as, prescription of qualification of governing body members, in order to ensure academic excellence. The condition so imposed will be subjected to scrutiny by AICTE, wherever necessary, to ensure that the same are not unreasonable restrictions."

"It shall be desirable for the private unaided institutions to induct atleast 50% of members of the Governing Body drawn from renowned academia, academic administrators, subject field experts and a professionals from industry in order to seek their innovative ideas for continuous improvement in the delivery of teaching learning process, matching best practice elsewhere and achieve excellence."

In the event of infringement/ contravention or non-compliance of the above Conditions and/or the provision of AICTE Act & Regulations/ Guidelines/ Norms & Standards as prescribed by AICTE, further actions leading to "Reduced Intake" or "No Admission" or "Withdrawal of Approval", shall be taken by AICTE and the liability arising out of such actions will be solely that of the Management/ Trust/ Society and/ or the Institution.

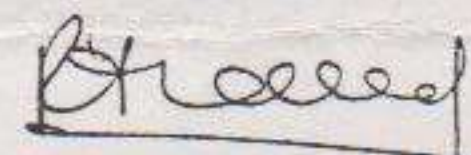
Your faithfully,



(Prof. R.S. Gaud)
Adviser (UG)

Copy to:

1. The Regional Officer, AICTE, Western Regional Office, 2nd Floor, Industrial Assurance Building, Opp. Churugate Rly. Station, Veer Nariman Road, Mumbai - 400 020.
2. The Registrar,
3. The Principal
JAYWANTRAO SAWANT COLLEGE OF ENGG.,
S.NO.58, INDRAYANI NAGAR,
HANDEWADI ROAD, HADAPSAR, PUNE - 28,
MAHARASHTRA.
4. Director of Technical Education, Govt. of Maharashtra, 3, Mahapalika Marg, Mumbai - 400 001.
5. Guard File Bureau (UG)



(Prof. R.S. Gaud)
Adviser (UG)



All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg Vasant Kunj, New Delhi-110067

PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

F.No. Western/1-3322425799/2017/EOA

Date: 30-Mar-2017

To,

The Secretary,
Tech. & Higher Education Deptt.
Govt. of Maharashtra, Mantralaya,
Annexe Building, Mumbai-400032

Sub: Extension of approval for the academic year 2017-18

Ref: Application of the Institution for Extension of approval for the academic year 2017-18

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2016 notified by the Council vide notification number F.No.AB/AICTE/REG/2016 dated 30/11/2016 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Permanent Id	1-4738886	Application Id	1-3322425799
Name of the Institute	JAYAWANTRAO SAWANT COLLEGE OF ENGINEERING	Institute Address	S.NO. 58, HANDEWADI ROAD, HADAPSAR, PUNE-411028, PUNE, PUNE, Maharashtra, 411028
Name of the Society/Trust	JAYAWANT SHIKSHAN PRASARAK MANDAL	Society/Trust Address	JAYAWANT SHIKSHAN PRASARK MANDAL, S.NO. 80/3/1, PUNE-MUMBAI BYPASS, TATHAWADE, PUNE 411033, PUNE, PUNE, Maharashtra, 411033
Institute Type	Unaided - Private	Region	Western

Opted for change from Women to Co-ed and Vice versa	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved and Vice versa	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable
Opted for Conversion from degree to diploma	No	Opted for Conversion from diploma to degree	No	Conversion (degree to diploma or vice-versa) Approved	Not Applicable

To conduct following courses with the intake indicated below for the academic year 2017-18

Application Id: 1-3322425799			Course	Full/Part Time	Affiliating Body	Intake Approved for 2016-17	Intake Approved for 2017-18	NRI Approval status	PIO / FN / Gulf quota/ OCI/ Approval status	Foreign Collaboration/Twinning Program Approval status*
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER ENGINEERING	FULL TIME	University of Pune, Pune	18	18	NA	NA	NA



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ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	DESIGN ENGINEERING	FULL TIME	University of Pune, Pune	24	24	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	DIGITAL SYSTEMS	FULL TIME	University of Pune, Pune	24	24	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	COMPUTER ENGINEERING	FULL TIME	University of Pune, Pune	120	120	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRICAL ENGINEERING	FULL TIME	University of Pune, Pune	60	60	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRONICS & TELE-COMMUNICATION ENGINEERING	FULL TIME	University of Pune, Pune	120	120	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	INFORMATION TECHNOLOGY	FULL TIME	University of Pune, Pune	60	60	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	MECHANICAL ENGINEERING	FULL TIME	University of Pune, Pune	120	120	NA	NA	NA
ENGINEERING AND TECHNOLOGY	2nd Shift	POST GRADUATE	COMPUTER ENGINEERING	FULL TIME	University of Pune, Pune	24	24	NA	NA	NA
ENGINEERING AND TECHNOLOGY	2nd Shift	POST GRADUATE	HEAT POWER ENGINEERING	FULL TIME	University of Pune, Pune	24	24	NA	NA	NA
ENGINEERING AND TECHNOLOGY	2nd Shift	UNDER GRADUATE	MECHANICAL ENGINEERING	FULL TIME	University of Pune, Pune	60	60	NA	NA	NA



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MANAGEMENT	1st Shift	POST GRADUATE	MASTERS IN BUSINESS ADMINISTRATION (FINANCE MARKETING AND HUMAN RESOURCE MANAGEMENT)	FULL TIME	University of Pune, Pune	60	60	NA	NA	NA
MCA	1st Shift	POST GRADUATE	MASTERS IN COMPUTER APPLICATIONS	FULL TIME	University of Pune, Pune	60	60	NA	NA	NA

The above mentioned approval is subject to the condition that

JAYAWANTRAO SAWANT COLLEGE OF ENGINEERING

shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

Note: Validity of the course details may be verified at www.aicte-india.org

Prof. A.P Mittal
Member Secretary, AICTE

Copy to:

- The Regional Officer,**
All India Council for Technical Education
Industrial Assurance Building
2nd Floor, Nariman Road
Mumbai - 400 020, Maharashtra
- The Director Of Technical Education**,**
Maharashtra
- The Registrar**,**
University of Pune, Pune
- The Principal / Director,**
JAYAWANTRAO SAWANT COLLEGE OF ENGINEERING
S.NO. 58, HANDEWADI ROAD, HADAPSAR, PUNE-411028,
PUNE,PUNE,
Maharashtra,411028



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PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

5. The Secretary / Chairman,

JAYAWANT SHIKSHAN PRASARAK MANDAL

JAYAWANT SHIKSHAN PRASARK MANDAL, S.NO. 80/3/1, PUNE-MUMBAI BYPASS, TATHAWADE, PUNE

411033,

PUNE, PUNE,

Maharashtra, 411033

6. Guard File(AICTE)

Note: ** - Approval letter copy will not be communicated through post/email. However, provision is made in the portal for downloading Approval letter through Authorized login credentials allotted to concerned DTE/Registrar.

सावित्रीबाई फुले पुणे विद्यापीठ

(पुर्वीचे पुणे विद्यापीठ)



दूरध्वनी क्रमांक :

०२०-२५६९१२३३

२५६०१२५८

२५६०१२५९

शैक्षणिक विभाग

गणेशखिंड, पुणे-४११ ००७

टेलिग्राफ : 'युनिपुणे'

फॅक्स : ०२०-२५६९१२३३

वेबसाइट : www.unipune.ac.in

ई-मेल : dyracademic@unipune.ac.in

दिनांक : ०७/०२/२०१७

संदर्भ क्र. : सीए/१२७

प्रति,

मा. प्राचार्य,

जयवंत शिक्षण प्रसारक मंडळाचे,

जयवंतराव सावंत कॉलेज ऑफ इंजिनीअरिंग,

हडपसर हांडेवाडी रोड, पुणे-४११०२८

विषय : संशोधन केंद्राच्या नूतनीकरणाबाबत...

संदर्भ क्र. : १) भारतीय राजपत्र क्र.२७८ दि. ५ जुलै २०१६ च्या

संदर्भात निर्गमित केलेली नियमावली.

२) सीए/३०९३ परिपत्रक क्र. १२२/२०१६ दि. ०३.०८.२०१६

महोदय,

उपरोक्त विषय व संदर्भांकीत परिपत्रकातील नियमांच्या अधिन राहुन विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार आपणास कळविण्यात येते की, आपल्या महाविद्यालयात खालील रकान्यात नमूद केलेल्या विषयांच्या पीएच.डी. संशोधन केंद्राच्या नूतनीकरणास मान्यता देण्यात येत आहे.

तथापि, महाविद्यालयाने खालील बाबींचे अनुपालन करणे आवश्यक आहे.

१) खालील नमूद कालावधीसाठी संशोधन केंद्रामध्ये पीएच.डी. मैकॅनिकल इंजिनीअर या विषयातील किमान दोन नियमित पीएच.डी. संशोधन मार्गदर्शक शिक्षक असणे आवश्यक आहे.

२) दर सहा महिन्यांनी विद्यापीठास पदव्युत्तर संशोधन केंद्राचा प्रगती अहवाल (Progress Report) शैक्षणिक विभागास सादर करणे आवश्यक आहे.

अनु. क्र.	विषय	विद्याशाखा	शैक्षणिक वर्ष	कालावधी	नव्याने/नूतनीकरण
१.	पीएच.डी. मैकॅनिकल इंजिनीअर	अभियांत्रिकी	२०१६-१७ ते २०२०-२१	५ वर्षे	नूतनीकरण

कळावे,

आपला,

उपकुलसचिव
(शैक्षणिक विभाग)



Government of India

Ministry of Human Resource Development

Department of Higher Education

Statistics Division

New Delhi

Certificate



Reference No. C-42216-2016

This is to certify that AISHWARYA BHIMRAO GAWAND of JSPMs Jayawantrao Sawant College of Engineering, Handewadi Road, Hadapsar, Pune 28. has successfully uploaded the data of All India Survey on Higher Education(AISHE) 2016-2017.

(B N Tiwari)

Deputy Director General

Dated: 13/03/2017



Government of India

Ministry of Human Resource Development

Department of Higher Education

Statistics Division

New Delhi

Certificate



Reference No.C-42216-2015

This is to certify that AISHWARYA BHIMRAO GAWAND of JSPMs Jayawantrao Sawant College of Engineering, Handewadi Road, Hadapsar, Pune 28. has successfully uploaded the data of All India Survey on Higher Education(AISHE) 2015-2016.

(B N Tiwari)

Deputy Director General

Dated: 16/03/2016



Government of India

Ministry of Human Resource Development

Department of Higher Education

Statistics Division

New Delhi

Certificate



Reference No.C-42216-2014

This is to certify that AISHWARYA GAWAND of JSPMs Jayawantrao Sawant College of Engineering, Handewadi Road, Hadapsar, Pune 28. has successfully uploaded the data of All India Survey on Higher Education(AISHE) 2014-2015.

(B N Tiwari)

Deputy Director General

Dated: 22/06/2015

Master Plan of the Institution

