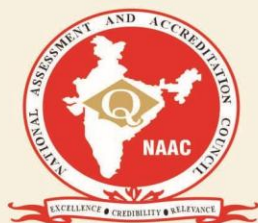


SELF STUDY REPORT FOR ASSESSMENT (Cycle-I) for AFFILIATED COLLEGES



Submitted to
**NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL
BANGLORE, INDIA**



In pursuit of Excellence
Education | Service | Research

Submitted by
**Mahatma Gandhi Mission's
Jawaharlal Nehru Engineering College**
(Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad)
N-6, CIDCO, Aurangabad - 431003

2016 - 17

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Jawaharlal Nehru Engineering College
Aurangabad, Maharashtra - 431003
2016-17**

Contents

Volume 01

Sr. No.	Contents	Page No.
	List of Tables	2
	List of Abbreviations	5
1	Preface	7
2	Executive Summary	9
3	SWOC Analysis of the Institution	22
4	Profile of the Institution	23
5	Criteria-wise Report	
	Criterion I - Curricular Aspects	35
	Criterion II - Teaching-Learning and Evaluation	57
	Criterion III - Research, Consultancy and Extension	129
	Criterion IV - Infrastructure and Learning Resources	212
	Criterion V - Student Support and Progression	227
	Criterion VI - Governance, Leadership and Management	255
	Criterion VII - Innovations and Best Practices	287

Volume 02

6	Evaluative Report of the Departments	
	Civil Engineering	307
	Mechanical Engineering	320
	Computer Science and Engineering	337
	Information Technology	356
	Electronics and Telecommunication Engineering	369
	Electrical, Electronics and Power	387
	Chemical Engineering	399
	Instrumentation and Control Engineering	410
	Biotech Engineering	419
	Applied Science	429
	Master of Computer Application	438
	Architecture	448
7	Declaration by the Head of the Institution	461
9	Compliance	462
10	Annexures	
	2F, 12 B Certificate	463
	AICTE approval letter	464
	Letter of affiliation by University	468
	ISO certificate	473
	Environmental Certificate	474
	NBA accreditation letter	475
	Best Exam Center Certificate	477
	Distinguished College Award	478
	Master plan of the Institute	479

List of Tables

Table No.	Title	Page No.
1.1	Institute-Industry MoU/Collaboration	40
1.2	Research Project Grants	42
1.3	Staff Contribution in University Curriculum	43
1.4	Institute Courses other than University Curriculum	46
2.1	Details of maximum and minimum of percentage of CET score	59
2.2	Scholarship Details during last five years	63
2.3(A)	Branch wise UG Admission Details	64
2.3(B)	Branch wise PG Admission Details	64
2.4	Branch wise SE Direct Admission Details	65
2.5	Additional efforts to enable students to cope up with engineering programme	67
2.6	Efforts taken to bridge the knowledge gap of the enrolled students	69
2.7	Activities organized for advanced learners	76
2.8	NITTTR Training Programmes	83
2.9	WIPRO MISSION 10x Activities	84
2.10	Language Enrichment Programs	84
2.11	Skill Development Programmes organized in 2012-13	87
2.12	Skill Development Programmes organized in 2013-14	90
2.13	Skill Development Programmes organized in 2014-15	92
2.14	Skill Development Programmes organized in 2015-16	94
2.15	Faculty details during the current academic year	102
2.16	Faculty permitted for higher studies	102
2.17	Number of Faculty nominated for Staff Development Programmes	103
2.18	Number of faculty nominated/participated in Workshops/ Seminars/ Conferences	105
2.19	List of Faculty for Study Leave availed	105
2.20	List of faculty members which are sponsored for presenting research papers at abroad	106
2.21	List of Faculty invited as Resource Persons	107
2.22	Awards/Recognition received for excellence in teaching	108
2.23	Internal Term Work Format for BE class/T.Y.M.C.A./Final Year Arch	115
2.24	Internal Term work Format for FE, SE and TE classes/F.Y. and S.Y.M.C.A./Arch	115
2.25	Result of final year for UG course in the last four years	118
2.26	Academic achievements during last four years	118
2.27	Skill development programs during academic year 2015-16	121

NAAC – SELF STUDY REPORT

2.28	Entrepreneurship Development Programme cell activities	124
3.1	Research Committee	129
3.2	Students Participations in technical competitions	132
3.3	Faculty members guiding the research scholars	135
3.4	Faculty completed ME / Ph.D. from Department	136
3.5	Workshop/ Training Programme/ Sensitization Programme	136
3.6	Prioritized research areas and the expertise	138
3.7	Eminent professors interactions	145
3.8	Lab to land	149
3.9 (A)	Total Budget and Expenditure	151
3.9 (B)	Expenditure on R and D	152
3.10	Details of financial assistance	154
3.11	Some of the collaborative projects undertaken include	155
3.12	Details of optimum use of facilities	156
3.13 (A)	The details of externally funded ongoing projects	158
3.13 (B)	Details of the Industry sponsored projects:	159
3.14	Research facilities	163
3.15	New Facilities Created	164
3.15 (A)	Details of special grants or finances	165
3.15 (B)	Details of Major Equipment Purchased	165
3.16	Library details	167
3.17 (A)	Details of Patents obtained and filed	169
3.17 (B)	Details of Surveys	169
3.17	Details of publication	171
3.18 (A)	Research awards received by the faculty	175
3.18 (B)	Recognition from Professional bodies	176
3.18 (C)	Details of role played	176
3.19	Details of institute-industry interaction	180
3.20	Details of EDP Cell activity	180
3.21	Details of consultancy services	183
3.22 (A)	Expenses Table for NSS Activities	187
3.22 (B)	Institute Social Responsibility, Activity Report 2012-2016	187
3.23	Details of social Survey	202
3.24	Details of MoU	206
4.1	Infrastructure facilities	212
4.2	Equipment for Teaching Learning and Research	213
4.3	Extra-curricular activities	213
4.4	Sports activities	214
4.5	Amount spent	214
4.6	Hostel Facility	215
4.7	Common Facilities	216
4.8	Composition of Committee	217
4.9	Working hours for library	218
4.10	Library holdings	219
4.11	Amount spent on books/ Journals / E-sources	219

NAAC – SELF STUDY REPORT

4.12	Number of computers with configuration	222
4.13	Budget of computers and accessories	224
4.14	Budget allocated and utilized for maintenance	225
5.1	Institutional Freeship	227
5.2	Financial Assistance from State/Central Government	228
5.3	SC/ST Committee	229
5.4	Skill Development Training Conducted (spoken English, Computer Literacy)	230
5.5	Entrepreneurship Skills	231
5.6	No. of Student enrolled for Competitive Exam class	232
5.7	No. of Students qualified for Competitive Exams	233
5.8	Counseling Services	233
5.9	Student Grievance redressal committee	235
5.10	Internal Complaint Committee	236
5.11	Anti ragging Committee	237
5.12	Anti ragging Squad Committee	238
5.13	Student Progression	242
5.14	Results for UG are given as follows	243
5.15	Results for PG are given as follows	243
5.16	For the year 2015-2016	244
5.17	Lists of Sports with Students' Participation Details	246
5.18	NSS Residential Camps	247
5.19	Few details of Students' Achievements (International)	248
5.20	Few details of Students' Achievements (National)	249
5.21	Few details of Students' Achievements (State, University and Zonal)	250
5.22	List of Department Magazine/ Newsletter	252
5.23	The Student Council for academic year 2016-17	252
5.24	Representatives for Various Academic / Administrative bodies	253
6.1	Academic Leadership	263
6.2	Grievance Redressal Committee	272
6.3	Concession in tuition fees	278
6.4	On duty facility	278
6.5	External audit details	280
6.6	Income and Expenditure	281
6.7	Internal Quality Assurance Cell	281
6.8	IQAC Suggestions and Implementation status	282

List of abbreviations

ACM	Association for Computing Machinery
AICTE	All India Council for Technical Education
AMC	Annual Maintenance contract
ASCE	American Society of Civil Engineers
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CAT	Common Admission Test
CBCS	Choice Based Credit System
CDC	Consultancy Development Cell
CEO	Chief Executive Officer
CFD	Computational Fluid Dynamics
COMSA	Computer Science Engineering Students Association
CNC	Computer Numerical Control
CSE	Computer Science and Engineering
CSI	Computer Society of India
CSR	Corporate Social Responsibility
Dr. BAMU	Dr. Babasaheb Ambedkar Marathwada University
DST	Department of Science and Technology
DTE	Director of Technical Education
ECT	Electronics
EDP	Entrepreneurship Development Programme
EEP	Electrical Electronics Power
EMS	Environment Management System
EPF	Employee Provident Fund
ERP	Enterprise resource planning
FACE	Focus Academy for Career Enhancement
FDP	Faculty Development Program
FE	First year engineering
GATE	Graduate Aptitude Test in Engineering
GRE	Graduate Record Examinations
GTT	Global Talent Track
HOD	Head of Department
HR	Human Resource
HRD	Human Resource Development
IBM	International Business Machines Corporation
ICE	Instrumentation and Control Engineering
ICT	Information and Communication Technology
IE(I)	The Institution Of Engineers
IEEE	Institute of Electrical and Electronics Engineers
IES	Indian Engineering Services
IGTR	indo German tool room
IICChE	Indian Institute of Chemical Engineers
IIIE	Indian Institution of Industrial Engineering

IIT	Indian Institute of technology
INSAAN	Indian National Suggestion Schemes' Association
IoT	Internet of Things
IPR	Intellectual Property Rights
IQAC	Internal Quality Assurance Cell
ISO	International Organization for Standardization
ISTE	Indian Society for Technical Education
IT	Information Technology
JITSA	JNEC Information Technology Students Association
JNEC	Jawaharlal Nehru Engineering College
LCD	liquid crystal display
M.E.	Master of Engineering
M.Phil	Master of Philosophy
MPSC	Maharashtra Public Service Commission
MCA	Master of Computer Applications
Mech	Mechanical
MGM	Mahatma Gandhi Mission
MKCL	Maharashtra Knowledge Corporation Limited
MoU	Memorandum of understanding
MQL	Minimum Quantity Lubrication
MRM	Management Review Meeting
NAASCOM	National Association of Software and Services Companies
NCC	National Cadet Corps
NDL	National Digital Library
NITTTR	National Institute of Technical Teacher Training and Research
NPTEL	National Programme on Technology Enhanced Learning
NSS	National Service scheme
OHP	Over Head Projector
PG	Post-graduate
Ph. D.	Doctor of Philosophy
PM	Particulate Matter
QCFI	Quality Circle Forum of India
QMS	Quality Management System
RC	Research Committee
R and D	Research and Development
SAE	Society of Automotive Engineers
SE	Second year engineering
T and P	Training and Placement
TCS	Tata Consultancy Services
TE	Third year engineering
UG	Under Graduate
UGC	University Grants Commission
UPSC	Union Public Service Commission

Preface

“In Pursuit of Excellence, Education, Service and Research”

The Mahatma Gandhi Mission Trust was established with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing higher education and research in professional fields with dedication and commitment.

Service to society, along with qualitative education, has been the basic goal in establishing the Mahatma Gandhi Mission Trust in the year 1982 on 20th December. A chain of Schools, Engineering, Architecture, Medical, Nursing, Management, Computer Science and IT, Bioinformatics and Biotechnology, Fine Arts ,Journalism etc have been established in Nanded, Aurangabad, Navi Mumbai and Parbhani in Maharashtra and Noida (New Delhi) in UP in due course of time. Along with academics, it has also been instrumental in promoting Classical Dance and Music for art seekers. It has also provided sports complex with multiple amenities and sports equipments. MGM's lush green and serene campuses are conducive to create a peaceful learning atmosphere.

The Trust has made phenomenal progress under the leadership of the founders led by Chairman, Hon. Shri. Kamal Kishore Kadam, Past-Education Minister, Maharashtra Government. All the founder members are hard core academicians and visionaries inspired by Late Shri. Nanasaheb Kadam, an ardent follower of the Gandhian ideology. The recipient of International Environment Trophy, MGM continues its journey, imparting value based services, creating global technocrats and health care personnel.

JNEC aims at sculpting the versatility of the students along with technical expertise in their own streams. As education aims at training human senses, mind, behavior, skills in a constructive and socially desirable way. Institute offer a platform to groom technical skills with the state of art facilities and versatility with various curricular, co-curricular and extracurricular activities. As Mahatma Gandhi Said **“By education I mean an all-round drawing out of the best in the child and man body, mind and spirit”**. Hence Institute nourishes physical, intellectual, social and spiritual aspects of the students along with the formed training in Engineering so that the students face the professional and social world competently.

MGM's
JAWAHARLAL NEHRU ENGINEERING COLLEGE

EXECUTIVE SUMMARY



Executive Summary

Jawaharlal Nehru Engineering College

JNEC is the Pioneer institute of MGM Trust approved by AICTE and permanently affiliated to Dr. Babasaheb Ambedkar Marathwada University. JNEC is ISO 9001:2008 and ISO 14001:2004 (Environment Management System) Certified Institute. The college is self-financing and non-minority college, has been included in the list of colleges under 2F/12B of UGC Act. Jawaharlal Nehru Engineering College was established in 1983 under the aegis of Mahatma Gandhi Mission trust led by Chairman Shri Kamalkishore Kadam, who is an IIT Engineer from Mumbai. He had also been the Education Minister and Deputy Speaker of Maharashtra Legislative Council. The foundation stone of the existing JNEC building was laid by Hon. Shri Sharad Pawar, the then Chief Minister of Maharashtra and union agriculture minister on Nov. 14, 1985.

JNEC imparts education through healthy and progressive teaching practices. The institute aims at inculcating humanitarian values among students. JNEC has lush green campus complemented with contemporary infrastructure. The Campus life is vibrant and full of enthusiasm. The caring attitude of staff towards students results in developing a cordial rapport and a sense of belongingness. That's why the students share a comfort zone with faculty members.

Jawaharlal Nehru Engineering College is a premier institute of engineering that has carved a niche for itself in the field of technical education in a very short span of time. The college has made its presence felt in the world of technical education.

Unique in its structure, methods and goals, the college is strongly rooted in the philosophy of training and research that enhances the relationship between knowledge and its application and seeks to promote the creation of an ideal society. The college also provides facilities for research leading to PhD in selected six subjects through its Research Center. JNEC provides a congenial atmosphere for diligent academic pursuits. This has been reflected through the results. Most of our students are among the toppers in various Engineering disciplines. Thousands of students have achieved their career excellence in various fields after graduation from this institute. The students from this institution are working in reputed organization throughout the world.

The college is affiliated to Dr. Babasaheb Ambedkar Marathwada University, which confers the degree of Bachelor of Engineering (B.E.), Master of Engineering (M.E.) in various disciplines, Master of Computer Application (M.C.A), Bachelor of Architecture (B. Arch.) and Master of Architecture (M.Arch) . JNEC is the first college in Marathwada to have been accredited by NBA and Council of Architecture.

The institute aims to achieve excellent standards of quality education by keeping pace with rapidly changing technologies and to create technical manpower of global standards with capabilities of accepting new challenges. Continuous efforts are taken

to impart quality and value based education to raise satisfaction level of all stakeholders.

College has been accredited by TCS for campus placement process, Campus connect programme by Infosys and also recognized as “Centre of Excellence” by IBM. Various development programs are conducted under Mission10X an initiated by Wipro.

JNEC has received “DISTINGUISHED COLLEGE AWARD” under CSI TECHNEXT India 2017.

The college has set up various committees for academic as well as nonacademic needs. Teachers along with supporting staff play a crucial role in planning and execution of procedures that are helpful for day to day functioning of institution. The Principal, Dean Academics, Head of the Departments and Sectional heads formulate necessary action plans by means of academic calendar and course plans. Every department prepares its academic calendar in accordance with the inputs received and ensures effective implementation of the same. Regular interaction with stake holders (management, alumni, parents, students, faculty, industry, society) is carried out to enhance all round development of students. Institute conducts various Training Programs/Workshops/Internships/conferences to enhance technical competencies.

Teaching learning aspects: College ensures quality in student-centric teaching and learning, producing commendable results at the University level and promoting research culture among the faculty and students.

The curriculum is updated with the involvement of the stakeholders and experts in the concerned field of studies. The curriculum is revised as per the recent developments and feedback from stakeholders. Our curriculum is enriched with current technological contents and inbuilt with academic flexibility through periodic changes as per university guidelines. JNEC follows outcome based education system as per the guidelines of NBA, Program Specific Criteria recommended by International Professional bodies (e.g. IEEE for Electrical and Electronics, ASME for Mechanical Engineering, ACM-IEEE for Computer Science and Engineering and IT department, ASCE for Civil Engineering) are taken into consideration while designing the curriculum. Each department offers professional core and elective courses.

Infrastructure facilities: The College has excellent facilities to enable this: Wi-Fi and Audio-Visual aid enabled classrooms, ergonomically designed classrooms and furniture, networked computer labs with systems, and the central library with a good collection of books and journals, e-journals and NPTEL videos, Network Resource Centre, staff rooms with computers and reprographic facility, conferencing facility, discussion rooms, Guest House, Hostels for boys and girls .The Institution provides support to its faculty members for their overall growth and development. They are granted leave for higher studies and are sponsored for seminars, workshops and conferences.

Teacher-Student Relationship: Students are cared at personal level, which paved the way for good relationship between students and teachers. Academic as well as personal support/ mentoring are given to the students on the campus. The majority of

teachers of the College are between 30 and 40 years of age, which helps them to easily build a healthy rapport with the youngsters. Teacher guardian scheme is followed by every department, wherein one faculty is incharge of 20 students to give personal attention.

Vibrant Campus: It has an elegant building with lush green campus. It has well equipped Laboratories, Library, Central Computing facilities, Computer Laboratories, seminar Hall and auditorium, separate hostel facilities for Boys and Girls, campus offering the learning community with a wide range of extra-curricular activities.

JNEC culture offers a platform to discover the hidden talent among the students other than academics. A platform to encourage such talent has been provided by forming various hobby clubs (Photography, Music, Drama and Green Club). Few departments have student associations and many other common initiatives by the students which helps them to enhance their all round development.

JNEC has an active TandP cell, EDP cell, RandD cell and NSS unit. It has various professional societies: CSI, IEEE, IE(I), QCFI, SAE- BAJA, INSAAN to carry out various technical events.

The sports facility is an integral part of educational activity. To keep students physically and mentally healthy. MGM has established huge sports complex with indoor and outdoor game facilities. JNEC has a well-established language lab for staff and students to enhance language skills. Other amenities include bank, medical facility, canteen, reprographic facility.

There is strong bond amongst the alumni of different batches and branches. JNEC alumni association is one of the most vibrant cell in JNEC. Many of our alumni are working in premier Engineering, Electronics, Chemical, Software, Construction, Pharmaceuticals, Finance and Defense industries in private and public sector. Some of them are on key positions in Research and Development, Design, Manufacturing, Marketing, HRD, Quality Assurance, Maintenance, Finance sectors and Information Technology.

List of various committees

Sr. No	Committee Name	Sr. No	Committee Name	Sr. No	Committee Name
1	Library Committee	2	Teacher-Guardian Scheme	3	UG. / PG. admission Committee
4	Website Committee	5	Alumni coordinator	6	Project Coordinator
7	EDP Cell	8	Research and Development	9	Program Advisory Committee
10	NSS	11	Training and placements Department coordinator	12	SC / ST Committee
13	IQAC	14	Time-Table Committee	15	Industrial Visits Coordinator
16	Anti-ragging Squad	17	Academic Review Committee	18	Grievance Redressal Committee
19	Anti-ragging Committee	20	T and P Officer	21	Internal complaints committee

JNEC follows ISO 9001:2008 procedures and functions with perfect decentralized administration and delegation of authorities, leading to continuous improvement. The working methodology focuses on the student. Involvement of each and everyone in the decision-making and the transparency associated therein also form the important features of the work culture. Different committees and their functions are based on following student criteria at College level and department level:

Major components of Teaching-Learning Process followed at JNEC.

Academic calendar is prepared by Dean Academics along with senior faculty under the guidance of Principal and Vice-Principal. Calendar has all the required components for every term which gives guidelines to department to plan their teaching-learning process in an elaborate manner. Industrial visits/tours, Expert lectures, workshops, seminars, technical events and extra-curricular activities are reflected in the academic calendar for smooth conduct of all activities. Calendar is modified by respective departments according to their requirements.

In the beginning of each semester, a course plan is prepared. The concerned faculty prepares a detailed lesson plan based on the units of the subject mentioned in the syllabus. And elaborate course plan for all theory and practical are made available to students by concerned course incharge at the beginning of the term.

Regular assessment of students is done through assignments, journals, class tests etc. Class teachers monitor the progress of students and maintain a constant interaction with the students so as to counsel them for their academic improvements. The result analysis is done for each semester and remedial measures are adopted for academically weaker students. Bright students are encouraged to put in efforts to secure ranks at the university examinations and guided to face competitive examinations to pursue higher levels of education.

Academic course completion feedback is collected at the end of every month to check the status of course plan implementation and necessary steps are taken for compliance to enhance the teaching skills of the faculty.

Attendance of the students is accessible to the parents through college ERP.

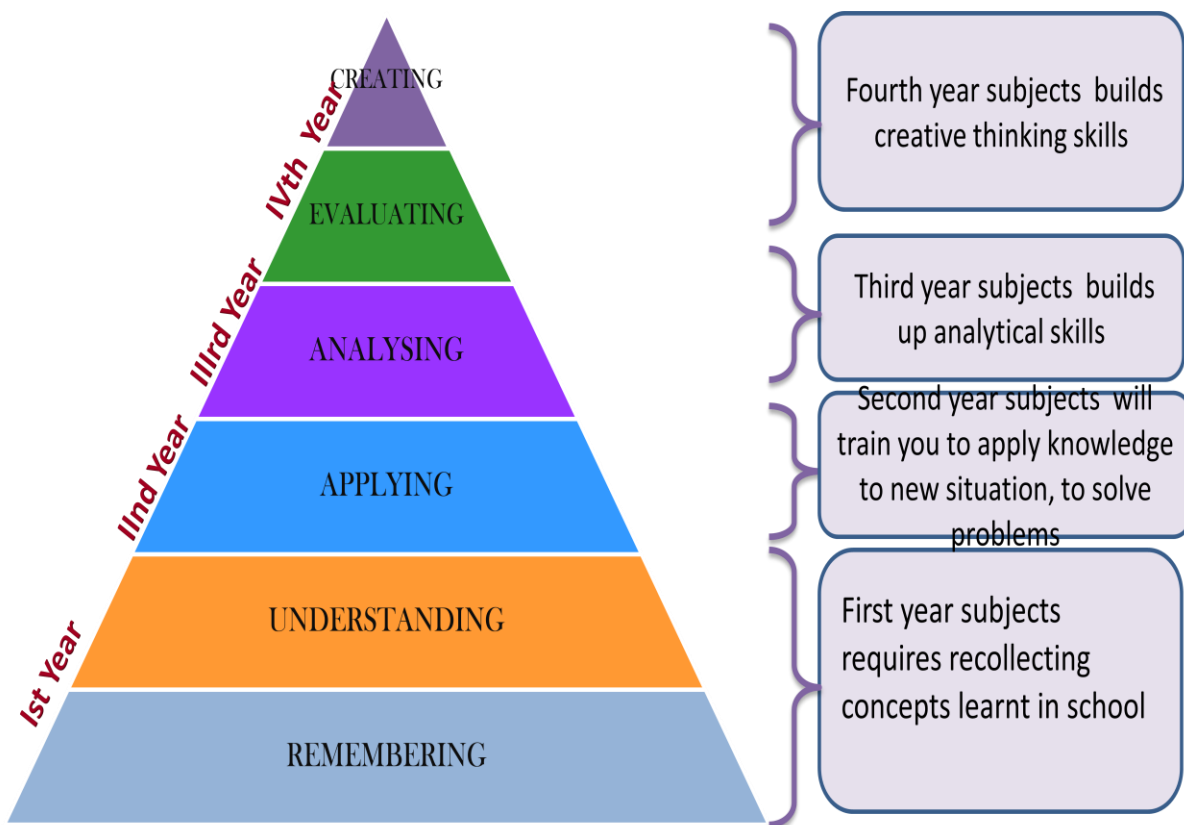
Teaching-Learning Components:

1. **Lectures:** Lectures are conducted with the aim to introduce theories, ideas, concepts and share information. Lectures provide detailed explanation of difficult topics and a starting point for self study. Lectures are conducted by citing suitable examples for enhanced learning. Faculty also provides new and up-to-date information that may not be in the text book.
Course files are prepared and maintained by the faculty which includes syllabus, course plan, teaching materials such as tutorials, assignments, internal test question papers, previous year University question papers etc.
2. **Tutorial :** Tutorials are regular meeting of a small number of students(approx 20) with a tutor. The tutor will usually set topics for the tutorial and ask students to prepare for the tutorial by reading and presenting papers. Tutorials are conducted less formally than a lecture, where detailed discussions are encouraged.
3. **Laboratory:** A practical component to accompany lecture, where experiments are conducted. Practical laboratory work is carried out with the purpose of practical learning and demonstrations. Also to identify the purpose of the lab

work, confirm the validity of the theory taught, develop investigative research skills, record readings and analyze.

Laboratory manuals and hand- written journals are prepared by faculty, which includes detailed procedures for conducting experiments.

4. **Seminars:** A group of students who meet regularly for reports and discussion in an area of research under the guidance of a professor. The main aim of the seminar is to understand the theories learnt. Homework which is prepared by the student as an individual and independent work can be presented in the seminar. Seminars are scheduled at frequent intervals of time.
5. **Project:** The project is an endeavor undertaken to create a unique product or service. It has specific objectives and resources assigned to performed the work. When the objectives are met, the project is considered complete. In short, it is the extract of his four years study.



Students are prepared for all round development, with major emphasis on following key areas:

- **Knowledge**
Knowledge beyond books foster innovation and creation by means of:
 - Guest Lecture / Expert Talk / Seminar for industry exposure and latest technical updates.

- Industrial Visits/ Technical tours give experience of industrial processes and work culture
- Internship program give corporate insight to students.
- Labs are kept open beyond college working hours.
- **Skills**
Various skill building activities are conducted.
 - Workshops/ training programs are conducted to train students in technical writing, public speaking and presentation preparation.
 - Co-curricular activities – Technical events conducted by the students enhance their professional skills for better employability.
 - Modern tools resources and Labs are available for students to experiment and explore.
- **Attitude**
Outcome based teaching learning process foster student's creativity by encouraging them to:
 - Brainstorm ideas
 - Examine a problem from numerous angles.
 - Test, experiment and troubleshoot
 - Effectively communicate, document and articulate solutions to problems
- **Team work**
Major / Minor Projects, an integral part of curriculum fosters team work:
 - Students demonstrate knowledge and work in multidisciplinary environments.
 - Students work in team and carry out assigned role.
 - Design effective solutions by collaborating ideas of others.
 - Learn to compromise / adjust with team members.

Co-Curricular / Extra-curricular activities:

Students are made aware of social, health, safety, legal and cultural issues through various platforms like:

- **Professional society** : Activities provide a platform for creative professional orientations. Technical events AGNITIO, AWUT and KLYSTRON are conducted every year under the banner of professional societies. Success in professional life requires IQ which evolves when students participate in organizing such activities. They work beyond regular schedule of their college under the guidance of faculty members. Chapters/Student branches of professional society at JNEC:
 - Institution of Engineers(India)
 - IEEE (Institute of Electrical and Electronics Engineers)
 - Computer Society of India(CSI) -- achievements of student branch since 2011
 - JNEC has received “DISTINGUISHED COLLEGE AWARD” under CSI TECHNEXT India 2017.
 - JNEC-Student Branch of CSI has won BEST STUDENT

BRANCH AWARD for consecutive 5 years since 2011 at National Convention.

- Student Convener has also won 3 awards.
 - Student Branch Counselor has won Significant Contribution Award for consecutive 6 years at National Convention.
 - QCFI (Quality Circle Forum of India)
 - Indian institute of Industrial Engineer(IIIE)
 - Indian National Suggestion Schemes Association (INSAAN).
- **NSS activities:** Aarouse the social conscience of the students and expose them to realities of life and bring about a change in their social perception. NSS unit of the college is enthusiastic to organize various activities for the benefit of the society.
Achievements since 2011:
 - Best Program Officer Award by Dr.Babasaheb Ambedkar Marathwada University.
 - One Student got BEST NSS volunteer, and he participated National Parade held at New Delhi for 26th Jan 2016.
 - One student got an opportunity to visit China under youth exchange program.
 - **Student Council:** Activities aims at the versatile development of students. Student council organizes various events apart from the annual cultural gathering. Students are encouraged to participate in intercollegiate competitions also.
 - **Hobby Clubs:** JNEC follows a unique culture. The JNEC culture is a blend of professionalism and Ethical values. It offers a platform to discover the hidden talent among the students other than academics. A platform to encourage such talent has been provided by forming various hobby clubs like Photography/ Drama/ Music/ SAE-India/ Green Club which are coordinated by faculty members. Also many departments have students association, which organizes technical activities for the benefit of students.

Criterion I: Curricular Aspects

- Institution follows curriculum designed by the Dr. Babasaheb Ambedkar Marathwada University.
- Academic calendar is prepared and implemented meticulously.
- College Dean Academics and Head of Departments monitor effective implementation of the Curriculum.
- The institution has an ERP (Enterprise Resource Planning) system for curriculum planning and implementation.
- Financial assistance is given by the Institution to the faculty for attending and organizing FDPs, workshops, Seminars and Research Conferences.
- Institute provides excellent infrastructure in the form of smart class rooms for making teaching more comprehensive and effective using ICT tools.
- Industrial/field visits are organized.
- College welcomes ideas from all stake holders while designing the course/curriculum.
- Seven Faculty members are working as chairman on Board of Studies and more than twenty faculty members have contributed their views and suggestions in curriculum updating and designing.
- Seven value added courses are available for students to bridge industry institution gap.
- Comprehensive feedback analysis mechanism is adopted in the college.
- Mid-term and end term feed-back are used to evaluate teaching-learning process.
- Credit system is implemented in UG and PG courses from the academic year 2016-17.
- College provides flexibility in elective options.
- Eight faculty members are research guide for Ph.D. students in various streams of science and engineering.
- Academic audit is carried out in the college every year.
- The institution adopts continuous improvement as per ISO 9001:2008 guidelines.
- Institution has signed MOUs with fifteen leading industries.
- Institute has Research and Development activities involving AICTE, UGC etc. sponsored projects and patents.

Criterion II: Teaching – Learning and Evaluation

- The admission process is carried out through Maharashtra- Common Entrance Test-Centralized Admission Process (MH-CET-CAP) by strictly following the guidelines specified by DTE, Maharashtra State, Mumbai for UG and PG programme.
- The Institute takes lots of efforts to enhance student's knowledge.
- To cope up with the enormous developments happening around, special efforts are taken to improve their personality and academic quality. Introduction of formative evaluation along with summative evaluation has a positive impact on

the overall learning of the students and has helped in improving their overall personality.

- The Institute has framed an internal assessment policy to ensure rigor and transparency in the internal assessment.
- The institute is affiliated type of institute and strictly follows the university norms for evaluation. The initiatives taken at university level are strictly implemented in the institute.
- The institute has sincere and dedicated team of faculty having postgraduate qualifications and Ph.D. Keeping in view the changing curriculum, Faculty Development Programmes are organized to enable the teachers to adapt to changing needs of the society and market.
- Guest lectures by experts from various sectors are organized for teachers. Teachers are also encouraged to attend the national/international conferences, seminars and workshops which enable them to cope up with the changing syllabus as well as introduce them to latest teaching methodologies.
- College has in place a healthy feedback collection system - the Faculty Feedback System, wherein evaluation of teachers is done by taking inputs from the students TWICE in each semester. JNEC follows Outcome Based Education (OBE) approach of National Board of Accreditation (NBA) for Teaching Learning Process.

Criterion III: Research, Consultancy and Extension

- Institute is basically an Engineering education institute of high repute. The main thrust is on the Engineering Education. In recent years the institute has started research oriented activities.
- The number of Doctorate Ph.D. faculty members increased to forty one.
- The institute has Research centers in six branches.
- The institute received funding from AICTE and UGC for projects.
- The number of projects submitted to UGC increased during 2014 and five minor projects got sanctioned as well. The research grants are increasing.
- The number of research scholars registered in JNEC research centers increased to 16. Faculty member's publications count also increased during last four years.
- Institute has one granted patent and four patents filed so far which is the sign of growth in research direction.
- Eight senior faculty members are guiding 30 research scholars. Ten candidates have completed Ph.D. under the faculty members.
- The institute publishes its own free International Journal Title: VISTA International Journal on Energy, Environment Engineering (ISSN No: 2456-5342 - Print).
- The institute also has a mechanism of conducting various workshops, seminars, expert talks through which students get a chance to interact with eminent persons from industry or different organizations.
- The various departments also have got a few MoUs through which the collaborative activities are conducted.

- Institute has a very active and vibrant NSS cell through which Institutional Social responsibility activities are conducted and the same culture is inculcated amongst the students. Students and the faculty members go to different villages, orphanages and conduct a lot of programs for them.

Criterion IV: Infrastructure and Learning Resources

- The institute has adequate infrastructure facilities for the growth of the institute in regards to academic development.
- There are other supportive facilities which are developed to contribute to the effective ambience for curricular, extra-curricular and administrative activities.
- The institute has halls such as Rukhmini Hall, Einstein Hall, Aryabhata Hall, and Jack Kilby Hall which are equipped with audiovisual aids.
- The institution ensures that the infrastructure facilities meet the requirements of students with physical disabilities by providing ramps, lift and concrete roads.
- The library has adequate books, journals and other learning materials and technology-aided learning mechanisms which enable students to acquire information, knowledge and skills required for their study programs.
- Library utilizes Qualsoft system for day to day transaction.
- The institution has IT infrastructure updated for academic and administrative purposes. The staff and students have access to technology on current and relevant issues.
- The institute frequently upgrades its IT facility.
- ERP(Enterprise Resource Planning) software is beneficial to students, parents and staff.
- The institution has sufficient resources allocated for regular upkeep of the infrastructure.
- There are effective facilities which are utilized at its optimum.
- The college also gives space for creativity such as development of museum.

Criterion V: Student Support and Progression

- Every year prospectus is prepared well in advance and issued with the latest information. The Academic schedule is also prepared in the form of academic calendar.
- The Institute offers financial assistance to the deserving students and staff wards. Students also receive financial assistance from Govt. in terms of scholarship.
- Various committees like SC/ST committee, Anti ragging squad, Anti Ragging Committee, Internal Complaint Committee and Student Grievance cell work efficiently for the support of the students.
- Provision of elevator, Ramps and special washroom facility provided for the differently abled students.

- MGM Hospital is accessible from JNEC Campus in case of any emergency. All the students are insured with Personal Accident Policy with value Rs.1,00,000 each and Hospital Charges up to Rs.20,000.
- Different counseling services like Academic, Personal, Career and Psycho-social are provided.
- A dedicated Training and Placement Cell is working round the year to impart efficient and effective training and to promote placement of students in various industries and organizations.
- The institution has a registered Alumni Association. JNEC alumni association is one of the most vibrant cell responsible to foster many activities. Alumni Association number is MAHA/497/04
- The Institution facilitates the students for higher level of education and employment by providing employability enhancement activities like guest Lectures and workshops. These activities enable students to acquire employability skills and confidence and perform well in the interviews and subsequently in the corporate environment.
- The students are supported financially by providing work in Library, Central Computing Lab, Department Labs and data entry excluding their academic schedule.

Criterion VI: Governance, Leadership and Management

- This criterion seeks to provide insights into the governance systems, leadership practices and proactive role played by management that has catapulted this institute into a premier academic institution imparting quality education in various disciplines of engineering.
- Vision of the institute lays emphasis on creation of self-reliant, continuous learner competent technocrats while its mission focuses on imparting quality technical education to the student through participative teaching learning process. It also seeks to develop competence, social mindset and human values amongst the students.
- The professional acumen of top management has resulted in unique synergy between Management, Principal and faculty for continual improvement in quality policy as envisaged and monitored through the Quality Management Systems such as ISO 9001:2008, ISO 14001:2004 and IQAC.
- The institute has established various committees for curricular, co-curricular and extra-curricular development of students in consonance with the expectations of stake holders.
- The institution has elaborate mechanism to design, implement and monitor Teaching-Learning process for imparting Outcome Based Education (OBE) to the students.
- This is ensured through academic calendar, course plans, ERP software for marking attendance and Academic Monitoring Committee meetings.
- Views of the students are solicited; analyzed and corrective measures are incorporated through mid-term feedback.

- The institution makes conscious sustained efforts for enhancing professional skills amongst its teaching and non teaching staff.
- Institute also provides welfare schemes by providing concession in tuition fees for the children of teaching and non-teaching staff, Salary advance to staff, provide concession for health check up and diagnostic services at MGM hospital.
- To enhance academic rigor and promote culture of excellence, students are encouraged to access peer reviewed journals of repute viz. Springer, DELNET, Gale Cengage e-journals and NPTEL video lectures.
- The institute believes in promoting a culture of empowerment through decentralized governance system and provides avenues such as technical events, conferences, socio-cultural initiatives, guest lectures of eminent personalities for grooming leadership at various levels such as principal, HOD, Faculty and students.

Criterion VII: Innovations and best practices

- The institute is certified for International Organization for Standardization (ISO) 14001:2004 Environment Management System (EMS).
- The policy considers the important aspects of environment such as energy, water, waste water management, noise, paper and electronic waste.
- The institute has formulated an Environment Policy from the broad framework of the guidelines under the purview of ISO 14001:2004. Studies for air quality monitoring, biogas facility, development of solar car is carried out.
- Weather station is installed in the campus to monitor the weather parameters.
- Awareness regarding environment consciousness is created by displaying appropriate messages/slogans on notice boards, class rooms, laboratories, corridors and campus.
- The institute has adopted several energy saving measures like switching off the lights, fans and electronic equipment when not in use. Renewable energy measures such as use of solar panels, solar heaters, and biogas are promoted both in the institute and the hostels.
- The institute has established an efficient firefighting system. The network of the firefighting system is wide spread.
- Rain Water Harvesting is implemented with a strong desire of water conservation. Initiatives for carbon neutrality are taken by tree plantation drives, to keep the campus free from pollution.
- Hazardous waste and E-waste are managed carefully. Sewage Treatment Plant is established for recycling of the waste water, which is used for gardening.
- To encourage the overall development of the students various hobby clubs such as music club, drama club and astronomy club are established.
- Curricular and extracurricular achievements of the students are acknowledged.
- Junior faculty is mentored by a senior faculty who guides the faculty how to organize and conduct the lectures in an effective way.
- To supplement the teaching learning, workbooks are prepared for the subject of Engineering Mechanics and Elements of Electrical Engineering.

- National Service scheme (NSS) volunteers work with villages, slums and voluntary agencies. In addition NSS team frequently organize blood donation camps, awareness programs through “Pathnatya”, Grain donations to the needy, plantation drives, Swachata Abhiyan etc.
- All the departments hold student chapters through which various technical activities are carried out throughout the year. The departments have developed project galleries which display the projects done by the senior students.

Strength Weakness Opportunities Challenges Analysis of the Institute**Strength:**

- Highly qualified, committed, competent and experienced faculty members.
- Well developed infrastructure with modern hi-tech seminar halls, class rooms
- Well equipped laboratories with adequate configuration and internet facility.
- PG programs and research programs in majority of the departments.
- Updated curriculum with requirement defined by stake holders to successfully implement outcome based education.
- Well established library with adequate books, journals and e-learning resources.
- Well maintained infrastructure for curriculum, co-curricular and extra-curricular activities which include NSS/Sports/Professional bodies/ clubs.
- Dedicated faculty and staff with strong work ethics, commitments to quality, positive morale and willingness to recognize weakness and make improvements.

Weakness:

- Research resources and funding for research scholars.
- Tie-ups with companies for training programs.
- Less industry institute interaction.
- Collaboration with higher level institutes.
- Lack of industrial consultancies and applied research.

Opportunities:

- Autonomous status helps in formation of industry –based syllabi which eventually helps in development of employable skilled professional.
- Improvement in research activities and publications through sponsored R and D projects.
- Work collaboratively with premier institutes and industry for advance research and academic interaction, through MoUs.
- Strengthening interaction with Alumni to facilitate more connects with the industry for academics and placement activities.
- EDP cell can be empowered to create entrepreneurs.
- Establishing centre of excellence in emerging areas.

Challenges:

- High pace of change in technology leads to obsolescence of lab equipments.
- Possibility of declining quality of students admitted because of large number of institutes being set-up.

Profile of the Institution

1. Profile of the Affiliated / Constituent College

1. Name and Address of the College:

Name :	MGM's Jawaharlal Nehru Engineering College		
Address :	N-6, CIDCO, Aurangabad		
City :Aurangabad	Pin :431003	State :Maharashtra	
Website :	www.jnec.org		

2. For Communication:

Designation	Name	Telephone with STD code	Mobile	F a	Email
Principal	Dr. Sudhir D. Deshmukh	O:0240-248289 R:	9657715341	0240-2482235	principal@jnec.ac.in
Vice Principal	Dr. Harirang H. Shinde	O:0240-2482893 R:	9657715342	0240-2482235	viceprincipal@jnec.ac.in
Steering Committee Coordinator	Mr. Suresh A. Annadate	O: 0240-2482893 R:	9175559400	0240-2482235	sureshannadate@jnec.ac.in

3. Status of the Institution Affiliated College ☒ 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

6. Sources of funding:

Government

Grant-in-aid

 Self-financing ☒

Any Other

7. a. Date of establishment of the college: 08/07/1983
b. University to which the college is affiliated

 Dr. Babasaheb Ambedkar Marathwada University, Aurangabad,
Maharashtra

c. Details of UGC recognition:

Under Section	Date, Month and Year (dd-mm-yyyy)	Remarks(If any)
i. 2 (f)	01/06/2012	F.No. 8-553/2011(CPP-1/C)
ii. 12 (B)	01/06/2012	

(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.)

Under Section/ Cl aus e	Recognition/Approval details Institution/Department Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
i.	AICTE	25/04/2017	1 Year	F.No. Western/1- 3330335042/2 017/EOA
ii.	Council of Architecture	26/06/2012	5 Year	CA/5/Academ ic-MH12
iii.	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	28/06/2016	1 Year	ABL/2016- 17/11241-50

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.	40,670.90 sqmt
Built up area in sq. mts.	33,461.24 sqmt

11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case 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

Number of Hostels	01
Number of Inmates	51
Facilities	Internet lab, WiFi connection, Dormitory, Guest room, TV room, Reading room, Rooms with attached bathroom, Common bathroom

Girls' Hostel

Number of Hostels	3
Number of Inmates	119
Facilities	Internet lab, WiFi connection, Dormitory, Guest room, TV room, Reading room, Rooms with attached bathroom, Common bathroom, Washing room

* Working women's hostel No

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
- Health centre -Yes
First aid, Inpatient, Outpatient, Emergency care facility,
Ambulance..... Health centre staff –

Qualified doctor Full time ☐ Part-time ☐

Qualified Nurse Full time ☐ Part-time ☐

- Facilities like
Banking Yes
Post office No
Book shops No
- Transport facilities to cater to the needs of students and staff: Yes (City Bus)
- Animal house: No
- Biological waste disposal: Yes
- Generator or other facility for management/regulation of electricity and voltage: Yes
- 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)

Sr. No	Programme Level	Name of the Programme/Course	Duration	Entry Qualification	Medium of instruction	Sanctioned/ approved Students	No. of students admitted
1	Under-Graduate (BE)	Civil Engineering	4 Years	HSC,MH CET or/and JEE (Main)	English	60	63
2		Civil Engineering (Shift)	4 Years	HSC,MH CET or/and JEE (Main)	English	60	48
3		Mechanical Engineering	4 Years	HSC,MH CET or/and JEE (Main)	English	120	127
4		Electronics and Telecommunication	4 Years	HSC,MH CET or/and JEE (Main)	English	120	102
5		Computer Science and Engineering	4 Years	HSC,MH CET or/and JEE (Main)	English	120	123
6		Chemical Engineering	4 Years	HSC,MH CET or/and JEE (Main)	English	30	20
7		Information Technology	4 Years	HSC,MH CET or/and JEE (Main)	English	60	55
8		Electrical, Electronics and Power	4 Years	HSC,MH CET or/and JEE (Main)	English	60	51
9		Architecture	5 years	HSC and NATA	English	40	40
1	Post-Graduate	ME – Electronics Engineering	2 Years	BE & GATE	English	25	06
2		ME – Computer Science and Engineering	2 Years	BE & GATE	English	18	02

3		ME- Mechanical (Manufacturing)	2 Years	BE & GATE	English	18	03
4		ME- Civil (Structural Engineering)	2 Years	BE & GATE	English	18	09
5		ME- Electrical Power System	2 Years	BE & GATE	English	18	12
6		Master of Computer Application	3 Years	Any Science Graduate	English	60	20
7		Master of Architecture	2 Years	B. Arch & CET	English	20	00
1	Ph.D.	Mechanical	PG	PG degrees in the respective Discipline	English	---	07
2		Chemical	PG	PG degrees in the respective Discipline	English	---	02
3		Applied Science, Environmental Science, Environmental Engineering, Civil	PG	PG degrees in the respective Discipline	English	---	00

13. Does the college offer self-financed Programmes?

Yes ☒

No ☐

If yes, how many? All Programmes.

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

Programme	Course	Year
PG	Master Computer Science and Engineering	2012-13
PG	Master of Architecture	2014-15
PG	Master of Electrical Power System	2013-14
PG	Master of Chemical Engineering	2013-14
PG	Master of Biotechnology	2012-13
PG	Master of Thermal Engineering	2013-14

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	UG	PG	Research
Engineering	Civil Engineering	BE- Civil Engineering	ME- Structure	Ph.D.
	Mechanical Engineering	BE- Mechanical Engineering	ME- Manufacturing	Ph. D.
	Computer Science and Engineering	BE - Computer Science and Engineering	ME- Computer Science and Engineering	
	Information Technology	BE- Information Technology	--	--
	Electronics and Telecommunication	BE- Electronics and Telecommunicatio	ME- Electronics	--
	Electrical, Electronics and Power	BE- Electrical, Electronics and Power	ME- Electrical Power System	--
	Chemical Engineering	BE- Chemical Engineering	--	Ph. D.
	Instrumentation and Control	BE- Instrumentation and Control	--	--
	Biotech Engineering	BE- Biotech Engineering	--	--
	Architecture	B-Arch: Architecture	M- Arch: Architecture	--
	Master of Computer Application	--	MCA	--

16. Number of Programmes offered under

- annual system: NA
- semester system: 11

c. trimester system: NA

17. Number of Programmes with

- a. Choice Based Credit System ☒ (First Year Engineering and all PG Courses.)
- b. Inter/Multidisciplinary Approach --
- c. Any other (specify and provide details) ☒
 - Semester based assessment System for second year, third year and final year engineering and v th year of Architecture students.

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

Yes ☐

No ☒

If yes,

- a. Year of Introduction of the programme(s) --- (dd/mm/yyyy)
and number of batches that completed the programme
- b. NCTE recognition details (if applicable)
Notification No.:
Date:
(dd/mm/yyyy)
Validity:.....
- c. 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,

- a. Year of Introduction of the programme(s)..... (dd/mm/yyyy)
and number of batches that completed the programme
- b. NCTE recognition details (if applicable)
Notification No.:
Date:
(dd/mm/yyyy)
Validity:.....

c. 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		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC / University / State Government <i>Recruite</i>	04	01	01	-	42	35	123	29	53	10
<i>Yet to</i>	25		58		81		-	-	-	-
Sanctioned by the Management/ society or other authorized bodies <i>Recruited</i>	06	04	12	07	66	60	-	-	-	-
<i>Yet to</i>	15		39		-		-	-	-	-

*M-Male *F-Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate		Assistant		
			Professor		Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
Ph.D.	5	4	10	6	4	6	35
PG	4	1	2	1	37	21	66
Temporary teachers							
Ph.D.	1				4	1	6
PG	-	-	1	-	43	52	96
Part-time Teachers (Adjunct)							
Ph.D.	-	-	-	-	-	-	-
M.Phil.	-	-	-	-	-	-	-
P.G.	-	-	3	1	-	-	4

22. Number of Visiting Faculty /Guest Faculty engaged with the College. – 14

NAAC – SELF STUDY REPORT

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

Categories	2016-17		2015-16		2014-15		2013-14		2012-13	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
SC	44	31	55	23	56	27	71	41	69	44
ST	05	01	08	03	07	03	06	02	12	05
OBC	97	33	98	54	78	52	109	59	113	51
General	186	100	188	120	212	124	266	159	269	171
Others	49	28	61	31	77	41	79	46	91	42

24. Details on students enrollment in the college during the current academic year:

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the college is located	609	52	-	09	686
Students from other states of India	05	-	-	-	04
NRI students	-	-	-	-	
Foreign students	-	-	-	-	
Total	614	52	-	09	675

25. Dropout rate in UG and PG (average of the last two batches)
 UG: 0.56
 PG: 1.17
26. Unit Cost of Education
 (Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)
 (a) including the salary component: 65688.00
 (b) excluding the salary component: 16806.00
27. Does the college offer 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

Sr. No.	Course offered	Teacher-Student Ratio
1	Undergraduate(BE)	1:15
2	Postgraduate(ME)	1:12
3	Postgraduate(MCA)	1:15

29. Is the college applying for

Accreditation : Cycle 1 ☒

Re-Assessment: NA

30. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: NA Accreditation Outcome/Result NA

Cycle 2: NA Accreditation Outcome/Result NA

Cycle 3: NA Accreditation Outcome/Result NA

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

Year: 2015-16 Working Days: 295

32. Number of teaching days during the last academic year.

Year: 2015-16 Teaching Days: 180

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

IQAC: 08/07/2016

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

AQAR (i) NA

AQAR (ii) NA

AQAR (iii) NA

AQAR (iv) NA

35. Any other relevant data (not covered above) the college would like to include. (Do not include explanatory/descriptive information)

- The institution is ISO 9001:2008 certified by JAS-ANZ for maintaining academic standards.
- The Institution is ISO 14001:2004 certified for Environment Management System.
- JNEC has been awarded with “Distinguished College Award” at TechNext 2017.

- The Institution received Best Exam Center award from Dr. Babasaheb Ambedkar Marathwada University in 2013.
- Every year our students stood in university ranker list.
- JNEC-Student Branch of CSI has won “ Best Student Branch Award” for consecutive 4 years since 2011 at National Convention
- One Student got BEST NSS volunteer, and he participated National Parade held at New Delhi on 26th Jan 2016.
- One student got an opportunity to visit China under youth exchange program

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.

VISION:

To create self-reliant, continuous learner and competent technocrats imbued with human values.

MISSION:

- Imparting quality technical education to the students through participative teaching-learning process.
- Developing competence amongst the students through academic learning and practical experimentation.
- Inculcating social mindset and human values amongst the students.

OBJECTIVES:

- To equip the engineers of tomorrow to cope up with the fast paced field of information/communication technology.
- To update the students with the latest technologies by organizing talks and seminars.
- To reinforce the importance of team work in students by undertaking minor and major projects.
- To inculcate an attitude of commitment to quality among students.

The vision, mission and objectives of the college are made known to the students, teachers, staff and other stakeholders through:

- Institute website (www.jnec.org), brochure, lab manuals and student journals.
- Departmental newsletter.
- Visiting-cards of faculty members.
- Institute letter heads
- Principal's first address to FE students every year
- Display Boards in the institute at various places like Principal's Chamber, Vice Principal's Cabin, Central Library, Training and Placement Cell, Main Stairway, Entrance of every floor etc.
- Teacher Parent Meet.
- Industrial interaction with industry representatives
- Alumni Association activities and meetings
- Notice boards of all departments

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 specific example(s).

The institute is affiliated to Dr.Babasaheb Ambedkar Marathwada University, Aurangabad and the curriculum and syllabi prescribed by the university is adhered to. Apart from this prescribed curriculum, the institute has strategized ways (as shown in Figure 1.1: Implementation of Curriculum) and means to strengthen the teaching-learning process in the following ways:

- Advance planning of academic activities and calendar in alignment with the university issued academic calendar circular.
- Subjects are allotted to the faculty as per area of specialization/interest and industrial experience if any.
- A subject is split and shared by more than one faculty depending on the subject expertise/interest of the faculty.
- Each course plan consists of 40 theory sessions for 80 marks paper and 20 theory sessions for 40 marks paper according to curriculum. Course plan at the institute is prepared for 52 theory sessions as against 40 sessions and 30 theory sessions as against 20 sessions and uploaded to the ERP system of the institute.
- Maintaining course files by all faculty members which contain course plan, notes, question banks and performance details of the students.
- Faculty prepares a model practical journal and laboratory manual of the allotted subject.
- Course plan implementation is monitored by HOD.
- Course plan implementation and delivery includes traditional teaching technique, collaborative learning, group learning, use of e-resources, group activities, tutorials by any of the following means:
 - a. Presentations
 - b. Charts and Models
 - c. Handouts
 - d. NPTEL videos, animation videos
 - e. Seminars, webinars
 - f. Site visits
 - g. Role play
 - h. Assignments, quiz
 - i. Case studies
 - j. E-journals and e-books
- Subjects are taught as per the course plan and record is maintained properly.
- At the end of every month, a compliance report on syllabus completion for that month is prepared.
- Feedback is taken from the students about individual subjects (mid-term/end term) and action plan is prepared as per the feedback for further improvement.
- Feedback is also taken from industry regarding course content for enrichment of the curriculum and to minimize the gap between theory and practical sessions.
- A minimum of two class tests are conducted for each theory subject in each semester during zero hour without disturbing the regular schedule.
- Conduct of remedial classes for weak students, if any.

- Entrusting the teaching faculty with the task of mentoring a batch twenty of students on academic and personal issues, thereby strengthening the bond between teachers and students, leading to a better learning atmosphere.
- Provision of well-ventilated and spacious class rooms.
- Regularly organizing suitable guest lectures and industrial visits to support curriculum activities.

For example:

- Students of CSE/IT attended an expert talk by Mr. Anuj Jajoo, Infosys Pvt. Ltd. Pune, on Software Testing and Quality Assurance organized by department of Information Technology.
- Students from department of MCA visited Belgium State University, European Union under Academic exchange programme for internship.

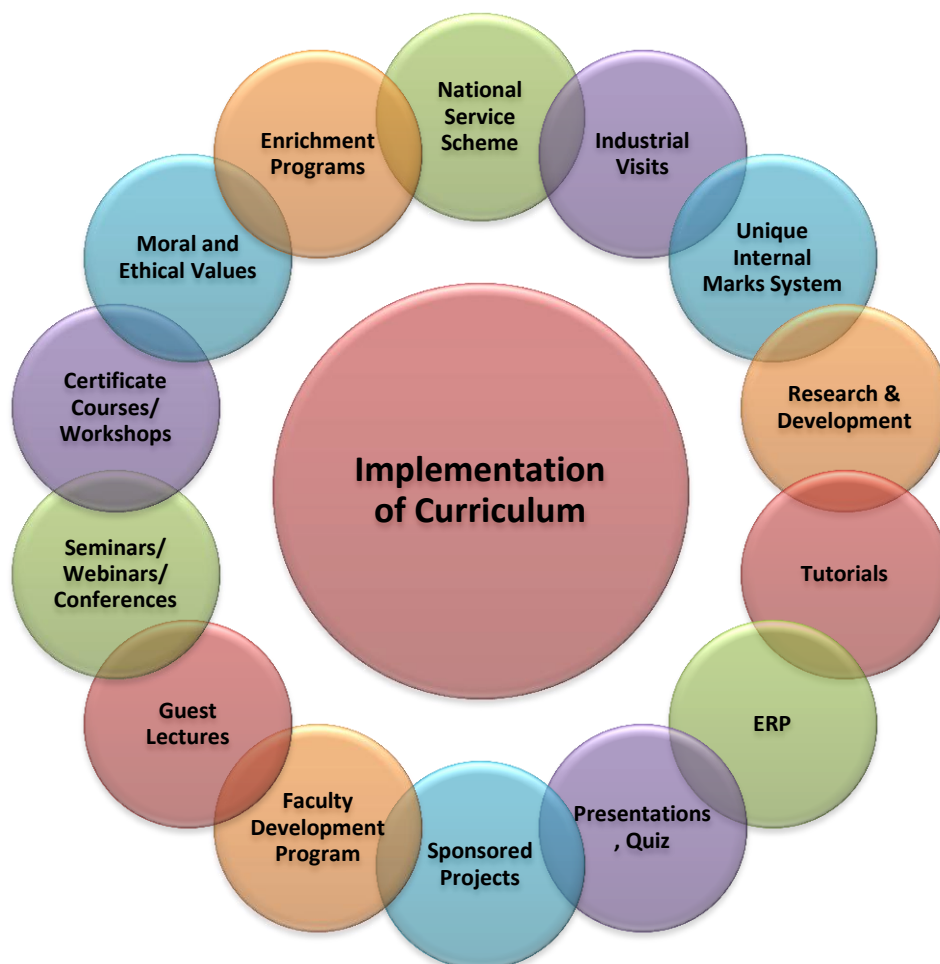


Figure 1.1: Implementation of Curriculum

1.1.3 What type of support do the teachers receive from Institution for effectively translating the curriculum and improving teaching practices?

For effectively translating the curriculum and improving teaching practices faculty members get support for workshop/seminar/research conference/ induction training from the institute. It also provides infrastructure and logistic support to conduct these activities in the premises. Details of these activities are given below:

- **Faculty Development Programs.** Faculty Development Programs (FDP) is organized by the institute according to current trends and practices. Faculty members are also nominated to attend FDPs arranged by other institutions including institutes of national repute inside and outside the campus.
- **Workshops and Seminars.** Seminars and workshops relevant to academics, current practices, teaching practices etc. are selected specially for nomination of faculty members.
- **Visit to Leading Educational Institutes.** Faculty members are also motivated to visit leading educational institutes to learn the excellent practices adopted by them. Faculty members are also nominated to attend certain workshops, seminars organized by other institutes.
- **Financial Assistance.** Faculty members are granted financial assistance by the institute to attend seminars, workshops, FDPs and conferences. The departmental budget allocation has provision for such assistance.
- **Research Conferences.** Faculty is also encouraged to participate in research conferences by presenting research papers. Conferences based on higher education, teaching learning practices always help faculty members in improving teaching practices for effective implementation of curriculum. Faculty is relieved on duty to attend these conferences.
- **Induction Training of New Faculty Members.** New faculty members are put through induction to make them aware of the teaching learning practices, routine and culture of the institute.
- **Exceptional Infrastructure and Teaching Facilities.** Institute is having excellent infrastructure in the form of smart class rooms for making teaching more comprehensive and effective using ICT tools. Sufficient numbers of well-equipped and ventilated class rooms are available for compulsory and specialized subjects. LCD projectors/OHP, Personal Computers are provided to faculty members that are equipped with multimedia, software and 24x7 internet facilities to make teaching more interesting and comprehensive as and when required.
- **Departmental and Central Library Support.** Apart from exceptional infrastructure, institute also offers excellent library support to faculty members. Separate departmental library is available in some of the departments. Latest National and International journals are also available in the library.
- **ERP System.** ERP (Enterprise Resource Planning) system is the backbone of curriculum planning and implementation. ERP website is available to faculty in which faculty members have to upload course plan of the respective subject. After the conduction of classes, faculty members have to mark the attendance of the students on the ERP along with the topic taught in that lecture. It also helps to monitor the coverage of the syllabus and attendance of students on a daily basis. Syllabus coverage can also be monitored by HODs and Dean Academics regularly which always helps faculty members to cover the respective syllabi in time with

more efficiency and effectiveness. It also enables performance of tasks like result analysis, assignments, notes, e-books, presentations, quizzes, e-resources etc. ERP coordinator can also send SMS, emails and notifications to students or parents. Each student has his own account and login.

- **Academic Meetings.** Academic meetings are conducted by Dean Academics under the chairmanship of Principal every month to discuss coverage of syllabus, activities done in class and new methodologies of teaching so that improvements in teaching could be made. HODs also conduct meetings at department level to solve problems faced by faculty members while teaching.
- **Reprographic facilities.** Central Library has reprographic facility for faculty members to have photocopies of case studies, class tests, tutorials etc.

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.

Details of the initiatives taken by the institute to make the curriculum delivery and transaction more effective are as follows:

- Complete course plan is prepared and displayed in advance at the commencement of the term on ERP system by each faculty member. Day wise schedule is mentioned in the course plan for the entire semester, which is meticulously implemented by the faculty members. This practice really makes the subject delivery very effective and structured.
- Faculty members can upload their course materials for effective student learning into digital depository at department level.
- Industrial visits/field visits are planned to get exposure of practical knowledge.
- Guest lectures, seminars are organized with the objective of updating with current practices.
- Encouraging students to do innovative project work and to participate in various technical events.
- Motivating students for doing research work and present papers in seminars and conferences and publish it in journals.
- Bridging Industry Institution gap with suitable enrichment programs.
- Adopting “outcome based approach” for the effective delivery of the curriculum. Even the pattern of setting of the question papers for the class tests is so designed to facilitate the assessment of the attainments of the course outcomes for the various courses.
- Third-year students are encouraged to go for internship programs at the end of the academic year.

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

The institute continuously interacts with beneficiaries such as industry, research bodies and the university by following means:

- The institute has tie ups with various industry associations as shown in Table 1.1: Institute-Industry MoU/Collaboration. Meetings of such bodies are also conducted at the institute, as it is a member of such bodies. Faculty members regularly attend

all the activities and events conducted by these bodies. Such forums offer an opportunity to the institute to network and interact with various industry representatives and understand the expectations of the industry from institute and enrich and deploy of the curriculum in the same manner.

Table 1.1: Institute-Industry MOU/Collaboration

Sr. No.	Name of Organization/ Industry	Name of MoU/ Collaboration	Training Activity	Validity
Chemical Engineering				
1	Sanjay Techno Plast Pvt. Ltd.	Institute-Industry	Projects	From July 2014
2	Varad Fertilizers Pvt. Ltd.		In-plant training	From Dec 2014
3	Dhananjay Group of Industries		Project training and Industrial Visits	From March 2017
Architecture				
4	Nadkarni Mahajan & Associates	Training of Students of Architecture	Small Housing Projects	Jan 2017 - Dec 2017
5	Ar. Yogendra Ballal& Associates		Small Landscape Projects	Jan 2017 - Dec 2017
6	Ar. Gangwal & Associates		Small Interior Design Projects	Jan 2017 – Dec 2017
7	Ar. Manish Kale & Associates		Small Apartment Projects	Jan 2017 - Dec 2017
Civil Engineering				
8	Nandadeep Consultants	Institute-Industry	Lecture talk, Workshop, Industrial Visit, Technical guidance to BE and ME students	From June 2016
Electronics &Telecommunication				
9	Gill Instruments Pvt. Ltd.	Setting of lab under Industry Institute Interaction	1 st Level Hands on Training on IoT	From 2014-15
Electrical, Electronics & Power				
10	Krish Automation	Conduction of workshop	Workshop	From 2013-17
11	Ambekar Associate		Workshop	From 2013-17
Mechanical Engineering				
12	MCED	CAD/CAM Training	CAD/CAM Training	August 13-August 2014
Information Technology				

13	Infosys Pvt. Ltd. Pune	Enriching Technical Education and enhancing Quality of Education	FDPs, Webinars	Nov 2015 - Nov 2017
14	Red Hat India Pvt. Ltd.	Red Hat Certification Courses	Ex200, Ex300, Ex210, Ex225, Ex248	June 2016 to June 2017
Training and Placement				
15	Treezec- E Solutions Pvt. Ltd.	Institute-Industry	Skill Enhancement and Placement	Dec 2016- Dec 2017
16	Indian Institute of Material Management Aurangabad Branch	Institute - Industry	Training courses, Workshops and other activities	From May 2017

- The institute has association with Barclay as a part of Corporate Social Responsibility (CSR) initiative to train students for skill enhancement as per the industry requirement. Barclays is a partner of Global Talent Track (GTT) and NASSCOM foundation in this initiative. GTT would be executing the training program to develop employability skills under this initiative for the final year students.
- The institute also interacts with industry by offering the infrastructure, utilities to well-known corporate players for conducting their activities in an academic environment. Such initiatives also offer an opportunity of healthy interaction with the corporate.
- Regular networking and interaction is happening with industry through placement activities. Open campus, campus, off campus drives are conducted for students' recruitment. Feedback from recruiters is also taken which work as guideline for improvement in curricular operationalization and input offered to students.
- The institute organizes guest lecturers regularly. Eminent personalities from industry or academia or alumni deliver lectures on current topics.
- Certain groups of students design/develop projects in industries appropriate to their branch of study.

Research recognition/grants:

- The institute is networking with various research bodies by organizing national conferences sponsored by such bodies. Participation of faculty members in such conferences, organized by other institutes / universities offers a platform for healthy interaction. Faculty members attend orientation/ FDPs/ Pre-Ph.D courses at the university.
- University recognized research centers are available for Civil Engineering, Environment Engineering, Environment Science, Chemical Engineering, Mechanical Engineering and Applied Science streams.
- University approved eight research guides are also available in the field of Engineering and Technology.

- Department of Civil Engineering has been granted with a design patent. Five patents applications have also been filed by departments of Civil Engineering, Mechanical Engineering and Computer Science & Engineering.

The institution receives grants from research bodies such as DST, AICTE, UGC etc. as shown in Table 1.2: Research Project Grants.

Table 1.2 : Research Project Grants

Nature of the Project	Duration Year From To	Title of the project	Faculty Name	Name of the funding agency	Total Grants Sanctioned (Rs. in lakhs)
Major projects	2012-13 onwards	Optimization of Minimum Quantity lubrication in Turning of Hardened Steel	Dr. S. D. Deshmukh	AICTE-RPS	17.42
Minor projects	2012-13 onwards	Optimization of Dry turning	Dr. R. R. Deshmukh	UGC	5.02
	2014 onwards	Thiai Thiamine Hydrochloride (VB1) In Synthesis Of Some Heterocyclic Compounds	Dr. S.B. Sapkal	UGC	2.35
	2015 onwards	Development of Hybrid Model for detection of Heart Disease from Electrocardiogram Signal	Dr. S. L. Kasar	UGC	1.5
	2015 onwards	Voice Guidance System for Visually Impaired Person	Dr. S.C. Tamane	UGC	1.3
Students' research projects	2013-16	SAE BAJA, SUPRA, Gokart.	Dept. of Mech.Engg	Institute	43.16
	2015-17	Robocon	Dept. of ECT	Institute	3.6
				Total	74.35

University and other educational Institutions:

- Some of the faculty members of the institution are members of various Boards of Studies, syllabus committee and Academic Council. They take active part in curriculum revision and in the discussions related to the implementation of various academic activities and examination systems.

- Principal and some of the faculty members participate in the meetings organized by other institutions for discussing the functioning of internal quality assurance cell.

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.)

The curriculum designed by the affiliating university is adequate and it is dynamic. The last revision for first year was done as latest as the academic year 2016-17. However, based on the systematic feedback of the students on course outcomes and alumni on attainment of programme outcomes, teachers at the department level discuss the curriculum in detail and through the members of Board of Study / subject experts, the required and suitable changes are recommended to the concerned bodies. The contributions of the institution and/or its staff members to the development of the curriculum by the University are shown in Table 1.3: Staff Contribution in University Curriculum.

Table 1.3: Staff Contribution in University Curriculum

Table No: Staff Contribution in University Curriculum				
Sr. No.	Name of Faculty	Year	Contribution	BOS Chairman/ Member
Chemical Engineering				
1	Dr. O. K. Mahadwad	2013-2016	Syllabus Design & Revision	Subject Committee member
2	Dr. S. Y. Guhe	2013-2016		
3	Mr. M. U. Pople	2013-2016		
4	Ms. M. R. Gaonkar	2013-2016		
5	Mr. S. B. Mundhe	2013-2016		
Instrumentation & Control Engineering				
1	Dr. R. D. Kokate	2010-2015	Syllabus Design & Revision	Former Chairman, BOS, Instrumentation, Dr. BAMU
2	Mr. G. R. Basole	2013-2016		Member, BOS, Instrumentation, Dr. BAMU
3	Mr. B. A. Patil	2013-2016		Member, BOS, Instrumentation, Dr. BAMU
Civil Engineering				
1	Dr. H. H. Shinde	2010-2015	Framing of structure and syllabus for Civil Engineering	Chairman, BOS, Civil Engineering, Dr. BAMU
2	Dr. S. B. Shinde	2013-2016	For the revision of syllabus and structure	Member, BOS, Civil Engineering, Dr. BAMU

Architecture				
1	Mr. V. N. Tawde	2005-2015	Preparation of new Syllabus for B. Arch. and M. Arch. courses	Chairman, Ad- hoc Board of Studies in Architecture, Dr. BAMU
2	Ms. J. C. Gogte	2010-2015	Preparation of New Syllabus for B. Arch. and M. Arch courses	
3	Mr. S. B. Patil	2010-2015	Preparation of new Syllabus for B. Arch.	Member, Ad- hoc Board of Studies in Architecture, Dr. BAMU
4	Ms. M. G. Kashid	2010-2015	Preparation of new Syllabus for B. Arch.	
Information Technology				
1	Mr. S. N. Jaiswal	2013-2016	Syllabus Design& Revision	Subject Committee member
2	Dr. S. C. Tamane	2013-2016		Subject Committee member
		2016-till date		Coordinator, BOS, BE and B. Tech. CSE, Dr. BAMU
3	Ms. V. K. Ahire	2013-2016		Subject Committee member
4	Ms. S. N. Bhasme	2013-2016		
5	Mr. A. M. Mohsin	2013-2016		
Master of Computer Applications				
1	Ms. A. R. Tungar	2013-2016	Syllabus Design& Revision	Subject Committee member for MCA
				FE syllabus revision committee
				Member, BOS, GECA(MCA)
Electronics & Telecommunication				
1	Dr. V. B. Malode	2016-till date	Syllabus Design & Revision	BoS Member
		2011-2016		Subject Committee member
2	Prof. S. A. Annadate	2011-2016	Syllabus Design & Revision	Core committee
3	Prof. F. I. Shaikh	2011-2016	Syllabus Design & Revision	BE syllabus committee
4	Dr. S. N. Pawar	2011-2016	Syllabus Design & Revision	BE syllabus committee
5	Dr. V. A. More	2011-2016	Syllabus Design & Revision	BE syllabus committee
6	Ms. V. A. Kulkarni	2011-2016	Syllabus Design & Revision	TE syllabus committee
7	Ms. A. P. Phatale	2011-2016	Syllabus Design &Revision	TE syllabus committee

8	Ms. M. A. Mulay	2011-2016	Syllabus Design & Revision	TE syllabus committee
9	Ms. C. S. Khandelwal	2011-2016	Syllabus Design & Revision	SE syllabus committee
Electrical, Electronics & Power				
1	Mr. B. T. Deshmukh	2005-2010	Syllabus Design	Chairman, BOS, Electronics Engineering, Dr. BAMU
		2010-2015		Member, BOS, Electrical Electronics and Power Engineering, Dr. BAMU
		2013-2016		Member, First year Engineering, Dr. BAMU
Mechanical Engineering				
1	Dr. R. R. Deshmukh	2005-2010	Syllabus Revision	Chairman, BOS, Mechanical Engineering, Dr. BAMU
2	Dr. N. G. Phafat	2016-till date		Member, BOS, Mechanical Engineering, Dr.BAMU
Computer Science &Engineering				
1	Dr. V. B. Musande	2010-2015	Syllabus Design	Chairman, BOS, BE, B.Tech. CSE Dr. BAMU
2	Dr. D. S. Deshpande	2013-2016		Subject Committee member
3	Ms. P. Kaur	2013-2016		
4	Dr. S. L. Kasar	2013-2016		
5	Mr. D. K. Budhwant	2013-2016		
6	Ms. Ruhi Oberoi	2013-2016		
7	Ms. S. S. Date	2013-2016		
8	Mr. P. S. Maniyar	2013-2016		
Bio –Technology				
1	Dr. S. D. Saptarshi	2013-2016	Syllabus Design	Chairman Ad hoc Board of Studies in Biotechnology, Dr BAMU
2	Dr. S. N. Harke	2013-2016		Member Board of Studies in Biotechnology, Dr BAMU
3	Ms. M. G. Phalphale	2013-2016		Member Board of Studies in Biotechnology, Dr BAMU
4	Mr. M. U. Pople	2013-2016		Member Board of Studies in Biotechnology, Dr. BAMU

Applied Science				
5	Dr. V. A. Arole	2016-17	Syllabus Design	Member, First year Engineering, Dr. BAMU

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 curriculum is as per the affiliating university.

Depending upon the requirements of the industries, employability and higher education, Training & Placement Cell along with the departments identifies the gap(if any) in the curricula of the university. They plan, design and develop suitable training programs for the students. A few of the programmes imparted for our own students are shown in Table 1.4: Institute Courses other than University Curriculum:

Table 1.4: Institute Courses other than University Curriculum

Sr. No.	Training Activity	Class	Academic Year
Chemical Engineering			
1	CHEMCAD training	TE, BE	2015-16, 2016-17
Information Technology/Computer Science &Engineering			
2	C Language Enrichment program	SE	Every Year
Mechanical Engineering			
3	Workshop on basics of CNC lathe programming and machining	All	2015-16, 2016-17
Foreign Language Courses/ Competitive Examination			
4	Soft Skills	All Students of the Institute	Every Year
5	Foreign Languages (French, German, Russian)		
6	MPSC/ UPSC		From 2016
Bio-Technology			
7	Hands on Training – HPLC and GC	TE & BE	2016-17

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

Analysis and confirmation of achieving stated objectives of curriculum is very important. It is done by the institute as:

- Quality Management System (QMS) ISO 9001:2008: The main objective of ISO is to enhance the academics of the students and staff.
- Allotment of subjects based on the expertise and experience of the teachers.
- Use of Enterprise Resource Planning (ERP) for effective implementation of curriculum.
- Regular updating of the course plan by faculty members.

- Regular monitoring of the course plan in ERP by HOD and Dean Academics of the institute.
- Attainment of course outcomes is evaluated through feedbacks obtained from the students.
- Conducting regular meeting of class representatives by respective HODs to improve the teaching learning process.
- Faculty members attend appropriate faculty development programs organized within and outside the college to become familiar with the newly added advanced syllabus topics.
- Student class test performance is analyzed, corrective and preventive actions are taken whenever required.
- Getting student's mid-term and end-term feedbacks and analyzing them for improvements in curriculum implementation.
- The exit-poll of the outgoing students is considered for devising appropriate strategies.
- Academic inspection is conducted in every semester to ascertain the effective implementation of the curriculum.
- Feedback from the industry representatives is also obtained for various corrective measures.
- Practical sessions are designed as: pre-requisite + main practical's + application oriented practicals.
- Getting the feedback from parents and alumni for curriculum improvements.
- Identification of slow learners based on certain subject tests. Conducting tutorials for slow learners so that all the students should come at the same platform.
- Compilation of past examination question papers and making them available to students.
- Department of languages conducts one month course on English communication skills for faculty members during vacation.
- To inculcate the entrepreneurship and self-employment among students, Entrepreneur Development Program (EDP) cell is established in the institute. This cell organizes various seminars/workshops for students by entrepreneurs.
- The specified objectives of the curriculum are met as stated below:
 - Result analysis of students to understand the actual success rate of curriculum implementation.
 - Most of the students achieve good marks in their university examinations. The past few years have witnessed a good number of university ranks amongst the students' of the institute.
 - The students of the institute achieve success in various inter-college and intra-college competitions.
 - The alumni of the institute are securing top positions in different organizations/institutions.
 - Periodic assessments are made to analyze goal implementation and target realization to ensure that the institution marches towards achieving its stated mission and vision.

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.

- **Value Added Programs are arranged to bridge the knowledge gap between academia and industry and to strengthen the regular academic programmes prescribed by the university**
 - Red Hat Certification Courses
 - IBM software training programs
 - Employability Training Programs (FACE, Barclays, CRT)
 - Mission 10X
 - NITTTR
 - Attitude Building Teachers Training Program
 - Self-learning (Spoken Tutorial)
 - CHEMCAD
 - CAD, CFD, CNC Classes
 - English Speaking Course
 - Foreign language courses.
- **The gap between curriculum and the best industrial practices are bridged through**
 - One hundred and twenty six (126) industry sponsored projects in last five years.
 - Organizing ninety one (91) industrial visits.
 - Organizing in-plant trainings for four hundred and ninety (490) students.
 - Expert lectures by industry persons.
 - Arranging hands on training sessions.
- **Ethical standards are inculcated through**
 - At institute level following activities are conducted regularly to promote equality, morality and ethics:
 - Uniform(for students and faculty)
 - Morning prayer
- **Students are molded to serve the society through**
 - NSS Activities
 - i) Tree plantation
 - ii) Blood donation camp
 - iii) Grain donation
 - iv) Cloth donation
 - Cleanliness drive
 - Voting campaign
 - No vehicle day
 - Helmet drive
 - ROTARY Club Activities
- **Research and Consultancy activities are promoted by**
 - Research and Development Cell.
 - University recognized research centers are available for Civil Engineering, Environment Engineering, Environmental Science,

Chemical Engineering, Mechanical Engineering and Applied Science stream.

- University approved research guides are available in the field of Science and Engineering and Technology.
- Research project Proposal scheme of UGC/AICTE.

1.2.2 Does the institution offer programmes that facilitate twinning /dual degree? If ‘Yes’, give details.

No. At the moment the institute does not offer any twinning or dual degree program.

1.2.3 Give details on the various institutional 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:

Since the Institute follows the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad curriculum, academic flexibility is achieved through following means:

- **Range of Core / Elective options:** Minimum 3 electives are offered per semester for final year.
- **Choice based credit system and range of subject options:** Credit based system has been implemented with effect from academic year 2016-17 for UG courses and from year 2015-16 for PG courses prior to which semester pattern was in effect.
- **Courses offered in modular form:** Each course consists of 6 Units for 80 marks theory paper and 3 Units for 40 marks theory paper. Course plan designed for 6 units should consists of 40 hours/20 hours of theory lectures for 80/40 marks of theory paper according to Dr. Babasaheb Ambedkar Marathwada University curriculum respectively.
- **Credit transfer and accumulation facility:** Not applicable.
- **Lateral and vertical mobility within and across programmes and courses:** Lateral entries permitted for students who complete diploma to pursue their engineering degree from second year. The students are given absolute freedom to move across various disciplines for their project work.
- **Vertical Mobility:** Students who completes UG course can vertically move to pursue their PG courses.
- **Enrichment courses:** The institute offers certification courses to make the students to get hands-on experience to be readily placed in the industry.

1.2.4 Does the institution offer self-financed programmes? If ‘yes’, list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Yes. All the programmes offered are based on self-financing. The programs are approved by the AICTE, New Delhi and the institute is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

The courses offered are:

Under Graduate Courses

- B.E. Civil Engineering
- B.E. Civil Engineering (shift)
- B.E. Electronics & Telecommunication
- B.E. Mechanical Engineering
- B.E. Computer Science & Engineering
- B.E. Chemical Engineering
- B.E. Information Technology
- B.E. Instrumentation & Control Engineering
- B.E. Electrical, Electronics & Power
- B.E. Biotechnology
- B. Architecture

Post Graduate Courses

- M.C.A.
- M.E. Electronics
- M.E. Structure
- M.E. Manufacturing
- M.E. Computer Science & Engineering
- M.E. Electrical Power System
- M. Architecture

Admission

The admission processes for UG and PG are based on the policies and guidelines provided by the DTE, Mumbai, Maharashtra through Centralized Admission Process (CAP).

Curriculum

The curriculum is designed by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and implemented by the college through well designed teaching-learning processes.

Fee structure

The fees for all the courses are fixed as per Fees Regulating Authority. State/Central government Scholarships are made available. In deserving cases tuition fee is waived by the management.

Teacher qualifications and salary

Teacher qualifications and salaries are according to State Government of Maharashtra, AICTE and Dr. Babasaheb Ambedkar Marathwada University norms.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If ‘yes’ provide details of such Programme and the beneficiaries. Yes

Value added courses:

- Red Hat Certification Courses
- IBM software training programs
- Employability Training Programs (FACE, Barclays, CRT)
- Mission 10X
- NITTTR
- Attitude Building Teachers Training Program
- Self-learning (Spoken Tutorial)
- CHEMCAD
- CAD, CFD, CNC Classes
- English Speaking Course
- Foreign language courses.

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?

No. The affiliating University does not offer such a facility as of now.

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 programmes and Institution’s goals and objectives are integrated?

All the academic programs of the institute follow the curriculum prescribed by Dr. BAM University. The institute has adopted Outcome Based Education (OBE) system which helps in taking preventive and corrective measures to ensure that the academic programmes and goals and objectives of the institute are integrated.

All departments make efforts to supplement the curriculum and include additional topics in the theory and practical’s in the lab.

Some of the measures taken are enlisted below:

- Academic calendar compliance. Every semester academic calendar is prepared based on university academic calendar circular and followed meticulously.
- Workshops, seminars, skill enhancement and training programs are arranged to deliver contents beyond syllabus.
- Faculty members also deliver contents beyond syllabus in theory as well as practical sessions.
- Value added programs are conducted to make students employable.
- Students are encouraged to work in industries as interns during vacation and also take up industry sponsored projects. Institute and departments take special efforts to strengthen industry-academic relations.

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?

Different initiatives are taken by the institute to enrich the curriculum and to prepare the students to cope up with the dynamic needs of industry.

- Open Elective courses were proposed by department to the university.
- Faculty members are also involved in the syllabus detailing discussion / design workshops at Board of Study level.(For details refer 1.1.6.)
- To give industry exposure industrial visits are arranged for students.
- Internships programs are also arranged for SE & TE students (maximum three weeks for Chemical Engineering, one semester for MCA students and optional for other branches). For this, industry collaboration efforts are taken at institute as well as department level.
- Training and Placement Cell takes initiatives to cater to the needs of the changing employment market. The Cell regularly interacts with the HR managers of companies and collects firsthand information about the demands and expectations of the corporate sectors regarding the required skill set of students. Based on these, special training and tailor made value added programmes are conducted during the academic year.
- The students are encouraged to take up mini projects and main projects in thrust areas.
- The institute organizes Campus Commune Portal in collaboration with TCS so that students can map their theoretical knowledge into practical implementation.
- Infosys organizes seminars, webinars and training sessions for the faculty to give them an industry perspective, enabling them to train the students accordingly under the Campus Connect programmes.
- Alumni feedback is taken periodically to understand the curricular gaps and recent market trends.
- To enhance the experiences of the students further, student chapters of professional societies such as IEEE, CSI, IETE, IEI organize co-curricular activities such as paper presentation, project competition and other technical activities. Apart from professional society's department level associations, such as JITSA and COMPSA also conducts various activities under it.
- Guest lectures by eminent persons and workshops are also arranged to give inputs beyond curriculum.
- Institute takes help of internal faculty and professionals for improving the soft skills of the students. These trainings have resulted in an increased number of placements in last few years.

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?

Final year students are encouraged to take projects which address cross cutting issues viz. green energy, biogas, water management, agricultural electronics etc.

The efforts made by the institution to integrate the cross cutting issues such as Gender, Climate change, Environmental education, Human Rights, ICT etc. are as follows:

Gender:

The institute has established a 'Internal Complaints Committee' to sensitize the students and employees on gender issues, make them aware of the social, moral and legal implication of gender discrimination, encourage value education upholding gender equality, and at the same time to deal with instances of sexual harassment on campus. The cell is committed to creating and maintaining an environment in which students, teachers and non-teaching staff can work together in an atmosphere free of sexual harassment and gender discrimination.

Human Rights:

- The curriculum includes courses on professional ethics and IPR.
- Institute has internal Anti Ragging committee and Anti Ragging Squad.

Social:

The institute takes additional efforts through National Service Scheme (NSS) for making students sensitive towards societal issues. NSS organizes tree plantation programs, blood donation camps, grains and clothes donation, teaching children from rural area, residential camps for rural development etc.

Climate Change:

The institute has installed a Weather Station to monitor weather parameters like precipitation, temperature (Min and Max), Evapo-transpiration, humidity, wind-speed etc. The Android application of the weather station is freely available which shows current and past data from the www.weatherlink.com website.

Environmental Education

- The institute has been recognized as ISO 14001:2004 certified in Environmental Management System (EMS).
- Institute has maintained the lush green campus for reducing the adverse effects of pollution.
- Syllabus prescribed by university has a subject Environmental Science, which creates awareness amongst the students about environmental issues.
- For conservation of electricity, there are notices and charts displayed in labs and department corridor to remind switching off supply when not in use. Also, each lab or class room has a central switch for disconnecting the supply of all the connections in that room. It helps in energy conservation.
- Institute is equipped with solar panels for utilizing solar energy.
- Single sided blank pages are used for taking print outs to reduce paper consumption.

ICT

- There are computer related theory and practical subjects for all degree courses.
- The course plan, notes, lab manuals and question banks are made available to students. There is ERP software available to enter and view the students' details, marks, attendance etc.
- Use of electronic gadgets is also encouraged.

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

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

Moral and Ethical Values

Following value added courses/enrichment programmes are offered to ensure holistic development of students:

- ‘Yoga for better living’ course is conducted for students and faculty.
- ‘Fitness Club’ is run at institute level which invites experts to guide students and faculty members on fitness tricks.

Employable and Life Skills

- Training programmes for personality development, communication skills and employability training camps.

Better Career Options

- Through interactions with alumni and industry experts, first-hand information is collected about the demands and expectations of the industry. This helps in identifying training needs. From this information, Training and Placement Cell organizes professional trainings for students to help them in writing resume, facing interviews and improving their soft skills.
- Training and Placement Cell interacts with students regularly to apprise students regarding enhancement of employability skills.
- At department level, students are encouraged to participate in various extra- and co-curricular activities organized by professional students’ chapter of institute.
- Training programs on technical subjects are conducted at institute as well as department level, depending upon the career options in respective branch.
- Sessions by HR managers, industry experts and alumni are conducted to orient students towards industry.
- Central library subscribes to resources like Employment News, Competition Success Review Magazine and Pratiyogita, Darpan(Hindi Magazine) are also available.
- Students are also given guidance for GATE examination to pursue higher education and to get jobs in government companies like HPCL, BHEL, BEL etc.
- Drama Club: *Spandan*, is established in college in the year 2013. The main objective of the drama club is to provide a platform and professional guidance to students to create their own stage.

Community Orientation

- Institute has its NSS branch which runs various programs like blood donation camp, tree plantation etc.
- Socially relevant projects are taken up by the students as their final year projects that helps build awareness towards community.

- *Pratibimb* photography club is established in the college in year 2012 to promote and coordinate matters of common interest to armature photographic groups at college level. This club also provides opportunities to the club members to participate in other photographic club activities to improve skills.

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 channels to collect and document responses on curriculum from different stakeholders, such as students, parents, industry and faculty. Feedback is taken from stakeholders through meetings.

For example:

- According to alumni feedback of CSE/IT the institute has collaborated with A4 Technologies, Pune which resulted into drafting and inclusion of Internet of Things (IoT) syllabus in BE CSE/IT curriculum.
- *Smartify Lab* sponsored few IoT projects for CSE/IT final year students.
- On request of students and faculty members Dept. of Civil Engineering conducted a workshop on LaTeX to improve project documentation skills.
- Infosys Campus Connects activities are regularly organized to enrich the curriculum.

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

Institute has adopted quality management systems viz. outcome based education and ISO 9001:2008. ISO Coordinator for Quality management is appointed to monitor and evaluate the quality of enrichment of the programs. Following processes ensures the same:

- The institute has IQAC that ensures quality of enrichment programs through planning, execution, monitoring and evaluation.
- Internal ISO audits are conducted every semester, where inter department staff members are appointed as Internal Auditors.
- External ISO audit conducted once in a year.
- Survey of regular activity updates like ERP updates, course file and portfolio specific files updates is conducted at department level.
- Enrichment programs are for enhancing knowledge about recent industry trends, some additional technical skills and to make students employable. In order to monitor and evaluate the quality of these programs, feedback is obtained from relevant stakeholders through formal and informal interactions.

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?

Dr. Babasaheb Ambedkar Marathwada University has revised first year syllabus in 2016-17. The institute had given feedback for changes into syllabus which was also accepted by the university. Syllabi for the further years would be revised in June 2017 for which academic committee is already working to suggest changes in the syllabus for enriching the curriculum. (For details refer table 1.1.6)

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 programmes?

The institute has formal feedback system from stakeholders: alumni, faculty and industry. Even feedback is also taken from students. Analysis of this feedback is used for enrichment of the curriculum.

All feedback received regarding changes in the syllabus is analyzed and a letter to that effect is submitted to the university for necessary changes.

Thus feedback received from all the stakeholders is used internally for introducing changes for betterment. For example:

- Feedback regarding improvement in communications skills of students was received from alumni. Now institute has initiated so many activities for communications skills like business communication classes, seminars, presentations, workshops etc.

1.4.3 How many new programmes/courses were introduced by the Institution during the last four years? What was the rationale for introducing new courses/programmes?) Any other relevant information regarding curricular aspects which the college would like to include.

- M.E. Electrical Power System.
- M. Architecture
- Recognizing the increased need for post graduate engineers proficient in Electrical and Architecture by the industries, PG programmes in Electrical Power System and M. Arch. are introduced in the academic year 2013-14 and 2015-16 respectively.
- M.E. Electrical Power System programme provides technical education to the students in order to meet challenges of globalization.
- M. Arch. programme ensures high standards in the professional practice of Architecture and provides an opportunity to extend the area of competence. This course teaches how to materialize the ideas in reality, considering ethics, economy, efficiency and legality.
- Establishment of research centers helps the institution to promote research in the different areas of Science, Engineering and Technology. Civil Engineering, Mechanical Engineering, Environment Engineering, Environmental Science, Applied Science and Chemical engineering departments have been recognized as Research Centers by Dr. Babasaheb Ambedkar Marathwada University in the last four years to offer Ph.D. programmes.

Any other relevant information regarding curricular aspects which the college would like to include:

Being an affiliated to the university, the institution uses the prescribed curriculum, by the university. The institute makes all possible positive efforts to fill the gap between the existing curriculum and the changing actual needs, by suitably organizing course relevant value added programmes.

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?

The institute is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and is recognized by Directorate of Technical Education (DTE) and All India Council for Technical Education (AICTE). The admission process is carried out through Maharashtra- Common Entrance Test-Centralized Admission Process (MH-CET-CAP) by strictly following the guidelines specified by DTE, Maharashtra State, Mumbai for UG and PG programme.

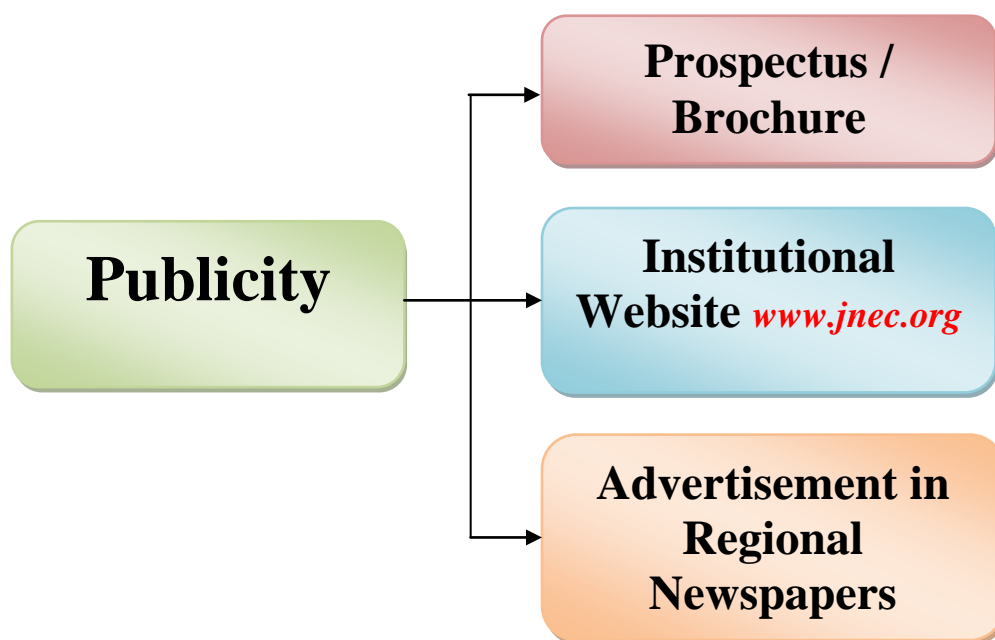


Figure 2.1: Ways adapted by institute to maximum publicity for admission

Publicity:-

The following ways are adapted by the institute to ensure maximum publicity for the admission process:

a) Prospectus/Brochure: MGM's Jawaharlal Nehru Engineering College (JNEC) publishes its own prospectus annually which displays Mission, Vision, profile of MGM trust, institute history, information of all departments, central facilities, training and placement activities, sports, cultural, NSS activities and particulars about the value added programs.

b) Institutional Website: Our Institutional website, www.jnec.org, exhibits detailed information about our college, its Vision and Mission, courses offered, training programs and workshops, hoardings of latest news and events etc. Information given in the college brochure is also available on the website with periodic updating.

c) Advertisement in Regional Newspapers. All the courses are widely publicized in various regional newspapers. Special coverage of achievements is also publicized in local newspapers. Special interviews with real valuable contents are broadcasted on media like radio and television that narrate the story of institute's brand.

Transparency:-

- The transparency in the admission process is ensured by strictly following the rules and regulations laid down by DTE. Admission notification is hosted by DTE, Maharashtra on its website.
- The institute is a part of the centralized admission process of Directorate of Technical Education, Maharashtra. The admissions for 80% seats are completed through the Centralized Allotment Process (CAP) conducted by DTE.
- UG and PG admission process for 80 % of intake is governed and managed by the centralized admission on-line counseling process and the whole process is fully transparent for students and institute authority.
- Students can fill up both the choice of the stream and the college by on-line counseling process followed by online registration.
- Special admission committee formed at institute level, works for enrollment of students for all courses as per the allotment list provided by DTE, Maharashtra.
- Institute has its own Help Desk and Facilitation Center to provide the guidelines about the admission matters to parents and candidates.
- The 20% seats under institutional quota are strictly filled on the basis of admission criteria as laid down by the competent authority of Govt. of Maharashtra.
- The vacancy position is displayed on DTE website at the end of each round.

2.1.2 Explain in detail the criteria adopted and 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 programmes of the Institution.

The institute participates in centralized admission process of DTE, Maharashtra State Government. The institute follows all the rules and regulations imposed by Directorate of Technical Education (DTE), Maharashtra for the admission process.

- Bachelor of Engineering (B.E.): The admission of undergraduate (UG) courses is based on marks obtained in the Maharashtra State Common Entrance Test (MH-CET) examination.
- Master of Engineering (M.E.). : The selection process for admission is based on the score in the national level Graduate Aptitude Test for Engineering (GATE) conducted by IITs.
- Master of Computer Application (MCA): The selection process for admission is based on the score obtained in the Maharashtra State Common Entrance Test (MH-MCA-CET) examination conducted by DTE.
- Bachelor of Architecture (B.Arch) : The admission of B.Arch course is based on 50% of 12th marks and 50% of marks obtained in National Aptitude Test in Architecture (NATA) examination conducted by Council of Architecture.
- Master of Architecture (M.Arch) : The selection process for admission is based on the score obtained in the Maharashtra State Common Entrance Test (MH-CET) examination conducted by DTE.
- All institute level seats and vacant seats against CAP are filled as per the rules set up by DTE, Maharashtra.

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

Following are the details of maximum and minimum percentage of CET score at entry level indicating that it is the preferred destination for the courses provided.

Table 2.1: Details of maximum and minimum of percentage of CET score

NAME OF DEPARTMENT	MAX MIN	2012-13		2013-14		2014-15		2015-16		2016-17	
		OPE N	RES E.	OPE N	RES E.	OPE N	RES E.	OPE N	RES E.	OPE N	RES E.
CIVIL	%										
	MAX	65	56.5	65.5	52	91.9 5	74.9 1	93.4	82.5	61.5	58
	MIN	24.5	21.5	23.6 7	29	49.1 2	43.0 8	55.7	43.1	21.5	19.5
CIVIL-II(Second Shift)	MAX	48	44.5	45	47.5	75.5 1	65.8 9	73.4	77.5	47	43.5
	MIN	35	22.5	19	14.7 5	41.0 3	12.1 2	54.2	40	24	26
MECH	MAX	69.5	71.5	76	60	94.1 5	86.0 1	90.7	86.1	67	63.5
	MIN	19.5	25	22.5	18.5	51.6 9	20.4 3	52.2	31.5	25.5	21.5
MECH-II(Second Shift)	MAX	59	54.5	59	51.5	NA	NA	NA	NA	NA	NA
	MIN	28	27.5	21.1 7	33.5	NA	NA	NA	NA	NA	NA
ETC	MAX	68	59.5	64	55.5	88.7 7	87.8 2	89.2	82	61.5	48.5
	MIN	15	27.5	18.3 4	22.5	61.7 4	27.9 3	49.2	16.4	22.5	22.5
ETC-II(Second Shift)	MAX	52	47	45	40.5	NA	NA	NA	NA	NA	NA
	MIN	28.5	27.5	36	27	NA	NA	NA	NA	NA	NA
EEP	MAX	68	60	62	60	90.5 6	76.6 1	89	81.7	60	49
	MIN	29	31.5	22.1 1	28	58.5 9	23.3 4	16	16	22.5	23

NAAC – SELF STUDY REPORT

NAME OF DEPARTMENT	MAX MIN	2012-13		2013-14		2014-15		2015-16		2016-17	
	%	OPE N	RES E.	OPE N	RES E.	OPE N	RES E.	OPE N	RES E.	OPE N	RES E.
EEP-II(Second Shift)	MAX	NA			28.5	NA	NA	NA	NA	NA	NA
	MIN	NA		39.5							
CSE	MAX	68.5	55.5	63	54.5	92.2	83.5	90.1	84.9	68	58.5
	MIN	26.5	27	23	30	35.5	27.1	44	37.3	20.5	27.5
CSE-II(Second Shift)	MAX	52.5	43	55	40	NA	NA	NA	NA	NA	NA
	MIN	23	25	20	20.5	NA	NA	NA	NA	NA	NA
IT	MAX	61	55	54	45.5	83.4	66.4	82.7	84.8	55.5	57.5
	MIN	21.5	26	24	14	19.3	14.1	40.9	34.1	25	25.5
CHEM	MAX	53.5	46.5	52	50	79.8	81.3	81.4	89.2	60.5	45
	MIN	23.5	28.5	28	31	66.0	14.1	31.4	28.3	20	18.5
BIOTECH	MAX	44.5	40.5	58.5	41.5	69.7	44.1	NA	NA	NA	NA
	MIN	23	19	22.5	18.5	55.2	33.1	NA	NA	NA	NA
INSTRU	MAX	51.5	45	40.5	32.5	87.3	46.6	NA	NA	NA	NA
	MIN	25.5	24.5	25	20	38.5	39.7	NA	NA	NA	NA
Architecture	MAX	83	56.8	85	64	90	75	90	67	85	83
	MIN	51.5	46.6	55	48	50	55	51	45	54	49

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 admission process.

The engineering admission process is entirely governed by Directorate of Technical Education (DTE), Maharashtra. The institute strictly follows the guidelines laid down by DTE.

Preparation for Admissions:

- Every year, well before the admission process, an updated prospectus of the college is published.
- Help desk and Facilitation Center are set near the administrative office in the college to disseminate information regarding admission to various courses.
- The college participates and disseminates information to interested public in career guidance exhibitions.
- Advertisement is given in Regional/National Newspapers.

Review of Admission Process at Institute level:

- The institute forms an Admission Committee, which is responsible to collect registration details of newly admitted students and review the admission process.
- The Admission Committee collects the detailed information about the admitted students such as personal information, academic background, economic status, fees details, photo, and signature etc. and does the enrollment of the student using JNEC Enterprise Resource Planning (ERP) system. Roll number is allotted and I-card is issued to the student immediately through this system.
- To review the profile of the students, the database of all the students as per nationality, state, caste, percentage, marks at the Std. XII, Board and so on is maintained in JNEC ERP system. The same is used by admission committee for assessment of different parameters like area wise students, gender wise students, minimum and maximum percentage of students at entry level etc.
- It is the responsibility of this committee to ensure that admission process is conducted smoothly in the institute. Difficulties (if any) are recorded by the said committee. This enables the committee to suggest changes in the institute level admission process as per the requirement.
- The admission committee meets in the month of August and reviews the entire admission process. A consolidated report of admitted students is submitted to the Principal.
- The committee again meets in the month of April to decide the process for the year ahead.

Outcome and Contribution:

- This helps to understand the recent trends (i.e. expectations of prospective students from different branches)
- It becomes easier for the institute to design better campaign to attract students to pursue admission in engineering discipline.
- The publicity and advertisement strategies based on recent trends in engineering discipline are then designed accordingly.
- Every year relevant changes are made to upgrade or renovate the enrollment process at institute level.

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

To ensure equity and inclusion, the institute provides special consideration to the following categories of students:

SC/ST/OBC:

- Reservation policy is applied to all the courses as per the guidelines of the state government. All scholarships are made available to SC/ST/OBC candidates.
- In order to motivate students from disadvantaged communities, faculty members counsel these students for making the choice of subjects.
- Special care is taken to provide financial assistance under special State Government/University schemes.
- Book bank facility is provided for SC/ST students at free of cost.

Women/Girls:

- Girls constitute a higher proportion of the students seeking admission to JNEC.
- The 30% reservation quota is available for girls for seeking admission as per the DTE norms.
- 4 Ladies Rooms (LR) along with necessary amenities are provided to them.
- Separate hostel facility is available for girls within the campus of college.
- The institute has a separate Internal Complaint Committee (ICC) which provides counseling to girl students and addresses their grievances (if any).

Divyang:

- Divyang students are given admissions as per the rules of DTE.
- Every care is taken to provide necessary facilities. For example, they did not have to wait into queue for fees, I-cards, books etc.
- Such students are provided additional facilities at the time of university examination like convenient seating arrangements, extra time as specified by the university, writer facility etc.
- The faculty and staff are always willing to offer every possible help to such students.
- The institute has made a ramp, elevator and wheel chair facility in college campus to facilitate smooth access for the divyang students.

Economically weaker sections:

- DTE offers the admissions under the Tuition Fee Waiver Scheme (TFWS) as per merit, which is mainly developed for economically weaker section of the society.
- Admissions for the economically weaker sections are promoted by allowing the students to pay their fees in installments.
- In exceptional cases, certain amounts of fees may be waived off in consultation with the management. Details are mentioned in criteria V.
- Table 2.2 shows no. of students availing the scholarship during last three years:

Table 2.2: Scholarship Details during last three years

	2015-16						2014-15						2013-14					
	OBC	SB C	SC	ST	VJ/ NT	EB C	OB C	SBC	SC	ST	VJ/ NT	EB C	OBC	SB C	SC	ST	VJ/ NT	EB C
FE	125	12	77	6	75	94	119	15	81	6	85	10 7	137	15	10 6	6	97	15 6
BARCH	18	2	2	-	4		24	4	3	-	10		22	2	2	-	10	
BE- BIOTECH	7	2	14	2	7	6	9	3	17	2	7	11	13	1	21	1	17	13
CHEM	26	2	19	2	11	30	29	3	12	1	12	25	25	3	15	-	9	28
CIVIL	69	9	57	7	81	68	94	7	66	6	84	83	81	4	54	6	76	79
CSE	97	13	69	1	51	10 0	125	15	69	2	64	11 4	113	11	74	8	66	10 4
EEP	55	4	33	1	29	65	13	2	75	-	1	75	60	8	39	4	28	48
ECT	121	8	78	11	74	11 8	79	5	15	8	39	11 7	117	8	72	6	67	94
IT	38	6	39	-	28	64	58	8	33	1	30	64	67	6	36	3	30	63
ICE	21	4	9	-	15	51	67	3	21	-	31	50	9	2	6	-	6	33
MECH	110	6	62	11	71	99	126	11	80	12	73	10 0	99	10	76	11	66	71
TOTAL	687	68	459	41	446	695	743	76	472	38	436	746	743	70	501	46	472	689
YEAR WISE TOTAL	2396						2511						2521					

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 initiated for improvement.

The admission process is governed and managed by the Centralized Admission Process (CAP), Government of Maharashtra through on-line counseling. The whole process is very much transparent from the very bottom-line, i.e., from students to the college authority. Students can fill up both the choice of stream and college by on-line counseling process followed by online registration. The complete admission process is governed by Government of Maharashtra through CAP rounds, hence demand ratio cannot be estimated. Branch wise UG, PG and SE Direct Admission details are provided in the tables below. (SI : Sanctioned Intake , AA: Actual Admissions).

Table 2.3(A): Branch wise UG Admission Details

UG	2012-13		2013-14		2014-15		2015-16		2016-17	
COURSE	SI	AA	SI	AA	SI	AA	SI	AA	SI	AA
CIVIL	60	60	60	57	60	59	60	58	60	59
CIVIL –II SHIFT	60	58	60	59	60	60	60	59	60	47
MECH	120	118	120	113	120	118	120	118	120	118
MECH._II SHIFT	60	60	60	58	NA	NA	NA	NA	NA	NA
ECT	120	114	120	107	120	115	120	111	120	92
ECT- II SHIFT	60	57	60	47	NA	NA	NA	NA	NA	NA
CSE	90	89	120	97	120	115	120	119	120	114
CSE-II SHIFT	60	54	60	58	NA	NA	NA	NA	NA	NA
CHEM.	30	26	30	24	30	17	30	27	30	18
IT	60	54	60	53	60	58	60	59	60	51
BIO-TECH	60	33	60	17	60	8	NA	NA	NA	NA
EEP	60	59	60	58	60	59	60	57	60	48
EEP-II SHIFT	NA	NA	60	20	NA	NA	NA	NA	NA	NA
ICE	60	37	60	30	60	25	NA	NA	NA	NA
ARCHI	40	35	40	40	40	40	40	40	40	40

Table 2.3(B): Branch wise PG Admission Details

PG	2012-13		2013-14		2014-15		2015-16		2016-17	
COURSE	SI	AA	SI	AA	SI	AA	SI	AA	SI	AA
ME- ELECTRONIC	25	25	25	25	25	17	25	8	25	5
ME- CIVIL-STRU.	18	15	18	14	18	8	18	8	18	9
ME- CIVIL- ENV	18	0	18	2	18	6	NA	NA	NA	NA
ME- MANU.	18	2	18	3	18	3	18	6	18	3
ME- CAD/CAM	18	5	18	5	18	3	NA	NA	NA	NA
ME- CSE	18	18	18	18	18	18	18	10	18	2
ME-BIO-TECH	18	4	18	0	18	0	NA	NA	NA	NA
ME- TPE	18	0	18	3	NA	NA	NA	NA	NA	NA
M.ARCH	20	0	20	0	20	0	20	12	20	0
ME- CHEMICAL	NA	NA	18	9	18	4	NA	NA	NA	NA
ME-EPS	NA	NA	18	18	18	8	18	5	18	12
MCA	60	56	60	41	60	20	60	31	60	20

Table 2.4 : Branch wise SE Direct Admission Details

SE DIRECT ADMISSION	2012-13		2013-14		2014-15		2015-16		2016-17	
COURSE	SI	AA	SI	AA	SI	AA	SI	AA	SI	AA
CIVIL	16	15	12	12	13	13	12	12	18	18
CIVIL –II SHIFT	42	34	12	12	12	12	12	12	23	23
MECH.	30	30	24	24	24	24	24	24	35	35
MECH –II SHIFT	0	0	12	12	12	12	NA	NA	NA	NA
ECT	24	23	24	24	40	40	47	47	64	64
ECT- II SHIFT	24	23	28	28	30	30	NA	NA	NA	NA
CSE	27	27	19	19	47	47	47	47	25	25
CSE -II SHIFT	30	29	23	23	25	25	NA	NA	NA	NA
CHEM.	18	3	19	19	12	12	22	18	13	12
IT	31	29	42	42	48	48	35	35	34	34
EEP	16	16	12	12	12	12	12	12	34	34
EEP –II SHIFT	NA	NA	NA	NA	57	57	NA	NA	NA	NA
ICE	58	9	49	32	47	24	58	11	NA	NA
BIO-TECH	60	1	43	0	51	0	66	0	NA	NA
SY MCA	NA	NA	19	19	NA	NA	NA	NA	NA	NA

- The reasons for increase/decrease in the admissions:
 - National and global employment scenario which is projected by industry and society survey.
 - Total number of seats available for admissions in the State.
- Sanctioned strength of students has increased from year 2012, which shows the growth of the institution over the years.
- Large amount of new institutes were set up in and around the district which resulted in merging the students belonging to their localities. Students living near these institutes got admitted there itself. Therefore institute decided to close second shift of CSE, MECH, ECT, EEP branches in the year 2014-15.
- There was a continuous slide down in the requirement of Instrumentation and Bio-Technology job opportunities during 2013-14 and 2014-15, which resulted in less number of students opting for these branches. Therefore the institute decided to close these branches in the year 2015-16 and is planning to divert its infrastructure for purposes like M.Arch studios, consultancy, research, project development etc.
- The institute admitted 41 students against 60 seats in academic year 2013-14 and only 20 students in 2014-15 for FY-MCA. This was due to drought situation in Marathwada Region in 2013-14, many students could not take

admission. Another major reason for less admissions in First Year is priority given by students to direct second year of MCA, which was introduced in 2013-14 and was implemented for only 2013-14 and 2014-15.

- In the academic year 2016-17, the admission process for M.Arch done through DTE CAP. The main reasons for vacant seats are lack of awareness about CET being made mandatory and confusion regarding the admission authority (DTE or MASA).

Remedial Measures for improvement:

- Enhancing Training and Placement activities
- Enhancing emphasis on honing the soft skills of the students to make them more employable.
- Conducting Value Added Courses/Workshops/Training Programs in consultation with industry experts for better employability.

2.2 Catering to Student Diversity

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

- The college follows the reservation norms, as per the State Government Rules for admission to the divyang students.
- As the difficulties experienced by these students are different from other students, the college management, teaching and non-teaching staff extend help to the individual students both at formal as well as informal level.
- Institution has a separate committee to look after divyang students and to provide guidance and counseling to them.
- These students are also informed about scholarships, freeships or any other special facilities offered by organizations such as the Government of India, the State Government, University, Charitable Trusts and so on.
- Assistance is provided for divyang students in laboratories for practical preparation. Class mates are encouraged to help such students.
- Special seating arrangement is made in the ground floor classroom. Wheel chair, ramps and elevators are available in the college for easy entry in the classrooms.
- Separate washroom has been earmarked for divyang students.
- Separate seating arrangement is made for such students on the ground floor and provision is made for a writer or extra time during examination for such students.
- In case of emergency, medical help is also provided within the campus at MGM Hospital.

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

Yes, there is a provision for assessing the students' knowledge and skills before the commencement of the programme. The performance of students in the entrance examination (MH-CET) conducted by the Government of Maharashtra serves as the basic indicator of the students' knowledge and skills.

Orientation Program

- The institution organizes “Orientation Program” every year for newly admitted first year engineering students and their parents before commencement of classes.
- Hon. Technical Director and Principal address the students to give orientation of four years of engineering.
- Information regarding facilities, faculty expertise, rules and regulations, discipline code of the institute and the teaching-learning methodology is introduced in the address.
- Batch wise visit of students is arranged to all departments and central facilities like library, central computing lab, workshop, sports club, canteen etc.
- The students are divided into batches (per batch 20 students) and teacher guardian is allotted per batch to keep a record of the performance of students and counsel them when required.

Bridge Courses

- At the beginning of the semester, the first lecture of each subject is devoted to motivate the students to develop the proactive attitude towards the subject.
- Special classes are organized as tutorials to enhance students’ knowledge base.
- Special theory classes/remedial are conducted for lateral entry (Direct Admission) students.
- The additional guest lectures are conducted to enable the students to cope up with the engineering programme in the area of Stress Management, Vedic Mathematics, Communication Skills, Personality Development, Resume Writing, Power of Good Habits etc. The details are as follows:

Table 2.5: Additional efforts to enable students to cope up with engineering programme

Year	Branch/Class	Title of Program/Activity	Organized by/Resource Faculty
Sep 2012	FE (ALL)	Quality circle awareness in Engineering Education	Prof. C.S.Khandelwal Prof. Arti Thakur Mrs. Gayatri Bari Mr. Bhanu Kumar
Feb 2013, Feb 2014	FE (ALL)	Mind Mapping	Mrs. Gayatri Bari
March 2013	FE (ALL)	Communication Skill and Personality Development	Mrs. Gayatri Bari Mrs. Kaein
April 2013, Feb 2014	FE (ALL)	Time management	Mrs. Gayatri Bari, Prof. C.S.Khandelwal
March 2015	FE (ALL)	How to make Resume	Dr. Prapti Deshmukh
Sept. 2014 Sept 2015 Sept 2016	FE (ALL)	Weekly Programme on “Self Excellence Skill’and ‘Discover Yourself”	Dr.Jay Hanuman Das International Society for Krishna Consciousness’ (ISKCON)

Year	Branch/Class	Title of Program/Activity	Organized by/Resource Faculty
Aug/Sept. 2013	FE(ALL) SE(ALL)	Weekly Programme on 'Power of Habbits', Vedic Knowledge and 'Six Principles of Success'	Dr. Rohinipriya Das International Society for Krishna Consciousness' (ISKCON)
July 2013	FE(All)	Weekly Programme on “Secret to Success” and “Self Excellence Skill”	Dr .Jay Hanuman Das International Society for Krishna Consciousness' (ISKCON)
Aug.2016	FE(All)	Weekly Programme on 'Power of Habbits'	Dr. Rohinipriya Das International Society for Krishna Consciousness' (ISKCON)
Sept.2016	FE(All)	Intellectual quotient and Spiritual quotient(Talent Search Exam)	Mr.Aniket Nandkishore Nikam (ISKCON)

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 programme of their choice?

The institute takes lot of efforts to enhance students' knowledge to cope up with the enormous developments happening around. Special efforts are taken to improve their personality and academic quality.

- The institute organizes an orientation programme for newly admitted students to understand the engineering curriculum and agenda of four years.
- Considering the content and depth of XII standard syllabi, the gap in the syllabi to understand the engineering curriculum of first year is identified and it is treated as prerequisite and lecture plan is designed accordingly.
- The shortcomings faced by these students are resolved by inviting resource persons to conduct some bridge courses.
- For slow learners remedial classes are conducted and for advanced learners special tasks are given to keep up their enthusiasm.
- Tutorial classes are made as part of the regular time-table for the subjects having less result in previous university examination.
- The main thrust of the tutorial classes is close interaction of students with faculty, where the students get their individuals doubts clarified. Exclusive guest lectures by eminent people of that subject are also arranged. Besides this special assignments like seminars and presentations are taken up in the tutorial classes.
- Special classes after regular college hours are conducted in those subjects where some students are not able to cope with.

- Different skill development programs are organized for all final year students to enrich their employability skills such as Aptitude, Group Discussion, and Personal Interview to make them fit to appear for campus interviews.

Table 2.6 : Efforts taken to bridge the knowledge gap of the enrolled students

Sr. No.	Class	Course in which gap is found	Nature of Gap	Action Taken
1	FE (All) SE(All)	Engineering Mathematics-I,II,III,IV	Solutions to Engineering Problems	Assignments and exercises on university question papers were solved, Pocket Formula Charts were given.
2	FE (All)	Engineering Mechanics	Simplified approach to day to day applications is not addressed	EM workbook is prepared in which day to day simplified examples are explained with practical application

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

Gender:

- The institute has been sensitive towards welfare of students by making available employment initiatives, training program and facilities like sports, co-curricular and extra-curricular activities for both boys and girls.
- The institute also avoids discrimination based on gender by providing equal opportunities for both male and female faculty members.
- The institute conducts seminars on women empowerment. As a part of women empowerment, we celebrate International Women Day, 8th March by inviting eminent personalities to give talks and enrich the minds of students by helping them to spread awareness amongst themselves and in the society.
- The institute has also formed Internal Complaint Committee (ICC) to prevent sexual harassment of women/girls at college. The committee is lead by senior faculty members to prevent any attempts of sexual abuse being made. The Principal is permanent invitee of it. The committee sensitizes its staff and students by giving lectures on issues of gender and counseling.
- As a part of Students' Council, two Ladies Representatives (LR) are nominated every year from students to look after different activities like self defense, women's day celebration, awareness of sex education etc.
- The MGM trust has established "Sakshama" group which conducts various activities for women welfare and empowerment and all female staff members from JNEC actively participate in it.

Environment:

- Institute has lush green campus.
- The institute has established a committee for Environmental Management System(EMS) to manage the environmental parameters and also received ISO 14001:2004 certification. The following activities are carried out by committee :
 - Noise Monitoring
 - Water quality checking
 - Paper and electronic waste management.
 - Display of Environmental Posters/slogans for awareness.
 - Availability of fire extinguisher.
 - Sewage Treatment Plant
- Institute has been promoting sustainable water management for more than three years – a task that is increasingly becoming important and complex as natural supplies deplete and demand rises. Institute has made an important contribution towards the production of high quality recycled water that is suitable for a range of non-drinking purposes.
- The college is planning to implement rain water harvesting facility, using this system we can store and use water for the functioning of the college; like (Gardening, in labs, flushing etc.)
- A weather station is a set of weather measuring instruments operated by MGM, which is located on terrace. Area covered by this instrument is about 10 Sq.km surrounding which monitors the weather parameters like precipitation, temperature, evapotranspiration, humidity, wind speed, etc. In addition the instrument has a forecasting feature, which predicts the weather up to the next 12 hours. Students can use data for their project work.
- Aurangabad city air quality monitoring study for the measurement of PM₁₀ particulate matter suspended in the air was jointly investigated by Department of Civil Engineering and Department of Mechanical Engineering.
- Department of Civil Engineering is also working for establishment of Bio-gas facility; gas generated from the same will be utilized for cooking purpose.
- The institute celebrates “Chimney Day” and “Water Day” to raise global awareness to take positive environmental action to protect nature.
- The institute organizes an elocution competition in the month of February every year, in the memory of Late. Prof. A. K. Dutta to generate awareness on conservation of energy and development of alternative sources of energy.
- Every year the institute conducts cleanliness drive ‘Swachata Abhiyaan’ on the occasion of Gandhi Jayanti i.e. on 2nd October.
- Environmental poster competition and exhibitions are organized regularly in the institute. Environmental issues are given priority in these competitions.
- A NSS unit of the institute plans visits to nearby under privileged village’s spread awareness in keeping the surrounding areas as clean as possible.
- Various social service activities are undertaken in the institute like –no vehicle day and tree plantation for pollution awareness and its effects. These activities lighten the minds of students and make them a responsible citizen.

Inclusion:

To promote overall development of the students from reserved category, economically backward class, divyang students, rural and tribal areas, following intervention strategies have been adopted by the institution:

- Students are provided equal opportunities in all activities of the institute.
- Financial assistance to students as per the rules and regulations of DTE, Maharashtra.
- In addition, the College has a SC/ST Committee. The committee looks into the problems of students from reservation category (if any).
- College has dress code/uniform which develops sense on equity amongst all open category, reserved category, economically backward class, divyang, rural and tribal areas students.

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

- The advanced learners are identified from their participation in classroom discussion, performance in the assessment tests, performance during the oral examination/interview, participation in classroom seminars and questioning ability, university result analysis, etc.
- The institution encourages the enthusiastic students who wish to participate in various competitions conducted both inside and outside the college.
- Students are encouraged to be part of various hobby clubs running in the institute like music club, drama club, srujankatta group, photography club to participate in various extra-curricular activities under the guidance of faculty members.
- The top rankers are motivated and awarded prizes to them in college annual function along with their parents.
- Responsibilities are rendered to them to apply their creativity by organizing cultural programmes, technical events like Agnitio, Klystron, project competitions, sports competitions etc.
- Advanced learners are encouraged to lead the students' association team which organizes various activities viz. paper presentation, poster presentation, lecture series etc. These students may be given special appointments like membership of Executive Body of Student Chapters (CSI, IEI, IEEE), Student Council etc.
- Students are encouraged to participate in aptitude and group discussion activities and soft skill trainings are organized by Training and Placement Cell in the institute.
- The winners in the technical competitions conducted by other institutions are appreciated.
- The advanced learners are given grants for attending national and international level conferences, project competitions.
- Value added programmes in thrust areas such as CNC, Embedded Systems, Programming in C, Red Hat Linux, Hadoop, Matlab, Robotics are conducted to cater to the needs of the advanced learners.
- The institute and Indo German Tool Room (IGTR) have jointly organized CAD/CAM/CAE related training programs for students. This Program enables the

students to learn the state of the art technologies used by different multinational companies in the domain of Mechanical/Civil design and analysis.



IEEE student branch event 'KLYSTRON 2K16'



'Proyecto' Technical Event organized by IT Dept.



JNEC Team ASHWA 2.0 for BAJA SAE INDIA 2016



Robo Race Event in JNEC



JNEC Team for SUPRA SAE FORMULA-1



PARAVRITTI@JNEC HR Activity



Architecture Department- Zonal NASA Winners



JNEC student branch CSI event ‘ AGNITIO-17’

- Internet facility is made available to all students to access advanced research material, download e-books, thesis, reports etc.
- E-library facility is available.
- The college organizes various competitions such as technical symposium, entrepreneurship development programs, innovative project competitions, poster presentations and quiz competitions in which they actively participate. Winners are awarded prizes. Few examples are enlisted in the table below.

Table 2.7: Activities organized for advanced learners

Year	Activity/Event	Description
2012-13, 2013-14, 2014-15, 2015-16 2016-17	‘AGNITIO’ National Level Technical Event, which comprises paper presentation, lecture series, workshops, programming contests, and Quizzes etc.	Organized by CSI JNEC student branch. JNEC student branch has been awarded BEST student branch at CSI INDIA for continuous 4 years.
2013-14, 2014-15, 2016-17	‘KLYSTRON’ National Level Technical Symposium	Organized by IEEE Student Chapter of JNEC
2014-15	SAE BAJA (Off road vehicle National level) Ashwa1.0	Organized by SAE at Prithempure Indoor, Team of Mechanical Engineering Department has secured 73 th Rank at all India Level in racing
2015-16	SAE BAJA (Off road vehicle National Level) Ashwa2.0	Organized by SAE at Prithempure Indoor, Team of Mechanical Engineering Department has secured 28 th Rank at all India Level in racing
2014-15	SUPRA SAE STUDENT FORMULA (Student Formula 1 Car Racing National Level) VAAYU 3.0	Organized by SAE India at MMRT Chennai, Team of Mechanical Engineering Department has secured 73 th Rank at all India Level in racing
2014-15	SUPRA SAE STUDENT FORMULA (Student Formula 1 Car Racing National Level) VAAYU 4.0	Organized by SAE India at BIC New Delhi, Team of Mechanical Engineering Department has secured 25 th Rank at all India Level in racing
2014-15	JNEC JAGUARS	Organized by Elite Karting at Bhopal, Team of Mechanical Engineering Department has secured 28 th Rank at all India Level in racing
2015-16	JNEC JAGUARS 2.0	Organized by Vaayuputra Motorsports at Bangalore, Team of Mechanical Engineering Department has secured 18 th Rank at all India Level in racing

NAAC – SELF STUDY REPORT

Year	Activity/Event	Description
2016-17	JNEC JAGUARS 3.0	Organized by Elite Karting at Bhopal, Team of Mechanical Engineering Department has secured 14 th Rank at all India Level in Virtuals
2014-15, 2015-16	Guest Lecture Series, Quizzes ,Project Work Assessment Competition	Organized by Mechanical Engineering Dept in association with JNEC IIIE Student Chapter Aurangabad
2013-14, 2014-15, 2015-16 2016-17	‘Proyecto’ State/National Level Project Exhibition and Competition	Organized by ‘JITSA’ Student Association, IT Department.
2014-15, 2015-16 2016-17	‘ENVISION’ , National Level Technical Event	Organized by Chemical Engineering Department in association with Institution of Engineers Student Chapter(Chemical)
2015-16, 2016-17	Aptitude Training by FACE Academy ,Bangalore	Organized by Computer Science and Engineering Department for final year students
2015-16	Model Making Competition	Organized by ‘COMPSA’, Student Association ,Computer Science and Engineering Department
2015-16, 2016-17	15 th Oct Readers’ Day Book Reading and presentation of famous books of Hon. Dr. APJ Abdul Kalam by students	Organized by ‘COMPSA’, Student Association ,Computer Science and Engineering Department
2015-16, 2016-17	Youth Employability Skill Development Programme	Organized by Training and Placement Cell JNEC in association with ‘Barclay Mumbai’ for all final year engineering students.
2016-17	PARAVRITTI@JNEC college level event which comprises mock sessions on Group Discussion and Personal Interviews.	Organized by Training and Placement Cell in association with INSSAN Aurangabad Chapter. All mock sessions of GD and PI were conducted by HR executives of well-known industries in A’bad like Siemens,Skoda,Perkins etc.
2015-16	AAKAR MODEL MAKING COMPETITION	Organized by Civil Engg. Department
2016-17	Workshop on ‘ADVANCES IN	Organized by Civil Engg.

	CONCRETE TECHNOLOGY'	Department
2014-15	Talk on 'INNOVATIONS IN INDIA' by Bharat Ratna, Dr. APJ Abdul Kalam	Organized by CMI in association with MGM
2013-14, 2014-15, 2015-16	Case study presentations on Kaizen and Quality circle, Industry Institution Interaction.	Organized by QCFI Aurangabad Chapter
2016-17	ZONAL NASA EVENT	National Association of Student of Architecture, Pune.

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)?

- ERP information management system is available to analyze the attendance and academic performance of the students.
- Result analysis is prepared in every semester after the declaration of university examination results. Those students who fail are given additional training at institute level through remedial classes for subjects like Engineering Mathematics, Elements of Electrical Engineering, and Engineering Physics.
- Special training classes/crash courses are conducted at department level for failure students as per the demand from them.
- Tutorials are introduced to have individual attention towards the students, for subjects having less result.
- Additional test is conducted for slow learners to improve their academic performance.
- Personal and academic counseling is given to the students in and outside the class room to minimize the dropout rate.
- Specially developed workbooks, question banks and assignments are given.
- One faculty member is assigned as teacher guardian for every 20 students. The teacher guardian assesses the nature of their problem. Attempts are made by the teachers to give personal attention to students.
- Students with psychological / emotional problems are also motivated in a friendly way to reach their academic goals.
- All the staff members maintain good relations with students and deal with their problems in a sympathetic manner. Divyang students are given special care and attention.
- Poor performance due to frequent absenteeism is dealt with by informing to the parents of such students through media like SMS /Phone Call/Email.
- Institute provides information about free ships, EBC scholarship, different government schemes and education loan facilities to the students.
- Students belonging to economically backward sections are allowed to pay their fees in installments. A TFWS (Tuition Fee Waiver Scheme) is also available to Students. Fees are also waived off for few of the extreme cases.

- For disadvantaged sections of the society scholarships such as EBC are provided to them.
- SC/OBC/ST and minority category students are given financial aids through scholarships and other schemes as per the norms of Government of Maharashtra.
- JNEC Corpus Fund, a noble initiative started by alumni in 2015 is first of its kind initiative in this type of institution in the state. JNEC alumnus Mr. Suren Jain and Mrs. Anjali Jain have contributed Rs.25 lakhs to start this fund which will support needy students for their expenses with defined guidelines.
- Institute offers book bank facility to the needy and SC/ST students at free of cost.

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 blue print, etc.)

The organization and planning of teaching learning process is prepared at institute in the following manner:-

i) Academic calendar:

- The institute academic calendar is prepared for each semester based on term commencement (start and term end) dates provided by Dr. Babasaheb Ambedkar Marathwada University. It contains different academic activities and planned dates for the same.
- All academic activities such as commencement of classes, institute level training programs, project monitoring, seminars of final year students, academic meetings, guest lectures, industrial visits, technical and cultural activities etc .are preplanned for the current semester of the academic year at institute level and reflected in Academic Calendar.
- The proposed dates for national importance days and annual gathering are also included in the academic calendar so that concern department can plan their activities accordingly well in advance.
- The copy of the calendar is given to the all departments. Each Department prepares separate academic calendar based on the institute level academic calendar and executes the plan.
- The students are informed about time table and academic calendar well in advance.

Teaching Plan:

- The Head of department conducts a meeting of faculty two months before the semester begins and discusses the syllabus of the program and their subject preferences are asked. Workload distribution is made accordingly. Class time tables are prepared well before the commencement of classes.
- Every subject teacher has to prepare teaching/course plan in the specified format. The course plan contains a brief description of the topic to be covered and the number of lectures required to cover that particular topic. Every faculty member enters the detail course plan in ERP Information Management System and executes the plan as per the schedule.
- Academic feedback is taken by head of department at the end of the every month to review the syllabus completion. The faculty prepares course file

which includes detailed teaching plan, notes and other study material, experimental write ups, previous year university question papers, assignments, e-learning material etc.

- Laboratory manuals are prepared/updated and uploaded on the college web site.

Evaluation:

- At institute level, it is ensured that there is a continuous evaluation process for the students. For internal evaluation specific evaluation pattern is followed. All the information about continuous assessment is shared with the students by faculty member.
- The department carries out internal assessment based on internal test performance of the students. Two class tests are conducted for each theory subject in every semester. Additional test is conducted for slow learners to improve their academic performance.
- Continuous assessment process is followed for all practical subjects. Internal marks are awarded based on attendance, performance, regular submission, calculations with graph and teacher evaluation. However, university conducts end semester examinations in both theory and practical subjects and arranges evaluation. Evaluation of final year projects is also under the purview of the university.
- In addition to the above, subject teacher gives assignments and projects to the students, schedules presentations, conducts group discussions, case study discussions etc. to support the above evaluation pattern.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

The Internal Quality Assurance Cell (IQAC) gives primary importance to improve the teaching learning process. Each and every faculty member of the institute is made aware of the importance of improving the quality of teaching and learning.

- IQAC helps in framing an action plan for the current semester by interacting with Principal. This information is then shared with all head of departments as well as faculty members for effective implementation.
- The IQAC works in close coordination with ISO, for all departments of the institute to ensure effective implementation of the following activities
 - Result analysis is carried out after the university results are declared. Based on the result every faculty member is asked to improve upon his course if the results are not satisfactory.
 - The course material is prepared by every faulty member and is given to students. Every faculty member is given user account in ERP system in which he/she needs to maintain the lesson plans, attendance of student and academic performance of students.
 - Students are asked to submit Mid-term and End-term feedback for all theory and practical subjects on various attributes mentioned in the feedback form. Based on the feedback, each subject teacher is given his / her feedback report along with the areas in which he/she needs to improve upon.
 - Parents meet is called once in a year and the performance of their ward is thoroughly discussed with them. Inputs are also collected from the parents

and based on their feedbacks appropriate changes are made in the department to strengthen the academics.

- Alumni meet is arranged every year. Alumni's are asked to share their views upon the current trends in the industry. They also give their valuable suggestions to improve the academics.

2.3.3 How learning is 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?

Our teachers use a combination of different teaching-learning methods to make learning an enjoyable and fruitful experience for our students. They use various teaching aids such as white board, power point presentations, charts etc. to make the learning more interesting. Teachers also interact with the students and difficulties encountered by the students are discussed during the lecture as well as informally after the lecture. This is very useful in developing a rapport with the students.

Interactive learning:

- Teachers also use the interactive method of teaching and conduct group discussions in class rooms. Students are divided in groups of 5-10 students and are encouraged to speak on topics related to subject. Students are also asked to give power point presentations on selected topics.
- Faculty members also use methods such as role plays, quizzes, puzzles, case studies, debate and so on to make learning interesting. This method improves the students' knowledge, helps to improve communication, builds confidence and thus, leads to personality development.
- All laboratories are well equipped and separate facility is provided for attending webinars. The institute provides seminar halls and e-class rooms where students participate in power point presentations, videos lectures and seminars. National Programme on Technology Enhanced Learning (NPTEL) videos are made available to students.
- Use of power point presentations, video clips, model etc. minimizes the monotony of the lecture and makes understanding simpler.
- Effective use of e-learning and library make learning as an enriching experience for the students.

Collaborative learning

- Collaborative learning is supported by industrial and in-house projects. The final year students have the subject "Project" as a part of their curriculum. Accordingly, all the students are required to develop a project and give demonstrative presentation on the same. In addition, students are required to prepare project report. Students are guided by teachers during all phases of project development.
- The college also organizes industrial visits for the students in collaboration with various industries in and outside Aurangabad. Such visits play an important role in the all-round development of students and also help them to acquire additional subject knowledge.
- A number of guest lectures and workshops are conducted for the students. Experts from respective fields are invited to deliver their deliberations. These

sessions have proved useful in updating the knowledge of the students as well as teachers in the respective subjects.

Independent Learning:

- To give practical exposure to the students in the respective subjects, teachers encourage students to work on mini projects.
- Independent learning is encouraged through assignments and seminars.
- The department provides well equipped laboratories for improving programming skills and logical thinking.
- The college provides free high speed internet facility to all the faculty members and students. Students are encouraged to use internet as a learning resource for assignments on current topics as well as for projects.
- A language laboratory is setup for students for improving their proficiency in English Language.
- The Institute offers support to attend conferences, workshops, symposiums etc. for increasing their knowledge in their area of study so that learning could be made more students centric.

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?

- Institute organizes the events like paper presentation, model making competition, poster competition, virtual campus etc. to develop creativity and critical thinking among the students.
- The students are encouraged to design their own applications/mini projects using the available equipment and software in the laboratory.
- The faculty motivates the students to participate in model making, paper presentations, software contests and other various co-curricular activities like project competition, workshop with hands-on experience etc. organized in and outside the institute.
- Students are encouraged to get involved in industry sponsored projects as a part of their curriculum in final year. They are also motivated to go for summer training, internship (or in-plant) at industries.
- Students are encouraged to gain knowledge in interdisciplinary subjects through selection of open electives, seminars, projects and discussions with experts.
- The NSS unit of college encourages students to organize and participate in activities related to social cause. Throughout the year the NSS unit organizes lectures for the students on various social aspects such as woman empowerment, AIDS awareness, blood donation and so on to inculcate social awareness among the students.
- The institute motivates students for participating in games and sports activities to enhance their team-work skills, self-esteem, and personality.
- Institute organizes cultural event Razzmatazz which comprises activities like department-at-a-glance, nazarana, fun games, debate competition, singing, dance, drama etc. for students in which students showcase their creativity and talents.

- To improve critical thinking process of students various group discussions, debates and seminars are organized in which students explore new ideas.
- In addition to lecture method, ICT tools are used to make space for experiential learning among the students.
- The Entrepreneurship and Development cell organizes different activities to develop entrepreneurial skills among the students.
- In the laboratory classes, students are also provided with facilities to carry out certain experiments beyond the curriculum and make their own observations so that they imbibe a scientific temper.
- The college library has 10340 E-books of Springer, 3383 E-journals and 3000 E-books of DELNET/UESTC. Total number of 68717 volumes with 18645 different number of titles are available in library. Students are encouraged to access all these facilities in the library.

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.

- The institution makes use of working models, charts and demonstration experiments and role play to make the teaching effective and interesting.
- LCD projectors are available in all departments and seminar halls.
- Teachers make use of power point presentations to make understanding simpler. Students are also encouraged to give presentations in the class by using the latest technology.
- Webinars organized by different institutes like IITs, IEEE and companies like CISCO, WIPRO and INFOSYS are made available to the students to make learning effective.
- Institute was acting as west zone extension center of NITTTR Bhopal to intensify teacher education for improving quality and performance. Induction training programs are organized to make technical education a vibrant learning system for producing competent manpower.

Table 2.8: NITTTR Training Programmes

Sr. No.	Name of Training Program	Date/Duration	No of Participants
1	Induction training Program Phase-I	29 - 09 Sept 2012	25
2	Induction training Program Phase-I	14 - 25 Jan 2013	11
3	Work Ethics Motivational Climate and Attitude Development	20 – 24 Jan 2014	5
4	Developing Workshop related skills	17 -21 Feb 2014	1
5	Distance Learning Program organized by NITTTR	18-20 June 2014	7
6	Distance Learning Program under NITTTR, Bhopal	16-17 July 2014	6

7	Institutional Preparation for Accreditation and Academic Audit	07 - 11 Oct 2014	8
8	Computer Network using Windows Server	17-21 Nov 2014	4
9	Personality Development through Positive thinking	26 - 29 Nov 2014	4

- Teacher Induction Programs are organized in the institute under WIPRO MISSION 10X

Table 2.9: WIPRO MISSION 10X Activities

Sr. No.	Year	Topic	Date and Venue	No. of Participants
1	2013-14	Engineering Faculty Workshop	11 th -13 th Dec. 2013 JNEC Aurangabad	6
2	2014-15	Three days workshop on “Teaching Learning Methodologies”	20 th -22 nd Jan 2015 JNEC Aurangabad	17
3	2015-16	Wipro Technologies, Bangalore	18 th -21 st Aug 2015 Wipro Technologies, Bangalore	4

- Language enrichment programs are also organized by institute

Table 2.10 : Language Enrichment Programs

Sr. No	Year	Date	No. of Participants
1	2011-12	9-12-2011 To 6-1-2012	30
2	2012-13	9-12-2012 To 8-1-2013	31
3	2013-14	13-5-2013 To 6-6-2013	31
4	2014-15	5-6-2014 To 3-7-2014	86
5	2015-16	24-11-2015 To 4-1-2016	36
6	2016-17	15-11-2016 To 14-12-2016	16

- Modern teaching aids like digital classrooms and internet enabled computer systems are used for class room teaching.
- Internet resources and Open Source Software are available for student learning experiences.
- Faculty uses e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and Digital Library
- The institute has purchased various software like Windows OS, Visual Studio, SQL Server, ORACLE, for the Computer Science and Engineering department, MATLAB for Electronics/Instrumentation department,

AUTOCAD, COGNIFRONT, PRO-E, FLUIDSIM for Mechanical Engineering, ETAB, SAFE for Civil Engineering department, SKETCHUP, LUMION, ADOBE CREATIVE CLOUD, RHINO for architecture department. These software can be considered as rich resources for the students and faculty.

- Moodle software is used by the CSE faculty to communicate to the students regarding the assignments and quizzes etc.
- Institute has adequate quantity of text books and reference books in the library. It has also well equipped with journals / periodicals (National and International). Faculty and students use these for knowledge updating.

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

- The institute encourages all the faculty members to participate in various conferences, workshops, seminars, symposiums etc.
- Students are inspired to participate in project competitions, paper presentations, poster presentations etc. at national/international level.
- Short Term Training Programmes (STTP)/ Faculty Development Programmes(FDP) are organized by different departments in the institute. These programmes are scheduled for a week/ three days in which eminent personalities from reputed organizations and industry are called to deliver talks.
- Industrial visits are arranged to expose the students on advanced machineries, equipments, processes and technology practiced in the industries.
- Workshops are arranged for the faculty on emerging areas to enable them to learn the subjects in such areas and equip themselves for teaching students and helping them in carrying out projects of current industrial requirements.
- Teachers are also encouraged and sponsored to participate in workshops and seminars organized by other institutes.
- The institute library is equipped with latest books and journals on latest topics.
- Teachers are encouraged to participate in Faculty Development Programs (FDP) organized by the institute as well as other colleges.
- The institute publishes magazines ‘Vista’ half yearly and ‘Gawaksh’ quarterly. Faculty members and students are encouraged to contribute research/technical articles/ technical news in Vista and poems, social, cultural articles in Gawaksh.
- The institute has association with RED HAT Academy, IGTR, A4-Technology, Gill Instruments to update the teachers and the students with recent developments.

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 advise) provided to students?

- **Teacher Guardian Scheme:**—From the academic year 2012-13, College has introduced the teacher guardian scheme. Under this scheme, each faculty will be a mentor to a group of 20 students. It is the responsibility of the mentor to advise the mentee on issues pertaining to his/her psycho-social development. The mentor will also be guiding the students on academic issues, personal problems faced by the students and any other issue which the student wishes to discuss with the mentor. The teachers carefully monitor the regularity of attendance and the performance of the students in internal evaluation tests and end semester examinations. Based on their evaluation output, proper counseling is done for them.
- **Counseling for further Studies:**
 - CAT preparations
 - GATE Examination.
 - P.G courses which are available in India and Abroad.
- **Career Counseling:** Various lectures are conducted by experts from professional organizations for the benefit of students in areas of counseling for career and personality development. Information of job opportunities in different companies is provided by the Training and Placement Cell of the College.
- **Counseling regarding competitive examinations:** Teachers provide guidance to the students on various aspects pertaining to competitive examinations such as structure of examination, guidance for preparation of syllabus, personal interviews at regular intervals through formal as well as informal interaction with them. To create awareness and motivate students to pursue career in public services, institute organizes guest lectures on various competitive exams like MPSC/UPSC/IAS/IES.
- **Entrepreneurship counseling:** College has an entrepreneurship development cell, which is helping in enhancing the entrepreneurship skills of the students by arranging various activities.
- **Career Guidance, Aptitude Test:** To make the students more efficient for their future career, along with regular academic sessions, the training and placement department also conducts lectures on group discussion, personal interview and demo sessions of same under the guidance of expert faculty members and industry experienced people.
- To help the students in choosing their specialization, from this year institute started conducting COCUBES online test. The institute has association with FACE Academy Bangalore for providing training of aptitude test.
- Listing of skill development programmes organized by institute during last 4 years is given below.

Table 2.11 : Skill Development Programmes organized in 2012-13

Sr. No.	Date	Title	Name /Organization
1	16 th to 24 th July 2012	Training for TE and BE students 550 students and HOD and staff/CSE/IT/IE/ECT and Mech	T and P Cell PPT presented by Prof. Pradnya Deshmukh
2	27 th July 2012	TCS Day celebration TPO and 300 students	TCS Company
3	4 th , 19 th and 21 st July 2012	Briefing to all students about company, GD and PI – 1 hr. session one day before the interview	T and P Officer
4	16 th Aug. 2012	Seminar on “Introduction to .NET Framework” 87 students (TE and BE-IT)	HOD/IT and TPO
5	28 th and 29 th August 2012	Seminar on “Introduction to .NET Framework” 100 students	Govt. Poly and TPO/JNEC
6	31 st August 2012	Seminar on “Introduction to .NET Framework” 60 students (TE-CSE)	HOD/CSE (Shift) and TPO
7	27 th Sept. 2012	“Seminar on different career options in defense – by Indian Navy” for BE-All Branches	Speakers: Indian Navy Officers
8	14 th , 18 th and 24 th Sept. 2012	WORKSHOP on “ORACLE TL/SQL and Data Migration Tool” TE-BE 50 students (CSE/IT and MCA)	Mr. Sarfaraz Khan, Director, SKF Infotech, Aurangabad
9	10 th Oct. 2012	Seminar on “Industry Expectations and SDLC Process” For TE and BE –CSE/IT and MCA students	Reincode Refine TechsoftPvt.Ltd. Pune
10	15 th Oct. 2012	T and P Presentation For BE-Mech. Students	HOD-Mech. and TPO
11	31 st Oct and 1 st Nov. 2012	Seminar on performance testing for ME-CSE students	Anand Khatri

NAAC – SELF STUDY REPORT

Sr. No.	Date	Title	Name /Organization
12	3 rd to 7 th January 2013	Practice by GD and PI for Eligible students for Cadbury Company campus BE-ECT/IE /EEP and Mech. 100 students	AnandKhatri
13	18 th January 2013	AMCAT- Aspiring Minds for TE/BE students CSE/IT/ECT and Mech. 250	Mr. Nikhil Deshpande, Trainer by AMCAT
14	20 th January 2013	Workshop on Resume Building and HR Interview question for BE-ECT/IE/ EEP and Mech. 80 students	Prof. AnandKhatri
15	22 nd January 2013	“You, Industry and Opportunity” TE/BE CSE / IT/ MCA students 180 Nos.	Mr. Mayank Birla Trainer in Microsoft Technology,
16	23 rd January 2013	"New Career Destination: Infrastructure" TE/BE Mech. and Civil students 150 Nos.	Dr. ArunMudbidri Founder and Director SangeetaDokey SAMVIT School of Infrastructure Business, Pune
17	24 th January 2013	“Graduate Engineering Studies in the U.S.” TE/BE students CSE/IT/ ECT and Mech. 70 nos.	Ryan Pereira Education USA Senior Adviser, (USIEF), Mumbai
18	24 th January 2013	Infosys campus connect team are presenting The webinar Session Faculty members of CSE/IT and MCA	Infosys campus connect team
19	12 th Feb. 2013	Infosys Campus Connect Soft Skills Program CSE/IT Faculty members and All TE-students	Mr. ManasTyagi (Trainer) Infosys Tech. Ltd., Pune
20	23 rd Feb. 2013	Memory and personality development All branches SE and TE 70 students	Mr. NareshMuley Trainer (REPHY Corporate Training Centre)
21	6 th , 14 th , 18 th , 21 st and 22 nd Feb. 2013	Infosys campus connect arranging the Co-Teach webinar session Faculty members in CSE and IT Dept.	AnujMadhusudanJajoo Campus Connect, E and R, Infosys Limited

NAAC – SELF STUDY REPORT

Sr. No.	Date	Title	Name /Organization
22	4 th to 14 th March 2013 (10days)	Re-incode project 16 students of BE-CSE work this project	Mr. Nikhil Maheshwari and Mr. DhananjayPatil (Trainers) by Re-incode, Pune
23	21 st and 22 nd March 2013	Karanam Institute of Leadership Training (KILT), For BE-CSE/IT and Mech. Students (200)	Mr. SumeerUdaygiri Trainer (KILT)
24	4 th April 2013	Industry needs on Automation interaction with Students and Faculty Member TE-BE ECT/IE and Mech. Students and Faculty Members	SantoshKelshikar (Director), Garutmaan Automation Training Solutions, Pune
25	8 th to 20 th April (10days)	Re-incode project 24 students of BE-CSE work this project	Mr. Nikhil Maheshwari and Mrs. Sandhya (Trainers) by Re-incode, Pune
26	19 th April 2013	Nac-Tech: A Nasscom Initiative 111 nos. of students are participated the test	Aptech Assessments and Testing Solutions,
27	2 nd to 10 th May 2013 (10 days)	Online test for Defaulter students For SE to BE –CSE, IT, ECT, IE, Mech., Prod., Instu., EEP, Civil, Bio-Tech., Chem. and MCA	TPO, HOD and Faculty Members
28	6 th to 10 th May 2013 (5 th days)	Professor's online test Junior Faculty members in all branches (FE to BE)	TPO, HOD and Faculty Members
29	8 th June 2013	Professor's online test Junior Faculty members in all branches (FE to BE)	TPO, HOD and Faculty Members
30	22 nd and 23 rd June 2013	New Professor's online test College walk in interview total 400 nos.	TPO, HOD and Faculty Members

Table 2.12 : Skill Development Programmes organized in 2013-14

Sr No.	Date	Title	Name /Organization
1	22 nd July 2013	Soft skill Dev. for all BE and MCA students	SrutiMashru Trainer by Elan Leadership
2	23 rd July 2013	Re-incode Project certificate distribution and seminar For TE-BE CSE/IT and MCA students	Re-incode, Pune
3	30 th July 2013	Gate Forum For TE/BE Mech., Civil, ECT, IE, Instru. and EEP students	GATE Forum, Hyderabad
4	31 st July 2013	EC Council CodeUncode online exam/contest For BE-CSE and IT Students	EC-Council, Hyderabad
5	22 nd August 2013	Industry- Institution-Interaction program For BE-Mech. students and faculty members	Mr. Sanjay Bhatt Shree Industry Pune
6	23 rd August 2013	Lecture talk on Entrepreneurship Development For BE-Mech., EEP, Instru., Chem. IOM-MCA	Mr. Sanjay Bhatt Shree Industry Pune
7	25 th and 26 th Sept. 2013	Aptitude test -2 For TE-BE-ECT students	Ms. V. A. More
8	24 th Sept. 2013	Code Uncode Test Only for shortlisted BE-CSE and IT students (Total 15 students)	Code Uncode (EC- Council) Pune
9	9 th October 2013	Gyani – “The Bizz Quiz” is a National Quiz competition For all BE students	Manoj Sharma, Chandahas and Hitesh (Academic Relation Dept. ITM, Mumbai)
10	17 th and 18 th Oct. 2013	Aptitude test -3 For TE-BE-ECT IE students	Ms. V. A. More
11	16, 20, 21 and 22 nd Nov. 2013	Improvement test (on-line) For all FE students	Ms. Arole and faculty members of FE
12	23 rd Jan. 2014	Higher Education Studies in USA TE and BE in all Branches 200 students	HimanshuDev (Adviser US – India Education foundation in Mumbai)
13	30 th and 31 st Jan. 2014	MOCK campus Aptitude test TE and BE in all Branches 550 students	PT Education and T and P Cell / JNEC conducted
14	3 rd February 2014	Training Awareness program Opportunities in OIL AND GAS/POWER SECTOR and EPC companies working Culture	Mr. VasantMestry (Managing Director) Suvidya Institute of Technology Pvt. Ltd.

NAAC – SELF STUDY REPORT

		TE and BE-Civil/EEP ECT/IE /Instru./Chem. and Mech. 400 students	Mumbai
15	5 th and 6 th Feb. 2014	Basic Introduction of Aptitude test workshop Second year students in all Branches 450 students	Mr. AmulyaRatan (Aptitude trainer) Imperial Education, Aurangabad
16	21 st Feb. 2014	Seed IT Idol Contest SE to BE all CSE, IT and MCA students	Seed Infotech, Aurangabad
17	23 rd Feb. 2014	Online test for Polytechnic College interview for Old and New faculty members	Polytechnic college Principal with TPO
18	25 th Feb. 2014	Skill and Personality Development TE-CSE, IT and MCA students	ArbanBhattacharjee (Training Head) Imperial Education, Bangalore
19	6 th March 2014	Principle Meet at Infosys, Pune Attend two Faculty members in CSE Dept. 1. Prof. MandarLokhande and 2. Prof. Sujit More	Infosys Technology, Pune
20	10 th March 2014	TPO Meet at Dr. B. A. M. University Attend TPO (Prof. AnandKhatri)	Employment and Self Employment Office, Dr. BAMU, A'bad
21	24 th and 25 th March 2014	Online Aptitude test – 4 For BE-ECT and IE students	Ms. V. A. More
22	26 th March 2014	Pre placement talk by Persistent system For CSE, IT and MCA students in all local Engg. colleges 1000 + students attend	Persistent company executives
23	2 nd April 2014	How to face SSB interview by Indian Army For all FE to TE students	Col. Choudhari Indian Army
24	9 th April 2014	Persistent System Online test for BE-Project For TE-CSE and IT students (Select 15 students for project)	Persistent System Pune
25	12 th April 2014	Sustainable Energy Developments Lecture talk For TE-Mech./ECT /EEP and Civil	Dr. Deepak Waikar, Managing Partner Edu Energy Conlts LLP Singapore.
26	14 th and 15 th April 2014	Online Aptitude test-5 For SE to BE-ECT and IE students	Ms. V. A. More
27	18 th to 25 th April 2014	Online Aptitude test for BE- CSE/IT/ECT and IE students	Prof. AnandKhatri,
28	5 th May 2014	Professor's online test Junior Faculty members in all	TPO, HOD and Faculty Members

		branches (FE to BE)	
29	11 th , 12 th and 16 th June 2014	New Professor's online test for MGM's Polytechnic college Junior Faculty members and New Professor's	TPO, Principal Polytechnic and Faculty Members

Table 2.13 : Skill Development Programmes organized in 2014-15

Sr No.	Date	Title	Name /Organization
1	13 th , 14 th and 19 th August 2014	Group discussion practice For all BE students	Mr. AnandKhatri and Rohit Joshi (passout Mech. student)
2	18 th August 2014	Training program on personality Dev. and Interview tips BE-CSE/IT/ECT/Mech. /Intru./ MCA	1) ArnabBhattacharjee (Training Head, Imperial Education, Bangalore) 2) AnkitParganiha
3	22 nd August 2014	Mahindra AQ Quiz contest written test For all TE and BE students	Mr. NiravPanchal Trainer Mahindra Auto Quotient
4	1 st Sept. 2014	Training Prog. Personal grooming resume writing and facing interview For BE-CSE/IT and MCA students	AnandKhatri
5	6 th Sept. 2014	Workshop on Resume Building and HR Interview question For BE-ECT students	AnandKhatri
6	6 th Sept. 2014	TCS HR Pre-placement talk For Eligible students by TCS campus interview	Ms. KetakiPedgaonkar Talent Acquisition Group Tata Consultancy Services
7	11 th Sept. 2014	Felicitation Program for TCS selected students For all Selected students and T and P Coordinators	Principal and Vice-Principal Prof. AnandKhatri and all HOD
8	22 nd Sept. 2014	Internship Training Program For MCA, MSC-Dr. G. Y. Pathrikar College and MCA – IOM students	Mr. DindeshRaiwade Digi-shell Infotech Pvt. Ltd. Aurangabad
9	25 th and 26 th Sept. 2014	Training Program by Personality Dev., GD and PI, Com. Skills For all BE and MCA students	Ms. DiptiInamdar IBS Business School Pune
10	13 th October 2014	Entrepreneurship Development Training Program (EDP) by NIESBUD (National institute for Entrepreneurship Development) an Autonomous Body under Ministry of MSME Government of India For all final year engg. and Management students	Jeetendra Joshi. Program director Laksha concepts Authorized Associate for NIESBUD online EDP

NAAC – SELF STUDY REPORT

Sr No.	Date	Title	Name /Organization
11	14 th October 2014	Awareness on Soft Skills / Personality Development For BE-IT, Mech. and ICE students	Disha International English Academy
12	8 th Nov. 2014	Interviews for Internship Training For Final Year MCA	DhananjaySawant (MD) Smarelligent Systems Pvt Ltd. Aurangabad
13	12 th Nov. 2014	Seminar on Different career options in Indian Army For all Third year and Final year Engg. students	Col. Choudhari University Entry Scheme by Indian Army University Entry Scheme by Indian Army
14	19 th Nov. 2014	Interviews for Internship Training For all MCA and MCA-IOM students	Nascency InfoTech Aurangabad
15	9 th Feb. 2015	Facing HR interview dressing for success and Resume building BE-Mech./ECT and EEP 175 Nos.	Prof. AnandKhatri
16	23 rd and 24 th Feb. 2015	Training Program by personality dev. and Interview tips TE-Mech., BE-EEP, ICE, Chem. and Civil students	ArnabBhattacharjee Training Head, Imperial Education, Bangalore) and AnkitParganiha
17	23 rd Feb. 2015	Seed IT Idol contest TE-CSE, SE to BE-IT MCA-FY to TY and BE-ECT students at Respective classrooms	Mr. AmolAthwale Trainer Seed Infotech. A'abd
18	25 th Feb. 2015	Life changing workshop to achieve the goals faster BE-EEP and SE-CSE students	Mr. ArunAkolkar Director, Wisdom Life Coaching and Training
19	2 nd and 3 rd March 2015	Demo Session Soft Skill and Campus Recruitment Training Program Mech. 40-TE-BE students	AnkitParganiha Central Manager Imperial Education, Bangalore
20	19 th March 2015	JNEC participation in “Shine HR Conclave” at Pune 04 faculty member attended	Shine.com, Pune
21	2 nd April 2015	Facing HR interview and Resume building BE-EEP 66 Nos.	Prof. AnandKhatri

Table 2.14 : Skill Development Programmes organized in 2015-16

Sr No.	Date	Title	Name /Organization
1	23rd June and 24th June 2015	SPARSH - TPO Annual meet @ TCS Dr. Abhay B. Kulkarni	TCS, Pune
2	22 nd July 2015	TCS Campus Commune Program All TE and BE Students	TCS team , Pune
3	22 nd July 2015	Indian Army seminar TE and BE Mech. students	Col. Kunal Mukharjee Indian Army
4	29 th July 2015	TCS CodaVita Webinar session TE and BE CSE and IT students	TCS
5	8 th to 17 th August 2015 (10 days)	Campus Placement Cracker + TCS Specific training (Aptitude Skill Dev.) BE-CSE students	Mayur B K Manager - FACE - Focus Academy, Pune
6	10 th and 11 th August 2015	“KaabilBano” skill development pro. presentation TE-CSE/IT BE-IT MCA students	Imtiyaz Khan trainer “KaabilBano”
7	12 th August 2015	Presentation by Asprinig Minds (AMCAT) TE-ECT students	Mr. Tarun Chugh (Sr. Manager) AMCAT
8	16 th to 23 rd August 2015	Campus Placement Cracker + TCS Specific training (Aptitude Skill Dev.) BE-IT, ECT, Mech. and ICE students	Mayur B K Manager - FACE - Focus Academy, Pune
9	28 th August 2015	“KaabilBano” skill dev. Presentation SE and TE-Civil students	Imtiyaz Khat trainer “KaabilBano”
10	26 th August 2015	Persistent company with all TPO Meet Prof. Vinod Agrawal (MCA Dept.)	Persistent System Ltd.
11	26 th August 2015	SAP business module Prog. Presentation BE-Mech. Students	Feroz Khan Business Model Proposal
12	29 th August 2015	All Institute TPO Meet Dr. Abhay B. Kulkarni	MIT College, A’bad
13	28 th August 2015	Training Program BE-CSE and IT students	Mr. Kaustubh Bhadbhade (sr. MGR) Persistent System
14	22 nd Sept. 2015	Visit to Pune Company Dr. Abhay B. Kulkarni and Prof. Amol Mhadik	iNautix Technologies India Pvt. Ltd. a BNY Mellon Company
15	30 th Sept. 2015	Presentation by Asprinig Minds (AMCAT) BE-IT/EEP/ECT and SE-IT and CSE	Mr. Tarun Chugh (Sr. Manager) AMCAT

NAAC – SELF STUDY REPORT

Sr No.	Date	Title	Name /Organization
16	9 th Oct. 2015	Awareness Trg. Prg. By RBI at Windsor castle Hotel, A'bad TE and BE students 50 students and 2 faculty members	AparnaParab AM(PP) FED MRO, RBI Mumbai
17	9 th Oct. 2015	Soft Skill Dev. Program TE and SE Mech. Students	Mr. ParagPande and Shirish Joshi Cygnus Design soln. Mumbai
18	13 th , 14 th and 15 th Oct. 2015	Online MOCK Test All BE students	Dr. Abhay B. Kulkarni thru CSE Dept. staff
19	20 th Oct. 2015	ABCDE Awarenessprog. "KaabilBano" SE-ECT, Mech. and Chem.	Mr. Imtiyaz Khan Trainer, KaabilBano
20	23 rd Oct. 2015	Awareness Program Introduction to the e-Learning in Manufacturing and Supply Chain developed by Tata Auto Comp Systems TE-Mech. Students	Mr. AshutoshVaradpande Mr. SanayBhat (JNEC Alumnus)
21	5 th Nov. 2015	Online MOCK Test For BE-CSE and IT students	Dr. Abhay B. Kulkarni thru CSE Dept. staff
22	5 th Nov. 2015	AMCAT test Aspiring Minds Only registered students TE-ECT and SE-Mech.	Mr. Sadam Ahmed, Trainer Aspiring Minds
23	Phase - I training program on 7, 8 and 9 Jan 2016.	Barclays - Youth Employability Initiative Training Program All BE and ME students 350 Nos	PriyankaMohanty Global Talent Track Manager- Business Development, Pune
24	Phase – II training 29 th to 8 th Feb. 2016	Barclays - Youth Employability Initiative Training Program All BE and ME 253 students	Three trainer from GTT, Pune
25	2 nd February 2016	Seminar Vedic Mathematics For TE-ECT, CSE, IT, EEP and Mech. 400 Students	Mr. A. Mohan Trainer, IAOSM
26	9 th Feb. 2016	Barclays - Youth Employability Initiative Training Program assessment test For All BE and ME 253 students	Three trainer from GTT, Pune
27	3 rd and 4 th March 2016	Seminar on Awareness of Cocube test and placement initiatives For TE-CSE/ECT and Mech. 300 Students	Mr. AnupamBhandarkar Associate - Institutions CoCubes.com
28	6 th April 2016	Aspiring Minds (AMCAT) assessment online test for TE- ECT and Mech. Students (Registered 24 students)	Aspiring Minds team members

Sr No.	Date	Title	Name /Organization
29	1 st to 15 April 2016	Barclay online Training For All TE students attend (929 Nos.) shortlisted L1 training – 697 No of students	Barclay + GTT + Nasscom
30	30 th April 2016	Campus drive discussion Mr. Kamal Digarse (HR-TCS) Visit college HR - Campus Recruitment Tata Consultancy Services	Dr. Abhay B. Kulkarni (TPO)

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?

- Faculty members have designed informative slides of their subject for proper understanding of the course.
- The faculty members use online journals, videos and other online content and study material from the internet.
- Faculty uploads academic material i.e. subject notes on the JNEC ERP system.
- The students are encouraged to use computer software packages for experimental work of their projects and its analysis. The institute encourages teachers to enhance their subject knowledge and research in their respective fields using library resources and software.
- Creative assignments are prepared by the faculty in all the subjects and students are asked to prepare the solutions by referring the books and other e-learning materials.
- Seminars / symposia are conducted regularly every year to bring out inherent talents of the budding engineers. Special guest lectures are also arranged on the latest topics by eminent academicians / industrialists.
- All faculty members are encouraged to adopt new teaching methods to make the syllabus more interesting and to reduce the monotonous nature of teaching methods. Innovative teaching methods make learning more interesting, interactive and inspiring which is reflected in the good academic performance of the students. Some of the innovative methods used by the faculty are as follows:
 - **Multimedia Learning** - The teachers in institute use multimedia to make learning interesting for the students. Multimedia Learning helps the teacher to represent in a more meaningful way, using different media. By incorporating multimedia learning, the students are able to learn better since they use multiple sensory modalities, which would make them more motivated to pay more attention to the information presented and retain the information.
 - **Role Playing and Scenario Learning**– Teachers use this method very extensively so that students learn applications of what they are learning in real life situations. Simulative exercises are also given to students to encourage them to think independently.

- **Z to A approach** – In this method, the teacher explains the application of a particular concept first and then explains the effects of such applications.
- **Use of innovative tools like crosswords, magazines** - College teachers use tools such as crosswords to develop the interest of students in the subject and to give them confidence to think beyond the boundaries of the subject.
- In order to impart more innovative approaches in the teaching-learning process, the institution motivates all the faculty members to attend FDPs and Training programs, National and International Seminars, Conferences/Workshops organized by reputed institutions.
- The institution organizes NITTTR Training and Wipro Mission 10X transactional analysis workshop for the faculty to improve their teaching methodologies. NPTEL, Simulations, PPTs and Charts are extensively used to augment conventional black board teaching. Working prototype models are also shown in the class rooms. Role plays, simulation studies, field visits, surveys and demonstrations are also incorporated in teaching methodology.
- In the laboratory oriented courses, students are given the freedom to conduct certain experiments, to strengthen the theoretical concepts they are taught in the class room, under the supervision and guidance of the laboratory instructor.
- Variety of software tools, systems with internet downloading facility are made available to the entire faculty to enable them to teach certain topics through extensive simulation techniques.
- The institution encourages the faculty (specially from CSE/IT) in adopting new methods of e-learning such as Moodle for assignments and Spoken Tutorials in which a student can visualize the concepts taught in classroom by sitting before the computer
- Apart from classroom interactions, the students undergo in-plant training, visit industries, paper presentation, carry out in-house projects and faculty give them guidance in all such activities so that the class room learning is effectively and innovatively supplemented.

These innovative teaching approaches adopted by faculty helped to improve the university examination result, enhance the practical skills and placement record of students.

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

- The college has a well equipped central library with necessary text and reference books, periodicals, journals and e-resources in all the subjects related to engineering and technology.
- It has also good collection of literature and competitive examination books.
- The entire library collection is made available to all students as well as staff and teachers.
- The library has designated areas for different sections of the library like reading room, internet, storage space, news paper reading, waiting room, and belongings counters which stimulate a nice ambiance for reading.

- It has sitting capacity of 600 students and it is always full of students during preparatory period and examinations. During this period library is open for 24 hours including Sundays/ Holidays and tea, coffee and snacks are serve to all students at free of cost.
- As per the requirement, the library is also kept open beyond the working hours of institution.
- Library uses the Biometric attendance for library users.
- All the books in the library are stacked (according to the departments) in such a manner that the library officials can spend least time in getting books issued to students, staff and faculty.
- There are computers systems kept inside the library to facilitate information access by users. It is using library management system developed by Qualsoft System Pvt. Ltd. for automating various functions in the library like book procurement and circulation. The library software can be used effectively to search a book, issue a book, find the no. of quantities of a particular book etc.
- It has a collection of total 68717 books and 296 magazines. It also provide DELNET (3383 E-journals) facility to search through abstracts and full text of technical papers and articles. The faculty and students refer the online and print journals to publish / present technical papers. Students and faculty refer the e-learning resource material (E-journals and E-books) available in the Digital Library (Springer, DELNET, NPTEL) to enhance their technical knowledge and understanding of the subjects.
- Photocopying facility is available.
- New Books are procured yearly on demand of teachers / students for updating the library.
- Book Bank system is introduced for all the students in 1984.
- SC/ST students get books from book bank at no cost.
- The library is completely covered under the CCTV surveillance.



Fig. 2.9 : Library Reading Room



Fig. 2.10 : Books stacked in 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, though the institute could complete the curriculum within the time frame, it has sometimes faced the following challenges:

- The challenge of completing the curriculum within the planned time frame and calendar is not very severe as all the academic activities are planned well in advance and reflected in academic calendar. However, if there are any unplanned activities or events or due to some unforeseen circumstances, there may be a problem in completing the syllabus within the stipulated time period. Under such circumstances, the teachers who are facing a problem in completing the syllabus conduct extra classes beyond working hours. Sometimes public holidays are curtailed so as to conduct extra hours of teaching for completion of the syllabus and students are informed accordingly to come for classes.
- Due to late admissions at first year level and direct admissions at second year level, the instruction period is usually less. Faculty takes it as a challenge and completes the syllabus in time by conducting extra classes and also motivating the students to prepare on day to day basis.
- Sometimes teachers need to bridge the courses particularly to the lateral entry students admitted into second year to meet the curriculum gap so as to make them comfortable with the curriculum subjects.
- Every faculty prepares a course plan in the beginning of the semester. Although, even if it is planned, the time taken by the faculty to cover the syllabus depends on his / her own individual capacity and expertise. Sometimes students take more time to grasp a concept and needs to be repeated again. Hence it may not be possible always for a faculty to complete the course in the stipulated time assigned by the university.

- Some subjects require more time than the number of hours assigned by the university, for example DIP, SOM, EEE, EG, Applied Mechanics, Engineering subjects need more time.

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

The institution regularly and systematically evaluates and monitors the quality of teaching in the following ways:

- As the institute is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, examinations are conducted by affiliating university; the result analysis process is carried out twice in a year i.e. for every semester. The institute organizes remedial classes for poor result subjects like Engineering Mathematics.
- Two class tests per semester, surprise tests, assignments, tutorials, presentations and orals, etc. are conducted at regular intervals and their results are analyzed and discussed with students to improve quality of teaching-learning.
- The quality of course material, assignments, experiment list, lab manual prepared by the faculty is assessed internally and suitable suggestions for enriching the course materials lab manuals and assignments are given by the senior faculty of the departments.
- Creative content beyond the syllabi are prepared by faculty members for their subjects.
- College has in place a healthy feedback collection system comprises Mid-Term and End-Term Faculty Feedback, where in feedback is taken from the students twice in every semester. Panel of 3-5 senior faculty members collect the feedback from students. Transparency is ensured in the process and the data thus collected is analyzed and presented by panel to the HOD. The HOD has counseling sessions with individual faculty members if and where improvement is needed. Faculty members with good feedback are appreciated. Suggestions on different aspects of teaching are also taken from the Class Representatives in CR-meeting by HOD and these suggestions are shared with all the teachers. This helps the teachers to introspect and improve their teaching skills. Exit poll feedback is also collected from the final year students.
- Students are made aware of self-assessment for attainment of learning outcomes.
- Institute follows well defined self appraisal system every year, in which all the teachers filled self appraisal forms based on many criteria such as results produced, co-curricular / extra-curricular activities organized / participated, projects guided and innovative teaching methods adapted etc. IQAC members along with Dean Academics does the analysis of these appraisal criteria and the remedial measures wherever needed, including the training needed for teachers to improve the subject knowledge and quality of teaching are discussed with the Principal and finalized.

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****Recruitment strategies**

- Recruitment of competent and qualified teachers (Assistant Professors, Associate Professors, and Professors) is done as per the AICTE / University norms.
- Requirement of faculty is calculated on the basis of workload in both terms (in the Academic Year) and cadre ratio.
- Accordingly, roster is finalized in association with the University.
- Advertisement of vacancies (category wise) is released in all the leading newspapers as well as on the website of the college.
- Prescribed application forms for faculty selection are made available to the candidates at college office / website.
- From the applications received, eligible candidates are scrutinized and called for interview.
- University appoints the committee consisting of experts and interviews are conducted by this committee for the scrutinized candidates.
- The details of interview held with names of recommended candidates is prepared in the prescribed form (given by University), duly signed by Selection Committee of University.
- The appointment letters are issued, to the selected candidates. Joining reports are obtained from candidates, who are appointed and asked for joining.
- The details of faculty members who have joined are submitted to University for approval along with necessary copies of documents.
- However, the vacancies obtained because of leaving the staff from the college, deputation for higher studies and short fall of candidates etc. are filled up on adhoc basis. Applications are invited for walk in interviews through news paper advertisement. From the applications received, eligible candidates are shortlisted and called for interview.
- Interviews are conducted by the committee of Management.
- The appointment letters are issued to the adhoc selected candidates. Joining reports are obtained from candidates, who are appointed and asked for joining.

Retention strategies:

- College provides good working environment for its staff.
- Teachers are allotted subjects as per their choice of preference and experience.
- Teachers are encouraged to write and publish articles, books as well as research papers.
- Institute deputed / sponsors (i.e. gives financial assistance) faculty for higher studies as well as National/ International Conferences, Workshops, Faculty Development Programs etc.
- Keeping in mind the changing curriculum, the college also organizes various developmental activities for teachers. This encourages the teachers to pursue

an enriching career in academics and enables them to cope up with changing syllabus as well as introduces them to teaching methodologies adopted in institutes of repute.

- Institute has time bound and performance based promotion policy. Following are the faculty details during the current academic year:

Table 2.15: Faculty details during the current academic year(2016-17)

Highest qualification	Professor		Associate		Assistant		
			Professor		Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
Ph.D.	5	4	10	6	4	6	35
PG	4	1	2	1	37	21	66
Temporary teachers							
Ph.D.	1				4	1	6
PG			1		43	52	96
						Total	203

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

- Institute deputed / sponsors (i.e. gives financial assistance) faculty for higher studies as well as National / International Conferences, Workshops, Faculty Development Programs etc.
- Senior faculty members are appointed for mentoring junior faculty in teaching learning process and in subject preparation.
- Text / Reference books and journals in advanced areas are procured and made available in the library on request from the teachers.
- In addition to appointing full time faculty members, the institute also appoints visiting faculty members from the industry / professional organizations to meet the growing demand of teachers. These teachers also provide their expertise in practical areas and thus the backlog of teachers is made up through the appointment of such visiting faculty members.

Table 2.16: Faculty permitted for higher studies

Sr. No	Higher Education	2012-13	2013-14	2014-15	2015-16	2016-17
1	Ph.D	04	01	07	06	02
2	M.E./M.Tech.	06	04	07	01	02

2.4.3 Provide details on staff development programmes during the last four years. Elaborate the strategies adopted by the institution in enhancing the teacher quality.

College has always encouraged faculty members to participate in seminars, workshops, conferences held by different institutes from Aurangabad as well as outside the Aurangabad. The financial support for such activities is borne by the college. Faculty members are also encouraged to write research papers, research articles, present papers and adequate support and facilities are provided to them in the form of infrastructure and other required assistance.

a) Nomination to staff development programmes :

Table 2.17: Number of Faculty nominated for Staff Development Programmes

Academic Programmes	No. of Faculty Nominated				
	2012-13	2013-14	2014-15	2015-16	2016-17
STTP, FDP /Workshops / Other Institute Programme	44	45	72	86	78

b) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning.

Teaching learning methods /approaches:

- Institute organizes various programs like Mission 10X, NPTEL training program ,Language enrichment program , NITTTR training program to empower and enable the use of various tools and technology for improved teaching-learning. The details of all these programs are mentioned in criteria 2.3.5.
- Departmental academic calendars are prepared by every department.
- Lesson plan for every course is prepared by all the faculty members.

Handling new curriculum:

- Faculty members are allowed to undergo training on new courses introduced in the curriculum.
- Senior faculty guide junior faculty to handle new subject.
- The institution follows the guidelines of the affiliating university to adhere with the curriculum.

Content / knowledge management:

- Most of the faculty members of the institute adapt to latest teaching aids like multimedia presentations etc.
- Faculty members use laptops, LCD Projectors, and other aids to engage classes.
- Faculty members expose students to demonstrated and experimental learning.

Selection, development and use of enrichment materials

- Faculty members are encouraged to explore the materials available on the websites of premier institutes like IIT's, NIT's or other International Universities.
- Every staff prepares his course file.
- Eminent personalities from the industry are invited to deliver talks on recent trends in the industry.
- Faculty conducts enrichment courses to bridge the gap between the students' knowledge and his subject understanding.
- Faculty conducts remedial classes for slow learner students.

Assessment

- Faculty feedback is taken twice in a semester. Faculty members are informed about their weak points and are asked to take corrective measures.
- The institute takes appraisal of every faculty at the end of every academic year.

Cross cutting issues

- Retention mechanisms are given importance.
- Seminars and workshops are conducted to enlighten the minds of the faculty provoking them to get actively involved in social, economic, gender equality, weaker sections of the society, women empowerment etc.

Audio Visual Aids / multimedia

- Faculty members use audio visual aids like multimedia projectors during lectures.
- A PA system and LCD is available in the auditorium and seminar halls for conducting programs, workshops and seminars.

Open Educational Resources (OER)

- Faculty members use Open Educational Resources (OER) which includes full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.
- They also guide the projects of final year students. In doing so they use references from industry.

Teaching learning material development, selection and use

- All faculty members of the institute prepare course files. The course file includes syllabus, lesson plans, objectives, outcomes etc. for each subject.
- Two Internet Leased Lines of 40 Mbps and 8Mbps capacity are subscribed by the institute for the use of faculty and students.
- The institute has well stacked library with more than enough no of books available.
- The faculty participates in syllabus revision workshops, technical workshops, seminars, symposiums etc. to enrich their knowledge which can be put into effective teaching.

c) Number of faculty

Table 2.18: Number of faculty nominated/participated in Workshops/Seminars/Conferences

Particulars	Total no. of Faculty
Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies	18
Participated in external Workshops / Seminars / Conferences recognized by national/international professional bodies	173
Presented no. of papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies	136

2.4.4 What policies/systems are in place to recharge teachers? (E.g. providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmers)

- Teaching faculty members are encouraged and motivated to pursue higher studies (PG/Ph.D./PDF) and re-charge for better performance on the professional side. For the professional development of the faculty, management sanctions the study leave. Following faculty members have availed study leave for pursuing PhD/ME during last four years.

Table 2.19: List of Faculty for Study Leave availed

Year	Name of Faculty	Qualification
2011-13	Mr. A.V Khake	M.E.
	Ms. Prajakta Murmude	M.E.
	Ms. Smita Shelke	M.E.
	Mr.V.A.Gite	M.Tech.
	Ms. Ruhi Oberoi	M.E.
	Ms.Asma Husain	M.E.
2012-14	Ms. Madhuri Kawarkhe	M.E.
	Ms. Kanchan Vaishnav	M.E.
	Ms.Ruhini Narwade	M.E.
	Ms. Amol Mahadik	M.E.
2014-16	Mr. G. L. Deshmukh	M.E.
	Mr. Pawan Maniyar	M.E.
	Ms. Varsha Ajith	M.E.
	Mr. Mandar Lokhande	M.E.
	Mr. Swapnil Naidu	M.E.
	Ms. Shruti Suryawanshi	M.E.

Year	Name of Faculty	Qualification
2015-17	Mr. Mahendra Ugle	M.E.
	Ms. Tanveer Ambekar	M.E.
	Mr. Nitin Giri	M.E.
	Mr. Amit Deshpande	M.Arch
	Ms. Swata Patil	M.E.
2013-14	Dr. Deepa Deshpande	PhD
2013-14	Dr. S. N. Pawar	PhD
2014-15	Dr. V.A. More	PhD
2015-16	Ms. Ruhi Oberoi	PhD
2013-14	Dr. Arvind Chel	PDF
2015-16	Dr. S. D. Dindulkar	PDF

- Teachers are encouraged to avail research grants for projects from funding agencies like AICTE/DST/UGC. Details about the same are mentioned in Criteria-III.
- Teachers are sponsored to attend national/ international conferences, seminars, training programs, workshops and faculty development programs conducted by other organizations within and outside the Aurangabad. Following table shows the list of faculty members which are sponsored for presenting research papers at abroad (international level only) during last four years.

Table 2.20: List of faculty members which are sponsored for presenting research papers at abroad

Year	Name of Faculty	Date and Venue
2012-13	Dr. V.B.Musande	Aug,2012, Melbourne, Australia
2013-14	Dr. S.D.Deshmukh	Aug 2013,Melaka, Malaysia
	Dr. R.R.Deshmukh	Aug 2013,Melaka, Malaysia
	Dr. N.G.Phapat	Aug 2013,Melaka, Malaysia
	Dr. D.S.Deshpande	July 2014, Los Vegas, USA
2015-16	Dr. S.Y. Guhe	OCT/NOV-2015, Melbourne, Australia
	Dr. V. B. Malode	Nov 2015, Chiangmai, Thailand
2016-17	Dr. O.K. Mahadwad	Dec 2016, Miri, Malaysia
	Dr. S.D.Deshmukh	London, England
	Dr. R.R.Deshmukh	London, England

- Different faculty development training programs and workshops are organized by the institute to make teachers abreast of the latest developments in domain areas.
- Faculty members are also invited by other Colleges and Corporate Training Centers as resource persons. Some of the faculty members invited as **resource persons** in the last four years are as follows

Table 2.21: List of Faculty invited as Resource Persons

Year	Name of Faculty	Name of Organization
2012-13	Dr. V. S. Joshi	IGTR Aurangabad
2012-13	Mr. B.T. Deshmukh	Deogiri Institute of Engineering and Management Studies Aurangabad
2016-17	Mr. B.T. Deshmukh	MSS College of Engg. And Technology, Jalna
2013-14	Mr. S.A. Annadate	Savitribai Phule Women's Engg. College, Aurangabad
2013-14	Mr. F.I. Shaikh	Savitribai Phule Women's Engg. College, Aurangabad
2013-14	Dr. S.D. Saptarshi	V.G. Shivdare College of Arts Commerce and Science, Solapur.
2014- 2015	Dr. S. B. Shinde	Sanjivani College of Engineering Kopargaon
2016-17	Dr. Suddhasheel Ghosh	QGISAWRE-2016, Govt. College of Engineering Aurangabad
2015-16		HYMOSGET-2015, Govt. College of Engineering Aurangabad
2015-16		IEEE Seminar on "Smart City", PESCOE, Aurangabad
2014-15		STEDAR-2014, Govt. College of Engineering Aurangabad
2013-2014		Introduction to Geomatics, Govt. College of Engineering Aurangabad
2013-2014		REMECOAT-2013, Govt. College of Engineering Aurangabad
2015-16		Government College of Engineering, Jalgaon
2014-15	Dr. V. S. Pradhan	JNEC, Workshop on "Introduction to Remote Sensing and GIS"
2014-15	Dr. Dolas Dhananjay	Regional Training Centre, Irrigation Department, WALMI Campus
	Dr.Nitin Phapat	Everest Engineering College, Aurangabad
		Shreyash Engineering College, Aurangabad.
		COEP, Pune
		Deogiri Institute of Engineering and Management College, Aurangabad
		Hi-Tech Engg College. Aurangabad on Tool Engineering
2015-16	Dr. Vinita Joshi	Deogiri Institute of Engineering and Management Studies Aurangabad
2015-16	Dr. Ravindra Deshmukh	Deogiri Institute of Engineering and Management Studies Aurangabad
2015-16		College of Engineering Osmanabad
2015-16		Dr Seema Quadri Institute of Engineering and Technology Aurangabad

Year	Name of Faculty	Name of Organization
2015-16	Dr. S. N. Pawar	Dr. BAMU Aurangabad.
2015-16	Mrs. S.D. Gavraskar	Hightech, Aurangabad.
2016-17	Mr. Girish Agrawal	National Institute of Electronics Engg. And Technology, Aurangabad.
2016-17	Dr. RavindraDeshmukh	Dr. BAMU Aurangabad
2016-17	Dr. ArvindChel	Swami Keshvananel Institute of Technology , Jaipur, India
2016-17	Dr. Arvind Chel	Dr. BAMU Aurangabad
2016-17	Dr. V. B. Malode	Dr. BAMU Aurangabad, MIT Aurangabad.
2016-17	Dr. S.C. Tamane	Infosys Campus Connect Pune
2015-16		
2016-17		IBP Mahila College Aurangabad
2016-17	Dr. S. B. Spkal	MSP Mandal's Chhatrapati Shivaji Science College, Aurangabad.
2016-17	Mr. Ajay Chole	Dept. of Geology, Bangalore University

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.

Details of awards/recognitions won by faculty/department in the area of teaching and connected research during the last four years:

Table 2.22: Awards/Recognition received for excellence in teaching

Sr. No	Year	Name of Faculty	Title of Award/ Recognition	Issuing authority
1	2012-13	Dr. V. S. Joshi	Best Paper Production Division	IEI
2	2012-13	Dr. A. L. Chel	Bharat Jyoti Award	Indian International Friendship Society
3	2013-14	Dr. S. B. Sapkal	Oral Presentation First Prize	Pre-science Congress Dr.BAMU
4	2013-14	Dr. S D Saptarshi	Best oral presentation Award in International Conferences at Mauritius	International conference BTBT
5	2014-15	Prof. V.N. Tawade	Lifetime contribution in education Award	MASA
6	2014-15	Prof. V.N. Tawade	Dronacharya award	Lions Club Aurangabad

Sr. No	Year	Name of Faculty	Title of Award/ Recognition	Issuing authority
7	2014-15	Dr.V.B.Malode	Silver Certificate in Paper presentation	4 th International conference on Communication , Signal Processing , Computing and IT, Telangan
8	2014-15	Dr. M. N. Mangulkar	Patent - Apparatus for Determining Dimensions of Aggregate Particles Used in Concrete in the name of Government College of Engineering, Aurangabad Applicants	Government of India
9	2015-16	Dr.R.R.Deshmukh	Engineering Excellence Award by IEI for social and educational contribution	IEI
10	2016-17	Dr. R. R. Deshmukh	Best Programme Officer award	Dr. BAMU Aurangabad
11	2016-17	Dr. S. Y. Guhe	Best Paper award in Environmental Engineering discipline received for paper presented at National Chemical Engineering Congress	CHEMCON-2016, Chennai
12	2016-17	Ar. Rohit Raka and Divya Dabre	Best panel award for heritage management and conservation	INTACH, Pune
13	2007-08	Dr. S. D. Deshmukh	Recognized Ph.D guide	Dr. BAMU Aurangabad
14	2012-13	Dr.H.H. Shinde	Recognized Ph.D guide	Dr. BAMU Aurangabad
15	2016-17	Dr.R.R.Deshmukh	Recognized Ph.D guide	Dr. BAMU Aurangabad
16	2015-16	Dr.S.C.Tamane	Recognized Ph.D guide	Dr. BAMU Aurangabad
17	2015-16	Dr. V. B. Malode	Recognized Ph.D guide	Dr. BAMU Aurangabad
18	2015-16	Dr. V. B. Malode	Recognized Ph.D guide	Dr. BAMU Aurangabad

Sr. No	Year	Name of Faculty	Title of Award/ Recognition	Issuing authority
19	2011-12	Dr.H.H. Shinde	Recognized BOS Chairman in CIVIL	Dr. BAMU Aurangabad
20	2015-16	Dr.R.R.Deshmukh	Recognized BOS Chairman in MECH	Dr. BAMU Aurangabad
21	2013-14	Dr. V.B.Musande	Recognized BOS Chairman in CSE	Dr. BAMU Aurangabad
22	2015-16	Dr. V.B.Musande	Recognized BOS Chairman in CSE	Dr. BAMU Aurangabad
23	2011-12	Dr. B.M.Patil	Recognized BOS Member Civil	Dr. BAMU Aurangabad
24	2016-17	Dr.S.C.Tamane	Recognized BOS member/coordinator CSE/IT	Dr. BAMU Aurangabad
25	2016-17	Dr. NitinPhapat	Recognized BOS member in MECH	Dr. BAMU Aurangabad
26	2016-17	Dr. V. B. Malode	Recognized BOS member in ECT	Dr. BAMU Aurangabad

The College has always encouraged faculty members to participate actively in all academic and co-curricular activities. The College also provides a conducive environment in the form of adequate infrastructure, library, and access to online research journals which encourages faculty members to excel in their areas of specialization.

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?

- College has in place a healthy feedback collection system - the Faculty Feedback System, wherein evaluation of teachers is done by taking inputs from the students twice in each semester.
- Transparency is ensured in the process and the data collected from received feedback is analyzed and used for improving the quality of Teaching-Learning-Process.
- Based on the analysis, counseling of the teachers is done by the Head of the Department to make corrective actions for improving their teaching skills.
- The individual faculty feedback is communicated to the Principal/Vice Principal/Dean Academics. The Principal/Vice Principal/Dean Academics conducts academic counseling session with faculty, if required.
- Suggestions are also taken from the students on different aspects of teaching and these suggestions are shared with all the teachers. This helps the teachers to introspect and improve their 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?

- The input about evaluation schemes is provided to the students at the beginning of each semester.

- Scope of evaluation at the Institute is limited to the internal term work and class tests.
- Practical and theory evaluation is done by the University.
- At university level - Practical, Oral Examination and Theory Examinations are conducted and evaluation is done by the university through Central Assessment Scheme and faculty contributes in the capacity of Paper Setter, Internal/External Examiner for Practical Examination, Moderator for Theory Examination.
- Students are clearly made aware of the eligibility conditions required to appear in the university examination of respective semester.
- Institute notifies related evaluation process and related documentation on the notice board. This includes schedule of internal class tests, submission and University (Theory and Practical) examination.
- Appropriate notices related to schedule of submission of examination forms, time table for University theory and practical examination, verification and revaluation process are displayed on the notice board from time to time by college office.
- Every department is given a academic calendar in the beginning of the semester itself. The academic calendar is approved by the Principal.
- All academic, co-curricular and extra-curricular activities planned for that semester along with dates of commencement of classes, term end, project monitoring are mentioned in the academic calendar.
- Pattern for evaluation for a particular subject is specified in the University syllabus.
- The skeleton paper is informed to the students by the concerned faculty members before the commencement of University examination.
- Internal class tests papers are shown to the students and discussed properly.

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?

Reforms introduced by the University:

- On-line examination for selected courses (as per policy of university)
- For final year students Project work is evaluated through Seminar and Presentations conducted internally as well as through University evaluation process.
- University has introduced minimum two class tests per subject in the semester. Average of two class tests is considered for student evaluation.
- University has introduced the web portal through MKCL for entry of internal marks of class test and term work at the end of every semester.
- In recent years university has developed a data bank of teachers and their subjects of specialization (Theory and Labs). As per the directives from University, faculty contributes in the capacity of Paper Setter, Internal/External Examiner for practical examination and moderator for theory examination
- University appoints teachers having minimum three years of teaching experience for assessment of answer books of university examination.
- The university has introduced the systems through which students can demand photocopy of the answer books and also apply for revaluation.

Reforms introduced by the Institution:

- The College has the freedom to decide the internal assessment pattern i.e. Term Work evaluation and the pattern of class test papers.
- College has introduced '2+8+2' pattern for conducting practical of each subject. It gives emphasis on not only ten practical assignments prescribed in the University syllabus but also two prerequisite and two applications based practical assignments. This helps students to understand basic fundamentals and practical applications of each subject.
- All departments prepare zero hour (i.e. one hour before/after regular college timings) class test schedule. One week day is allotted per department to run this schedule. One subject class test is scheduled per week throughout the semester.
- For internal evaluation, additional class test is conducted for students who fail to secure minimum marks during Class Test-I and Class Test-II.
- Tutorials are introduced in class time tables for the subjects having very less result in the previous semester examination.
- Final year project monitoring is done at regular interval of time.
- To bridge the knowledge gap, college conducts value added programs. The college has the freedom to decide the norms of evaluation for these programmes.
- Institute has implemented ERP (Enterprise Resource Planning) system for academic monitoring.
- The Institute has initiated reforms such as digital classrooms
- The institute initiated formation of Programme Advisory Committee(PAC) to strengthen the academics as per the industry requirements. Department of Computer Science and Engineering has formed the said committee during 2016-17.

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 reforms recommended by the University and those initiated by the college are effectively implemented in the following manner.

- Institute organizes university examination as per schedule declared by the University and effectively monitors the examination.
- To conduct on line examination, institute has sufficient IT infrastructure.
- Students can apply for photocopy of answer books and revaluation by following defined rules and regulations of university.
- Notices regarding class timetable, schedule of class test, dates of submission, seminars, project monitoring, university theory and practical examination are displayed from time to time. The concerned teachers make necessary announcements in the classes for the same.
- Continuous internal assessment in the form of class tests, practical, and projects along with academic monitoring ensures overall evaluation of the students.
- Each department has Class Test Coordinator for smooth conduction of internal class Tests.

- The students can see their respective answer books and discuss their queries with concerned teacher.

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

Formative evaluation –

At college, formative evaluation is put into practice in the following ways:

- Observe students' behavior.
- Have informal talks about the subject or interaction with the students.
- Assignments and quiz.
- Hold group discussions with the students.
- Participation in co-curricular and extra-curricular activities.

Summative Evaluation –

Summative evaluation is done in two ways- Internal and External.

- College conducts two internal class tests for each subject (except Project and Practical) for 20 marks. Average of two class tests is considered for evaluation.
- For all practical courses other than project work, the continuous internal assessment is done by considering attendance, laboratory performance, regular submission and teachers' assessment.
- Project work is also monitored and evaluated through presentations before panel of internal experts once in a month during the semester.
- As far as External evaluation is concerned, the University conducts examination of 80 marks per subject at the end of each semester. The University end semester examination carries 80 marks for theory and 50 marks for practical and oral examination. The class test carries 20 marks in University evaluation.

Introduction of formative evaluation along with summative evaluation has a positive impact on the overall learning of the students and has helped in improving their overall personality. Few examples are cited below.

1. Mr. Sushrut Karmarkar, student of mechanical engineering (Batch 2015-16), was average student in the First Year. However, formative and summative evaluation helped in developing his overall personality leading to him securing admission in the prestigious Foreign University for MS. He was also invited as Executive Board member at NOTTINGHAM University in Model United Nations Conference held at Kullampur Malaysia. He was the Chair for the Disarmament and International Security Committee where the agenda for discussion was, 'Maritime Security and Illegal Immigration and Dimilitarsation of outer space ballistic missiles in 2016.
2. Mr. Sarvesh Bhale student of B. Arch(Batch 2015-16) was not focusing on academics during his first and second year of B.Arch due to keen interest in sports(Gymnastics). However, he showed remarkable progress in academics during his third year due to the efforts taken by our institute and teachers by introducing him to various national and international sports events as well as formative assessment in the class. In fifth year of his graduation, his final dissertation work was selected for national level competition and appreciated by National Institute of Advance Studies in Architecture (NASA).

3. Ms. Sayee Padhye , student of fifth year of B.Arch., initially studied at Indian Education Society's college of Achitectue, Mumbai till the third year of her graduation. She discontinued her education due to her homesickness and after a gap of one year she joined 4th Year of Architecture in JNEC. Due to special attention and encouragement by faculty, she participated in different academic activities. Also, our formative assessment helped her to show notable performance in 'Avishkar' project competition held by Dr. Babasaheb Ambedkar Marathwada University in academic year 2016-17. She was the only student from Architecture colleges whose final year dissertation work /project was selected in the said competition.
4. Mr. Amarnath Pohanerkar and Ms.Kalyani Dukare from third year of MCA(Batch 2016-17) were very average in academics during their 12th and graduation studies , however both of them could placed in renowned S/W companies like *Magneto and Microsoft* due to guidance and motivation given by our teachers with their formative and summative assessment.
5. Formative assessment approach is very much useful to identify different hidden talents in students like presentation and managing skills, analytical and problem solving skills, innovative thinking, etc. The said approach helped the faculty of Computer Science and Engineering (CSE) to find talent in Mr. Nikhil Phalak, student of CSE (Batch 2014-15). Appropriate academic guidance and support given by faculty helped Nikhil to show his remarkable performance in different co-curricular and extra-curricular activities during his graduation. He was one of the four candidates selected all over India for MSC in Applications of Mathematics ,Chennai Mathematical Institute, India.

2.5.5 Details on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weight ages assigned for the overall development of students (weight age for behavioral aspects, independent learning, communication skills) etc.

The Institute has framed an internal assessment policy to ensure rigor and transparency in the internal assessment and accordingly, following measures are taken:

- To monitor the student progress, institute has the continuous internal evaluation system which consists of internal class tests (twice in a term), additional test and evaluation of practical exercises.
- Class test answer books are shown to the students and model answers are discussed in the classroom. Grievances (if any) are discussed and rectified.
- Counseling of students is done for improving performance of class test.
- Internal term work marks are given by respective subject teacher depending on the formative assessment of the student by taking into account his/her theory and practical attendance, practical performance, regular submission and teacher's assessment. Format for internal term work is as given below.

Table 2.23: Internal Term Work Format for BE class/T.Y.M.C.A./Final Year Arch

Term Work Marks	Regular Practical Attendance	Regular Practical Performance	Regular Submission	Theory Attendance	Teacher's Assessment
25	5	3	3	4	10
50	10	6	6	8	20

Table 2.24: Internal Term work Format for FE, SE and TE classes/F.Y. and S.Y.M.C.A./Arch

Term Work Marks	Regular Practical Attendance	Regular Practical Performance	Regular Submission	Theory Attendance	Teachers Assessment
50	15	10	10	10	5

- Attendance report is displayed on notice board of respective department every month.
- The internal term work marks calculated on the basis of above format are approved by the Head of the Department followed by the Dean Academics / Vice Principal/ Principal before sending to the University
- Department organizes parents meet once in a year. In addition, parent meetings are conducted on need basis to communicate the progress of their wards.
- Parents can see theory and practical attendance record of their ward through JNEC ERP software.

Weightages assigned for overall development are as follows:

- As per the guidelines of University, 20% weightage for every subject is given for class test and 80% weightage for external assessment. Thus, the college has the freedom to decide the pattern of assessment only for 20% of the marks per subject.
- The assessment pattern for subjects like project, seminar and practicals, is different from the above and carries different weightages. The College ensures adequate weightage for overall development of the student through formative and summative assessment.

2.5.6 What are the graduates attributes specified by the college/affiliating University? How does the college ensure the attainment of these by the students?

Graduate attributes are qualities, skills and competence that a student should develop as a consequence of the learning process, they engage with while at college. No graduate attributes has been specified by the affiliating university. However, the institute follows graduate attributes suggested by NBA which are follows

- **Engineering Knowledge:** Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- **Problem Analysis:** Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

- **Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.
- **Conduct investigations of complex problems** using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- **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
- **The Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.
- **Environment and Sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
- **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
- **Communication:** Communicate effectively on complex engineering activities with the engineering community and with 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.
- **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.
- **Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team to manage projects and in multidisciplinary environments

Attainment of Graduate Attributes:

- Each department has well defined course objectives, course outcomes, Program Education Objectives, Program Outcomes and Program Specific Outcomes those are in accordance with graduate attributes.
- Innovative teaching methods and student centric teaching – learning approach is adopted to achieve course outcomes.
- Course objectives and Course Outcomes are mapped with Program outcomes and Program Outcomes are mapped with Graduate Attributes.
- Institute has set up well equipped language laboratory. Language Lab software has been installed. The activities carried out in language lab help the students to improve their verbal and nonverbal communication and develop soft skill among them.

- Institute encourages self-learning which includes paper presentation by students, project, innovative mini project, publishing the articles in newspaper and gives proper weightage to Graduate Attributes.

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

College examination –

After assessment, answer books of class tests are shown to all students and if there is any query the concerned student can approach the teacher.

University Examination –

- University follows a well laid out procedure for evaluation.
- Students apply for revaluation and verification of marks.
- Facility has been provided to the students to apply for photocopies of the answer books.
- Opportunity is provided to the students to go in for challenge evaluation in case of discrepancies in the evaluation process.

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?

Institute follows Outcome Based Education (OBE) for Teaching Learning Process, so Learning Outcomes (LO) are same as Program Outcomes (PO) which are enlisted above in criteria 2.5.6.

The faculty and students are made aware of the learning outcomes in the following ways:

- The learning outcomes are made available on college website and displayed on departmental, central notice board.
- Learning outcomes are made known to the students through class room teaching, mentorship meetings.
- IQAC conducts meetings to discuss learning outcomes and the steps to be taken towards achievement of these outcomes.
- Academic subject objectives are stated clearly in the syllabus provided by the University
- Boards displaying the Quality policy are displayed in the corridors, and departments to make the staff and students aware of the learning outcomes.

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

- To monitor the student’s progress, Institute has the continuous internal evaluation system which consist of theory attendance, practical performance and internal class tests.
- The university also conducts the theory and practical examination at the end of semester. The result of same are communicated to the students.

- The Institute carries out the analysis of University examination result for each course.
- Every year, a parent meeting is organized in which progress of the ward is discussed with the parents.
- Boards displaying University ranker are displayed in the department.
- List of class toppers is also displayed on notice board.

Table 2.25: Result of final year for UG course in the last four years

DEPT.	Year	2012-13		2013-14		2014-15		2015-16	
		Appeared	Passing %	Appeared	Passing %	Appeared	Passing %	Appeared	Passing %
CIVIL	BE	75	77.33	121	61.98	124	80.65	146	73.97
MECH	BE	135	88.15	192	67.71	143	93.01	215	86.98
ECT	BE	112	92.86	125	80	174	93.68	214	92.52
CSE	BE	101	98.02	189	85.19	167	97.01	167	92.23
EEP	BE	43	97.67	89	80.90	67	94.03	78	94.87
ICE	BE	-	-	-	-	23	95.65	50	92
CHEM	BE	35	74.29	50	72	22	77.27	38	86.84
IT	BE	79	98.73	90	78.89	66	100	58	89.66
BIO-TECH	BE	28	85.71	39	71.79	11	90.91	27	96.3
ARCH	5TH	29	89.65	36	75	27	77.77	37	91.89
MCA	TY	55	96.36	46	100	64	95.3	53	89.99

Table 2.26: Academic achievements during last four years

Year	Department	Name	Rank	Awards
2013	Production Engineering	Konale Hanumant S	I	
		Rawade Amitkumar S	II	
		Suhnale Shreedhar B	III	
		Patil Vishal Tapiram	IV	
		Patil Hitesh B	V	
	Industrial Electronics	Pathak Disha Muksh	I	
		Deokar Shweta Sunil	II	
		Susr Ruchita S	III	
	Computer Science and Engineering	Amruta Zanwar	III	
	Information Technology	Sandhu Rupin	II	
	Chemical Engineering	Palodkar Avinash	I	Late Sanjay Rajaram Kotur smruti paritoshik”
		Maske Amarshil	II	

NAAC – SELF STUDY REPORT

		Pooja Kumari	III	
	Biotechnology	Sheetal Jadhav	I	
		Sharmila Biswas	II	
		Ashish Bedmutha	III	
	Mechanical Engineering	Kapkar Baban		Institute level Abhay Gawali Memorial Award for college topper (Cash Prize of Rs.12,000)
2014	Civil Engineering	Gudale Shashikant	II	
	Production Engineering	Ingale Rahul	I	
		Sable Milind	II	
	Electronics and Telecommunication	Bhawar Priyanka	V	
	Industrial Electronics	Fakir Sadik F		
		Khope Amol	II	
		Hiwrale Varsha	III	
	Electrical-Electronics and Power	Bhonde Priyanka	II	
		Meetty Mundadan	III	Late Mahendra Madhukar Kurundkar memorial prize
	Chemical	Dnyaneshwar Bondre	I	Late Sanjay Rajaram Kotur smruti paritoshik
		Sneha Chafle	II	
		Payal Khobragade	III	
	Information Technology	Komal Maher	I	
	Biotechnology	Khan Mukthar K	I	
		Puranik Amita A	II	
		Narote Ketan Manoj	III	
	Mechanical Engineering	Nikam Avinash		Institute level Abhay Gawali Memorial Award for college topper (Cash Prize of Rs.12,000)
2015	Civil Engineering	Shaikh Adil Shaikh M	V	
	Electronics and Telecommunication	Samiksha Navgraha	V	
	Computer Science and Engineering	Rasika Kulkurni	I	Late Prof. Z.H. Chudiwal memorial prize, Late Anandraoji Deshmukh gold Medal
	Chemical Engineering	Namrata Bankar	I	Late Sanjay Rajaramkotursmrutiparitoshik

NAAC – SELF STUDY REPORT

		Mehul Soni	II	
		Changdev Bhange	III	
	Instrumentation and Control	Yuvraj Tipale	I	
	Information Technology	Komal Jarare	V	
	Biotechnology	Kostubh Jadhav	I	
		Sanika Kadam	II	
		Sunit Joshi	III	
	Mechanical Engineering	Bhong Prajakta		Institute level Abhay Gawali Memorial Award for college topper (Cash Prize of Rs.12,000)
2016	Civil Engineering	Wakode Akshay Dadarao	V	
	Mechanical Engineering	Pote Swapnadeep	V	Institute level Abhay Gawali Memorial Award for college topper (Cash Prize of Rs.12,000)
2016	Electronics and Telecommunication	Mhetre Mohinee	II	
	Computer Science and Engineering	Mishra Neha	IV	
	Electrical-Electronics and Power	Rane Swapneel	IV	
	Chemical Engineering	Nande Pradip	I	Late Sanjay Rajaram Kotur smruti paritoshik
		Sayyed Sheraj Zulfekher	II	
		Sirsat Pratik	III	
	Information Technology	Chidrawar Supriya	I	
		Pabbishetty Priyanka	II	
		Nirhali Megha	IV	
	Biotechnology	Rahangdale Abhishek	I	
		Atram Suraj	II	
		Khan Baha Fatima Asrar M Khan	III	
	Instrumentation and Control	Ukhale Pooja	I	
		Syed Wasmi Samrin	II	
		Deshmane Pooja	III	

From the above result, it can be seen that:

1. Results of all the courses have been consistently more than 90% (except for 2013-14 year) which is an achievement by itself.
2. Every year JNEC college students have featured in the University merit list.

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

In order to facilitate the achievement of the intended Learning outcomes following strategies are structured:

- In the beginning of the academic year itself Principal along with IQAC committee, different Deans and Head of Departments does planning of academic activities and prepare Academic calendar. Its implementation is useful for the overall smooth functioning of the college which ultimately helps in achieving the learning outcomes stated.
- Course plan is prepared by individual faculty members.
- Course files are maintained by subject teachers.
- ICT based innovative teaching methods and student centric methods are adopted to enhance participation of students in teaching – learning process.
- Continuous appraisal of students through formative and summative assessment facilitates in identifying weak students as well as advanced learners. Appropriate steps are taken to assist them in achieving goals.
- Teacher guardian scheme helps the students in solving personal as well as academic problems and helps in the overall personality development of the student.
 - Tutorial and Remedial classes are organized for the subject having less result in the previous University examination.
 - Industrial visits, project work and different academic activities like value added program, training program, workshops are also initiated to facilitate the achievement of the intended learning outcomes.
 - Parent-teacher meet is organized in which the intended outcomes and the progress of the ward are discussed with the parents.

2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

In order to enhance the skills of the students following measures are taken by the college:

Quality Job:

Soft skill development is achieved through different activities such as employability skill development programs, value added programs, guest lectures, seminars, workshops etc. For example, list of skill development programs during academic year 2015-16 is given below.

Table 2.27: Skill development programs during academic year 2015-16

Sr No.	Date	Title	Name /Organization
1	22 nd July 2015	TCS Campus Commune Program All TE and BE Students	TCS team , Pune
2	22 nd July 2015	Indian Army seminar TE and BE Mech. students	Col. KunalMukharjee Indian Army
3	29 th July 2015	TCS CodeVita Webinar session TE and BE CSE and IT students	TCS

NAAC – SELF STUDY REPORT

Sr No.	Date	Title	Name /Organization
4	8 th to 17 th August 2015 (10 days)	Campus Placement Cracker + TCS Specific training (Aptitude Skill Dev.) BE-CSE students	Mayur B K Manager - FACE - Focus Academy, Pune
5	10 th and 11 th August 2015	“KaabilBano” skill development pro. presentation TE-CSE/IT BE-IT MCA students	Imtiyaz Khan trainer “KaabilBano”
6	12 th August 2015	Presentation by Asprinig Minds (AMCAT) TE-ECT students	Mr. TarunChugh (Sr. Manager) AMCAT
7	16 th to 23 rd August 2015	Campus Placement Cracker + TCS Specific training (Aptitude Skill Dev.) BE-IT, ECT, Mech. and ICE students	Mayur B K Manager - FACE - Focus Academy, Pune
8	28 th August 2015	“KaabilBano” skill dev. Presentation SE and TE-Civil students	ImtiyazKhat trainer “KaabilBano”
9	26 th August 2015	SAP business module Prog. Presentation BE-Mech. Students	Feroz Khan Business Model Proposal
10	28 th August 2015	Training Program BE-CSE and IT students	Mr. KaustubhBhadbhade (sr. MGR) Persistent System
11	30 th Sept. 2015	Presentation by Asprinig Minds (AMCAT) BE-IT/EEP/ECT and SE-IT and CSE	Mr. TarunChugh (Sr. Manager) AMCAT
12	9 th Oct. 2015	Awareness Trg. Prg. By RBI at Windsor castle Hotel, A’bad TE and BE students 50 students and 2 faculty members members	AparnaParab AM(PP) FED MRO, RBI Mumbai
13	9 th Oct. 2015	Soft Skill Dev. Program TE and SE Mech. Students	Mr. ParagPande and Shirish Joshi Cygnus Design soln. Mumbai
14	13 th , 14 th and 15 th Oct. 2015	Online MOCK Test All BE students	Dr. Abhay B. Kulkarni thru CSE Dept. staff
15	20 th Oct. 2015	ABCDE Awarneessprog. “KaabilBano” SE-ECT, Mech. and Chem.	Mr. Imtiyaz Khan Trainer, KaabilBano
16	23 rd Oct. 2015	Awareness Program Introduction to the e-Learning in Manufacturing and Supply Chain	Mr. Ashutosh Varadpande Mr. SanayBhat

NAAC – SELF STUDY REPORT

		developed by Tata Auto Comp Systems TE-Mech. Students	(JNEC Alumnus)
17	5 th Nov. 2015	Online MOCK Test For BE-CSE and IT students	Dr. Abhay B. Kulkarni thru CSE Dept. staff
18	5 th Nov. 2015	AMCAT test Aspiring Minds Only registered students TE-ECT and SE-Mech.	Mr. Sadam Ahmed, Trainer Aspiring Minds
19	Phase - I training program on 7, 8 and 9 Jan 2016.	Barclays - Youth Employability Initiative Training Program All BE and ME students 350 Nos	PriyankaMohanty Global Talent Track Manager- Business Development, Pune
20	Phase – II training 29 th to 8 th Feb. 2016	Barclays - Youth Employability Initiative Training Program All BE and ME 253 students	Three trainer from GTT, Pune
21	2 nd February 2016	Seminar Vedic Mathematics For TE-ECT, CSE, IT, EEP and Mech. 400 Students	Mr. A. Mohan Trainer, IAOSM
22	9 th Feb. 2016	Barclays - Youth Employability Initiative Training Program assessment test For All BE and ME 253 students	Three trainer from GTT, Pune
23	3 rd and 4 th March 2016	Seminar on Awareness of Cocube test and placement initiatives For TE-CSE/ECT and Mech. 300 Students	Mr. AnupamBhandarkar Associate - Institutions CoCubes.com
24	6 th April 2016	Aspiring Minds (AMCAT) assessment online test for TE- ECT and Mech. Students (Registered 24 students)	Aspiring Minds team members
25	1 st to 15 April 2016	Barclay online Training For All TE students attend (929 Nos.) shortlisted L1 training – 697 No of students	Barclay + GTT + Nasscom
26	30 th April 2016	Campus drive discussion Mr. Kamal Digarse (HR-TCS) Visit college HR - Campus Recruitment Tata Consultancy Services	Dr. Abhay B. Kulkarni (TPO)

Entrepreneurship:

Institute has set up separate entrepreneurship development cell that organizes different programs to inculcate skills of entrepreneurship amongst the students. Details of the same are given below.

Table 2.28: Entrepreneurship Development Programme cell activities

Sr. No	Year	Venue	Activities organized	No of students participated	Impact Observed
1	11,12 March 2011	Jack kilbey hall	Workshop on Entrepreneurship (Entrepreneurship as a career) by Mr.T.R.Sharma(MSME, Aurangabad) and Mr. Deepak Bhingardev (MCED, Aurangabad)	60	1. Creativity in Entrepreneurship 2. Entrepreneurial quality and intelligence test 3. Managing people and resources 4. Choosing right product
2	11,12,13 Oct 2011	Einstein Hall	Entrepreneurship awareness camp by Mr.T.R.Sharma(MSME, Aurangabad) and Mr. Deepak Bhingardev (MCED, Aurangabad)	87	Enhancement of soft skill, accounting, project report preparation.
3	15 th Oct 2012	Arya Bhatt hall	One day workshop on Entrepreneurship Development by Mr.T.R.Sharma(MSME, Aurangabad) and Mr. Deepak Bhingardev (MCED, Aurangabad)	110	Awareness about Entrepreneurship among students
4	16 th Oct 2012	Arya Bhatt hall	Success story of first generation Entrepreneur by Mr.P.V.Gaikwad Swaraj Engg.,A'bad)	100	Experiences and steps in Entrepreneurship
5	04 th Mar 2013	AGF 06 (MechEnggDept)	Lecture talk on Entrepreneurship Development (Mr. Shalabh Mittal)	100	Awareness about Entrepreneurship among students

Sr. No	Year	Venue	Activities organized	No of students participated	Impact Observed
6	3 rd Mar 2015	Einstein Hall	Lecture talk on Entrepreneurship Development (Mr. Satishtambat)	100	Experiences and steps in Entrepreneurship
7	30 th Mar 2015	Hotel Windsor castle, A'bad	National Young Entrepreneurship Program By Mr. Sandeep Patil Mr. Sunil Chadhak, Udyogwardhani, Aurangabad)	65	Assistance in incubation of innovative ideas to form MSME
8	21 st Apr 2015	ASF 14 (Seminar hall, chemDept)	Lecture talk on Entrepreneurship Development (Mr. Ashok Kumar)	90	Awareness about Entrepreneurship and government schemes among students
9	2 nd Feb 2016	ASF 14 (Seminar hall, chemDept)	One day workshop on Entrepreneurship Development (Mr. Ashok Kumar, Mr. Nileshlatad and Mr. R.S. Rajput)	124	Awareness about Entrepreneurship and government schemes among students
10	20 th Feb 2016	Einstein Hall	Business Idea Competition Dr. Murgai Amol, ICEEM A'bad Mr. D.S. Khedekar , JNEC	65	Innovation of business idea. Budgetary information

Innovations and Research aptitude:

- Institute has structured research committee with the objective to develop research environment in the institute and motivate faculty and students to get actively involved in research projects. It also helps faculty to apply for research projects funded by professional bodies like AICTE, UGC, DST and CSIR etc. Details of projects funded by professional bodies are available in criteria-III.
- To inculcate the research culture among students, Department of Civil Engineering is working for establishment of bio-gas facility. Air quality

monitoring study is investigated by Department of Civil Engineering and Mechanical Engineering jointly.

- Department of Civil Engineering is also contributing in MGM-CLEAN India projects like organic waste management through city farming and pit method, waste water treatment, biodeodorization of public toilets and agricultural waste management.
- Department of Mechanical Engineering is working on SMEs Students Summer Challenge Projects like Improvement in blow hole in Al Die Casting Process, Elimination of Dry Soldering phenomenon during soldering Process, Improving the Dimensions stability after heat treatment process, Problem solving in a structured way: Establishing a Process for addressing problem in more structured way, Design of a Automated Material Handling/Retrieval/Storing System.
- Department of Chemical Engineering worked on the project entitled 'Synthesis of copper nano particles using microwave irradiation technique' and 'Chemical Looping Combustion of Coal with Available Resources' and published the work at international level.
- Department of Computer Science and Engineering has taken the initiative to start working in the domain area of 'Remote Sensing and Image Interpretation'. The said work is also published by our PG/PhD students at national and international level. This may help to contribute for DMIC project in Marathwada region and to carry out consultancy work in near future.
- Computer Science and Engineering department is working on Document Management System (DMS) which is an initiative towards paperless office.
- The women safety android application entitled 'Shouryaa' is developed by students of Computer Science and Engineering for women safety and security.

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

- Formative and summative assessment is held throughout the term and data regarding learning outcome is collected in the form of students' performance. This helps in identifying weak learners as well as advanced learners.
- In the case of qualitative outcomes such as personality development and confidence building, assessment in the form of group discussions, seminars, presentations, internal viva, quiz etc. serves as the measuring parameters.
- Analysis of the data collected helps the teachers in identifying knowledge gaps and thus in designing suitable policies for remedial courses, foundation programs and value added programs.
- Using the above mentioned analysis, lesson plan and lecture plan are modified to overcome the barriers of learning.

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

Following measures are adopted by the college to ensure monitoring and achievement of learning outcomes:

- Continuous assessment in the form of summative and formative assessment
- Teacher-Guardian scheme

- Class Representative -Meet
- Parent Meet
- Conducting various value added programs, training programs, workshops etc. to bridge the knowledge gap identified.
- Practical assessment and in-plant training reports used both for assessment and giving added inputs to ensure the achievements of learning outcomes.
- Regular meetings with heads of the departments to monitor and ensure learning outcomes.
- Feedback of Course Outcome is collected from all students and it is analyzed to understand level of attainment. Corrective action is planned, if attainment level is low.

2.6.7 Does the institution and individual teachers use assessment/evaluation 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, individual teachers use assessment/evaluation as an indicator for evaluating student performance.

- Every subject teacher defines course objectives and course outcomes. He/she also prepares course plan and adopts innovative teaching methods to achieve the same.
- Students participate in different academic activities viz. tutorial, mini/major projects, quiz, seminar, oral etc. These activities help to assess communication and technical proficiency of students.
- Student's performance is assessed through summative and formative assessment.
- Regular assessment of practical sessions is also helpful to achieve learning objectives.

Institute and individual teachers use following format to assess learning objectives. One example from department of Computer Science and Engineering is cited below.

Course Outcomes mapping with POs and PSOs

Class: **SE CSE**

Course Name: **Data Structures**
Year of study: **2013-14, 2014-15, 2015-16**

Sr. No.	Course outcomes
1.	Students will apply knowledge of array, union, structures and pointers to write programs.
2.	Students will be able to Implement data structures like stack, queue and linked list.
3.	Students will be capable to identity the appropriate data structure for given problem.
4.	Students will be able to analyze performance of algorithms by determining time and space complexity.
5.	Students will understand non-linear data structures like trees.
6.	Students will be able to write programs in C language for simple applications.

Mapping of Course Outcomes with Program Outcomes (CO-PO Mapping)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		1								
CO2	2	2	1	2								
CO3	1	2	3	1								
CO4	2	2	2	2								
CO5		1	1									
CO6		2	2	2								2

Remark: Program Outcomes 1, 2, 3 and 4 are moderately attained by course curriculum. A quiz based activity was conducted by students of the class to attain PO 9(Individual and Team work) and PO 10 (Communication, where they learnt oral and written communication skills).

Mapping of Course Outcomes with Program Specific Outcomes (CO-PSO Mapping)

CO	PSO1 (Software Development)	PSO2 (Networking)	PSO3 (Data Analysis)
CO1	2	1	1
CO2	2	1	1
CO3	2	1	1
CO4	2	1	1
CO5	1	1	1
CO6	1	1	1

Remark: Program Specific Outcomes 1 and 3 are adequately attained, as required from this course.

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 PROMOTION OF RESEARCH

3.1.1 Does the institution have recognized research centre/s of the affiliating University or any other agency/organization?

The institution has recognized research center of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad in following branches since 2009:

- Civil Engineering
- Environmental Engineering
- Environmental Science
- Mechanical Engineering
- Chemical Engineering
- Applied Science

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.

Yes. Research committee consists of a chairman as a senior faculty (at least completing 5 years of service and good research contribution) and equally competent coordinator and members. The committee consists of at least two to three members from each department.

The Research Committee (RC) composition is as stated below:

Table 3.1: Research Committee

SN	Name	Designation
1	Dr. S.Y. Guhe (Chemical)	Chairman
2	Dr. S. Ghosh (Civil)	Coordinator
3	Dr. S. D. Deshmukh (Mech)	Member
4	Dr. H.H. Shinde (Civil)	Member
5	Dr. S. B. Shinde (Civil)	Member
6	Dr. M.S. Kadam (Mech)	Member
7	Dr. R.R. Deshmukh (Mech)	Member
8	Dr.V. M. Arole (App. Sci.)	Member
9	Dr. V. B. Malode (ECT)	Member
10	Dr. S.N. Pawar (ECT)	Member
11	Dr. V.B. Musande (CSE)	Member
12	Dr. S.C. Tamane (IT)	Member
13	Dr. S. D. Saptarshi (Biotech)	Member
14	Dr. M.S. Joshi (CSE)	Member

Some of the recommendations of RC:

- To increase the number of publications.
- To organize/attend the Conferences / Seminars / Workshops / Research orientation programs.
- To submit project proposals to different funding agencies.
- To motivate students to participate in research oriented activities.
- To provide financial support for attending conference, workshop, training program, membership for Professional bodies.

RC conducts the progress seminars of research scholars and monitors the progress of them. The impact of recommendations made by the Research committee is as follows:

- The number of publications is increasing. The students at undergraduate level are also trying to publish their work.

Publications

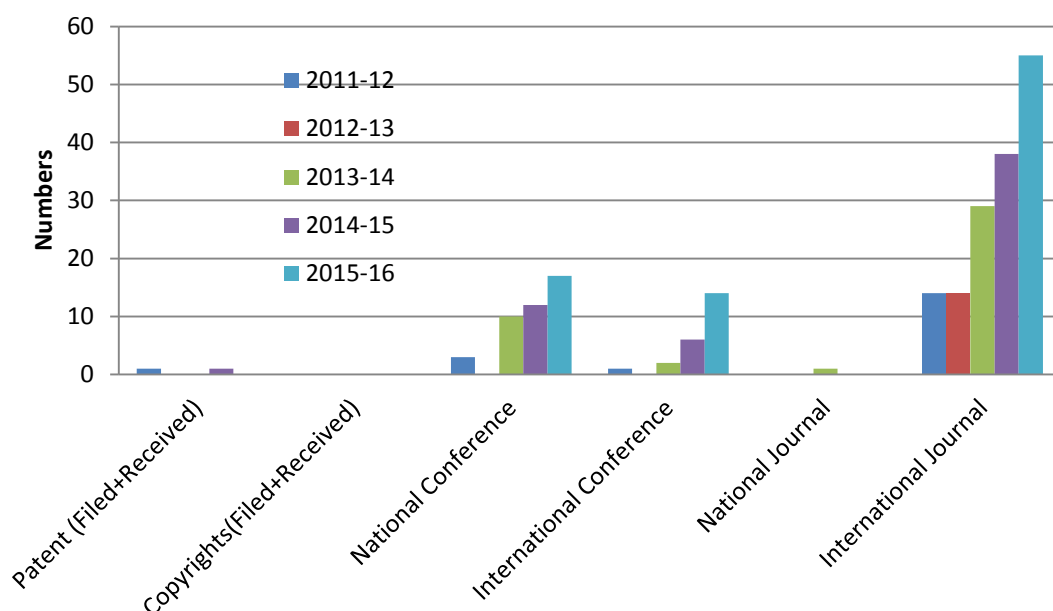


Fig. 3.1 Publications

- The number of attending and organizing workshops/conferences by faculty members and students is increasing (Around 114 in last 5 years).
- Three international conferences are planned and scheduled for year 2017. (Mechanical, Computer- IT and Electronics Departments)
- There is an increase in the number of faculty members preparing and submitting research proposals to various funding agencies.
- As a result of focused and coordinated efforts by RC, five minor research projects were submitted in 2014-15 and all five of them were sanctioned.
- The number of projects being submitted is increasing every year.
- More number of faculty /students has taken professional body membership and getting access to research journals of their area.
- The financial policy is made for financial support to attend conferences/workshops.

3.1.3 What are the measures taken by institute to facilitate smooth progress and implementation of research scheme/projects?**1. Autonomy to the principal investigator**

- The Principal Investigator (PI) of research project(s) funded by internal/external funding agency has the autonomy to carry out and implement the project.
- PI decides specifications, vendors etc. for purchase of materials.

2. Timely availability or release of resources

- As per the requirement of PI, the required amount is released from R & D account of institute.

3. Adequate infrastructure and human resources

- Separate research lab (digital e-resources facility at hall no. GF- 16), for carrying out computer related work and equipment / machine required are available in respective department. of the respective department with internet facilities, library, workshop, etc. is made available to the researchers.
- Institute has HR office in place.

4. Time-off, reduced teaching load, special leave etc. to teachers

- Maximum three years paid leave is given to faculty to pursue Ph. D. in institutes of repute.
- Study leave is given to faculty for carrying out research in research institute
- Institute also encourages teachers to undergo short term training courses/ programs at centers of higher learning and excellence.
- Duty leave is sanctioned to teachers to undertake field work and present their findings in seminars and conferences.

5. Support in terms of technology and information needs

- The institute has dedicated lease line of 48Mbps for internet connectivity.
- All departments have adequate number of computers which help the researchers to gain information and knowledge required in their respective areas of interest.

Following facilities are available in the library

- Reference Books, Conference Proceedings, Annual Reports, Standards, Journals and Magazines.
- E-resources – Subscription of Delnet, Springer E-books, Gale Cengage.
- Institute has signed MoU with Marathwada Auto Cluster, where use of latest technology for teachers as well as students is available.

6. Facilitate timely auditing and submission of utilization certificate to the funding authorities

- All the auditing is taken care of by accounts section.

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

- The students are encouraged to participate in different Technical Festivals, Science fair, Technical paper competitions, Innovation oriented competitions within the city and outside the city.
- The students are motivated to participate and present their work in the Innovative project competition like AVISHKAR through Dr Babasaheb Ambedkar Marathwada University, Aurangabad.
- All the departments of the institute organize various activities to create curiosity among the students.
- By inviting various distinguished experts of the related area, students get a chance to meet eminent personalities.
- The students have published their papers in international and national journals/conferences.
- Faculty involves UG and PG students in their funded research projects.

Some of the student details are listed below who have participated / won prizes in various technical competitions.

Table 3.2: Students Participations in technical competitions

Sr No	Year	Name of Student(s)/Class	Details of efforts taken: Seminar/Conference/Papers Published/Science Fair/At Institute Level
1	16-17	17 Teams from Final Year UG Classes	Research-Innovations Competition- AVISHKAR– Nov 2016
2		Rahul Karda (CHEM)	Won Best Paper Award at Indian Chemical Engineering Congress in an Environmental Engineering category.
3		Dhanashree Wagh(CHEM)	Paper based on her project was presented in Malaysia.
4		Amey Bagul,(CIVIL)	Paper presented in an International conference Hydro 2016 CWPRS Pune. Paper accepted for International conference IAHR Malaysia Sep. 2017
5	15-16	Sushrut Karmarkar,(MECH)	Invited as a member of the Executive Board at the Mumbai Model United Nations Conference held between 19 to 21st Feb 2016 in the capacity of Vice Chair for the United Nations Environment Program with the topic for discussion being 'Illicit Wildlife Trade in Asia and Africa.

Sr No		Name of Student(s)/Class	Details of efforts taken: Seminar/Conference/Papers Published/Science Fair/At Institute Level
6	15-16	Sushrut Karmarkar, ,(MECH)	Invited as Chairperson of Disarmament and International Security Committee at the Nottingham University Model United Nations conference held at Kuala Lumpur, Malaysia between 25th and 28th Feb 2016 with the topic of discussion being 'Maritime Security and Illegal Immigration'.
7		Sushrut Karmarkar, ,(MECH)	Participated in the Harvard World Model United Nations conference held at Rome, Italy between 14th to 18th March 2016 in the Commission for Science and Technology for Development with the topic of discussion being 'Biotechnology for Developing Nations'
8		Shubham Ugle Shweta Kate, ,(MECH)	Publication of research paper in IRJET on 7 October 2015. Title of paper-Formula one safety –review by Shubham Ugle ,Shweta Kate
9		Mohit Dabir Jayesh Gorkar Avinash Ugile Pooja Gangakhedkar , (CSE)	Industry problem Solving- Employee Efficiency System for Forbes Company Ltd, Aurangabad
10		Sanket Sananse Nilesh Deshpande Pradyant Kharat Ameya Kulkarni (CSE)	Hospital problem Solving- Remote Patient Monitoring System
11		Mayur Ambekar Ali Asgar Taksali Akash Tated Surabhi Goyal Vikram Phulari (CSE)	Research Oriented Project Concept of LiveVR, Reached – Top 10 Round of NES Innovation Awards, Pune
12	15-16	Samiksha Chandak Sharwari Shastri Shruti Pande Manali Naik (CSE)	Reached – Top 50 Round of NES Innovation Awards, Pune
13		6 students from TE-CSE and BE-CSE	Attended one day NES workshop on Innovations at Pune in Mar 2016
14		Atul Mundaware Shubham Agarwal Vikas Nayak Roshan Jagtap(CSE)	Industry problem Solving- Process Tracker for Forbes Company Ltd., Aurangabad

Sr No		Name of Student(s)/Class	Details of efforts taken: Seminar/Conference/Papers Published/Science Fair/At Institute Level
15	15-16	Sanika Magre Atul Chandage Vrushali Kulkarni (MCA)	In-plant training at Ghent University, Belgium. As a part of it, they developed software as per local industry needs.
16	14-15	Harishkumar Vaidya, Abhijeet Talekar (MECH)	Revotron contest: organized by TATA MOTORS. Topic presented: Latest trend in safety systems.
17		Antariksh Mutha Mohit Sonanis Shubham Thosar (MECH)	Design and optimization of gears used in BAJA ATV.
18		Drishti Bindra Shweta Sabnis (MECH)	Cloud computing in manufacturing
19		Drishti Bindra Shweta Sabnis (MECH)	Cloud computing in supply chain management
20		Priyanka Deshmukh, Priti Deshpande, Rachna Gaikwad (CSE)	International Conference Paper at Nagpur
21		Mayur Dhanorkar, Pradip Naikwade Nikhil Thorat Meghaji Narwade, (CSE)	International Journal paper in IJIRCCE, Participation in Project competition upto Last round
22		Mohd Aarif Rasika Kulkarni Palak Patel Pranita Sharma, (CSE)	Participation in Two Technical Events
23		Abhishek Bagade Gokul Bargaje Shubham D. (CSE)	Participation in Technical Events
24		Nikhil Phalak Ganesh Salunke Kunal Shah Priranka Nandedkar	Innovative Study of Cryptography
25		Suresh Kharmate Prachi Aparanji Kishor Shindepatil (CHEM)	Paper based on their Project: Synthesis of Copper nano-particles by microwave irradiation, was presented at an International conference in Australia.
26		Nurajsingh Monga (CHEM)	Paper based on his Project: Chemical Looping Combustion, was presented at an International conference in Australia.

Sr No	Year	Name of Student(s)/Class	Details of efforts taken: Seminar/Conference/Papers Published/Science Fair/At Institute Level
27	13-14	Praveen Pathak(CHEM)	Electricity Generation from waste water by Microbial Fuel Cell
28		Nilesh Aute(MECH)	Mech-o-utsav: A National Level Event organized by MIT-Aurangabad from 26-28 Feb 2014

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.

Faculty involvement in active research: Faculty involvement in Guiding Research Students (PhD): Many of the faculty members are involved in leading research projects costing Rs. 74.35 lakhs.(REF.3.2.7)

Table 3.3: Faculty members guiding the research scholars

Sr. No.	Guide	Discipline	Research scholars enrolled	PhD completed
1	Dr. S .D. Deshmukh	Mech	5	3
2	Dr. H. H. Shinde	Civil	5	-
3	Dr. M. S. Joshi	CSE	-	7
4	Dr. V. B. Musande	CSE	5	-
5	Dr. S. C. Tamane	CSE	5	-
6	Dr. M. S. Kadam	Mech	5	-
7	Dr. R. R. Deshmukh	Mech	2	-
8	Dr. V. B. Malode	ECT	4	-

- Faculty guides the UG and PG students for seminars, projects, technical paper and industry sponsored projects. Their outcomes are published in the conferences / journals.
- Faculty regularly presents and publishes research papers in conferences and journals.
- Faculty presents the research papers along with the students in conferences and journals.
- No. of Faculty acquired Higher Qualifications as given below,

Table 3.4: Faculty completed ME / Ph.D. from Department

Sr. No	Department	Faculty Completed PG	Faculty Completed Ph.D.	Faculty Pursuing Ph.D.
1	Civil Engineering	16	6	2
2	Computer Science Engineering	21	5	4
3	Electrical Engineering	13	0	2
4	E&TC Engineering	24	5	7
5	Mechanical Engineering	12	8	3
6	Information Technology	10	1	0
7	Chemical Engineering	4	2	1
8	Applied Science	7	9	2
9	MCA	10	1	1
10	Instrumentation	3	0	2
11	Biotech	3	4	0
	Total	123	34	24

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

Following programs are conducted / organized by the institution during last 3 years.

Table 3.5: Workshop/ Training Programme/ Sensitization Programme

Acad. Year	Name of the Workshop / Seminar	Resource Person	Beneficiary Faculty/ Students
2016-17	Workshop on “Process Simulation using CHEMCAD”	JNEC, Chemical Engineering Dept. Faculty Members	UG Students
2015-16	Intellectual Property Rights and Innovation in Engineering (Sept 11-12, 2015)	Adv. Anand Mahurkar, Dr. D. G. Regulwar, GEC,A’BAD Dr. S. S. Jamkar, , GEC,A’BAD	Faculty & ME students

	Name of the Workshop / Seminar	Resource Person	Beneficiary Faculty/ Students
2015-16	“Workshop on LaTeX and Science Communication” (Oct 8-10, 2015)	Dr. Shuddhashil Ghosh	Faculty & ME students
	Elements of composing documents and presentations using LaTeX (Jan27-Feb-1, 2016)	Dr. S. Ghosh	Faculty & ME students
	Seminar – “Storm water management and artificial recharge” (16 Mar 2016)	Dr. D. G. Durbude, WALMI, Aurangabad	Faculty and all students
	Seminar – “Watershed Management using RS and GIS” (20 Mar 2016)	Dr. Parag Bhagwat, WALMI	Faculty & ME students
	Seminar – “Irrigation Planning” (21 Mar 2016)	Er. Mankar, WALMI	Faculty & ME students
	Statistical Data Analysis with R (July 5-10, 2016)	Dr. S. Ghosh	Faculty & ME students
	Workshop on basic of CNC Lathe programming and machining	Dr.R.R.Deshmukh K R Jagtap R L Andhare	BE, ME students
	Micro /Meso scale manufacturing machine and application	Dr. Kornel Ehmann North-West University,USA	Faculty of mechanical dept.
	Expert Talk on “Innovations”	Dr. Parag Kulkarni, CEO, iKnowlation Lab, Pune	All PG Students

	Name of the Workshop / Seminar	Resource Person	Beneficiary Faculty/ Students
	How to write Technical Paper	Dr.Y.H.Dandwate, VIIT,Pune.	Faculty and PG Students
	3 Days workshop on “Process Simulation using CHEMCAD	Invensis, Mumbai	Staff and Students
2014-15	Workshop on “Hazardous Chemical Handling and Fire Protection”	Dr. Bhaskar Idge Pramod Mundhe Dr. Dattatraya Waghmare	UG and PG students, JNEC
	“LaTeX for Science Communication” (Jan 12-16, 2015)	Dr. Shuddhashil Ghosh, JNEC	Faculty & ME students
2013-14	Workshop - “Introduction to Remote Sensing” (July 7-11, 2014)	Dr. K. V. Kale, CS & IT,BAMU Dr. S. C. Mehrotra, SRGCP,BAMU Dr. Bharat Lohani, CE, IITK Dr. D. G. Regulwar	Faculty & students
	One week workshop on “Hands on analytical instrument.”	Satish Narkhede	UG and PG Students

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

Table 3.6: Prioritized research areas and the expertise

Sr. No	Research Area	Faculty Expertise
Department of Civil Engineering		
1	Geo-informatics Engineering	Dr. Shuddhashil Ghosh
2	Environmental Engineering	Dr.M.D.Sadeque Dr. V. S. Pradhan R.V. Wanjule R. R. Patil
3	Soil & Water testing	Dr. H. H. Shinde Dr. B. M. Patil Dr. M. D. Sadeque S. V. Ighare

Sr. No	Research Area	Faculty Expertise
Department of Civil Engineering		
4	Structural Design & Planning	Dr. S.B. Shinde Dr. M.N. Mangulkar L.G. Kallurkar V. G. Jadhav Fatima Ansari Jaya Ramchandani V.N.Nalavde
5	Water Resources Engineering	Dr. V. S. Pradhan
6	Transportation Engineering	Dr. MdSadeque L. K. Kokate
7	Town planning	G. A. Bhise
8	Pavement Design	Dr.M. D. Sadeque
Department of Computer Science and Engineering		
1	Mobile Computing	Sandeep Kharat Mahendra Ugle S. N. Naidu
2	Mobile Computing	Sandeep Kharat Mahendra Ugle S. N. Naidu
3	Web Technologies	S. S. More P. S. Maniyar S. N. Naidu S. R. Jadhav
4	Data Mining- SIG Special Interest Group	Dr. M S. Joshi Dr. D. S. Deshpande Dr. S. L. Kasar A. B. Hussain K. C. Agarwal K. N. Vaishnav M. K. Ugale
5	Remote Sensing and GIS – Special Interest Group	Dr. V. B. Musande S.S. Date V. Ajith S. A. Kharat

Department of Computer Science and Engineering		
6	Cloud Computing-Special Interest Group	Dr. J. D. Pagare S. S. More S. R. Jadhav M. A. Gadekar
7	Networking	C.G. Patil M. C. Lokhande P. P. Borade
Department of Electronics& Telecommunication Engineering		
1	Image Processing	Dr.V.A.More, F.I. Shaikh,C.S. Khandelwal,A.G. Patil, P.P. Patil
2	Soft Computing	Dr.S.N.Pawar,A.R.Salunke, S.D. Jadhav, G.R. Bhalekar, P.V. Murmude
3	Power Quality / Power Electronics	Dr.S.A.Naveed, N.A. Muley, T.A. Mohije, V.J. Lipne, S.D. Giri
4	Communication Engineering	Dr.V.B.Malode, S.A. Annadate, G.R. Gidveer, a.P. Phatale, M.K. Pawar
5	VLSI / Embedded system	J.G. Rana, V.A. Kulkarni, S.D. Gavraskar, V.V. Ukarande, S.J. Deshmukh, A.V. Khake.
Department of Chemical Engineering		
1	Pyrolysis reaction, catalytic reaction, Process modeling and simulation, Waste water treatment.	Dr. O.K. Mahadwad
2	Nano technology, Bio-fuels, Sustainable process development, Process simulation	Dr. S. Y. Guhe
3	Design of Mass and Heat transfer equipments	M.U. Pople

Department of Chemical Engineering		
4	Nanotechnology, waste water treatment , Food technology, design of equipments.	M.R. Gaonkar
5	Process modeling and control, Advanced separation Technique, Ionic liquids, Reaction kinetics.	S.B. Mundhe
6	Separation techniques, Design of equipments, Energy engineering, Environment	S.D. Yadav
7	Chemical Engineering, Thermodynamics, Fluid mechanics, Renewable energy and environment, Novel reactors, Catalysis, Advanced separation techniques.	V.A. Gite
Department of Mechanical Engineering		
1	Mechanical Design	Dr. V.S. Joshi Dr. D.R. Dolas S.B. Ubale P.S. Shinde P.R. Mane
2	Machining and Manufacturing	Dr. M.S. Kadam, Dr. R.R. Deshmukh Dr. N.G. Phapat K.R. Jagtap Arif Pathan P.P. Khairnar
2	Optimization	Dr. M.S. Kadam, Dr. D.R. Dolas Dr. N.G. Phafat
3	Reliability Engineering and QA/QC	Dr. D.R. Dolas
4	Operation Research	Dr. R. R. Deshmukh K.R. Jagtap

Department of Mechanical Engineering		
5	Industrial Engineering	Dr. N.G. Phafat Dr. A. B. Kulkarni
6	CAD/CAM	R.B.Patil K.A. Jahagirdar D.S. Dabhade Sarfaraz Quadri
7	Heat power	Dr. A. L. Chel, Dr. R.A. Kathar, S.B. Ubale
8	Non conventional energy.	Dr. A. L. Chel
9	Tribology & Design	Dr. V.S. Joshi Dr. A. B. Kulkarni,
10	Production Engineering	Dr. M.S. Kadam, Dr. N.G. Phafat, Dr. R. R. Deshmukh D.S. Khedekar S.B. Salvi S.G.Nagargoje S.L.Thengdi S.S. Kadam
11	Design of experiment	Dr. N.G. Phafat, Dr. M.S. Kadam,
12	Operation management	Dr. N.G. Phafat, Dr. R. R. Deshmukh
13	Metallurgy and Material science	D.S. Khedekar S.G. Nagargoje P.S. Shinde
14	Automobile Engineering	Dr. D.R. Dolas S.B. Salve S.L. Thengde
15	Metrology	D.S. Khedekar A.S. Pathan S.N. Quadri
16	Hydraulics, Pneumatics and Robotics	A.L. Chel, S.N. Quadri, S.D. Kaldate

Department of Applied Science		
1	Nanocatalysis, Heterocyclic chemistry, Green Chemistry	Dr. V.M. Arole, Dr. S. B.Sapkal C.M. Deshpande
2	Catalysis, Heterocyclic Chemistry, Green Chemistry	Dr. L. D. Chavan, S.N. Deshmukh
Information Technology Department		
1	Advanced Java, Database Management Systems, IoT	S.N Jaiswal
2	Cloud Computing, Big Data Analytics, Advanced Database	Dr. S. C. Tamane
3	Java, GIS ,DIP,OS,PR, Mining	V. K. Ahire
4	DS,CSSL, Discrete mathematics	S.N. Bhasme
5	GIS, SE, Software Testing, EBM,MMC,GIT	A. M. Mohsin
6	Data Structures, Computer Networks, C,C++,Net using c# programming language	V.S. Hanmante
7	Net-work security, Big data analysis	A.C. Karve
8	Android, Linux,	A. M. Mahadik
9	DS, C-Programming, Computer networks	
Master of Computer Application		
1	Data Mining, Image Processing	Dr. S. N.Deshmukh
2	Software Engg. ERP	A.S.Solanke N.R. Yadav S.R. Kondekar
3	Design and Analysis of Algorithm	V.S.Agrawal K.K. Misal
4	Computer Networks, Cyber Security	G.R.Agrawal K.D. Zingurde S.S. Parwe

Instrumentation and Control Engineering		
1	Control system	Dr. R.D. Kokate, B.A. Patil
2	Signal and image processing	G. R. Basole N. S. Hussain
Electrical, Electronics &Power		
1	Electrical power system	B. T. DESHMUKH R. G. Joshi P.P. Kothawade P.V Dhote J.S. Salunke P. Gulbhile R.V.Dhekne P.A. Awcharmal M.S. Jadhav V.V.Ghadge
2	Electronics	J.r. Rana C.B. Ingole
3	Power electronics & power system	A. M. Chole
4	Measurement & Instrumentation	S.D. Jawale
5	Electrical machines & drives	P.G. Lone M.M.Sontakke
6	Control System	A.V. Naik
7	Power electronics & drives	B.V. Pahade
8	Electrical	V. K. Shinde P.N. Bankar

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 college organizes International/ National Conferences, Symposiums, Workshops and Seminars as the important tools of collaboration where experts from academia and industries are invited for delivering special lectures and interact with teachers and students.
- Various short-term training programs for faculty are organized, for which experts are invited to deliver special lectures and deliberations on important issues.
- The faculty members are encouraged to collaborate with eminent professors of reputed institutions for their research activities.

Table 3.7: Eminent professors interactions

Sr.No.	National/ International conferences/symposiums /workshop /seminars/short term training programme/ staff interaction with eminent professor	Expertise
1.	Micro machining	Dr. Kornel Ehmann, North West University, USA
2.	Workshop- Research Methodology	Dr.Mahesh Abegaonkar,IIT Delhi Dr. B.M. Patre- Dean R&D S.G.G.S. E&T, Nanded Dr.S.S. Gajre, S.G.G.S. E&T Nanded
3.	Introduction to Remote Sensing	Dr. K. V. Kale, CS&IT, Dr. BAMU, Aurangabad Dr. S. C. Mehrotra, SRGCP, Dr. BAMU, Aurangabad Dr. Bharat Lohani, CE, IIT, Kanpur Dr. D. G. Regulwar, GECAurangabad
4.	Interaction with Faculty Members (Image Processing)I	Dr. M.B. Kokare, SGGS E & T, Nanded
5.	How to carry out research	Mr. V. M. Pandhripande, Vice Chancellor, Dr.BAMU, Aurangabad
6.	Workshop- Soft Computing (ISTE)	Dr. Aditya Abhyankar, VIT Pune Dr.Mansi Patwardhan, VIT Pune Dr.K.V. Kale,Dr.BAMU, Aurangabad Dr.D.G. Regulwar, GEC Aurangabad
7.	Interaction with Faculty Members (Genetic Algorithms)	A.J. Umbarkar, Walchand College of Engineering, Sangli
8.	Interaction with Faculty Members (Microwave Resonators and Patent)	Savita G. Kulkarni MIT, Pune
9.	Green engineering	Dr. B. N. Pande, Dr.BAMU, Aurangabad Dr. Arvind Diwan, DST Bangalore

NAAC – SELF STUDY REPORT

10.	Intellectual Property rights and Innovation in Engineering	Dr. D. G. Regulwar, GEC Aurangabad Dr. S. S. Jamkar, GEC Aurangabad
11.	Storm water management and Artificial recharge	Dr. Durbude, WALMI, Aurangabad
12.	Watershed management using RS and GIS	Dr. Parag Bhagwat, WALMI, Aurangabad
13.	Irrigation Planning	Er. D. B. Mankar, WALMI, Aurangabad
14.	Advances in Concrete Technology	Dr. S. S. Jamkar, GEC Aurangabad
15.	Scope in tool engineering	Mr. Tejesh Mali, Mapal India Ltd.
16.	Industrial interaction with student	Mr. Abhishek Shastri. Johnson & Johnson company
17.	Industrial interaction with student	Mr. Prabhat Digraskar
18.	Different software in mechanical field	Mr. Shrikant Bidwai CAD/CAM Gure center
19.	Different software in mechanical field	Mr. Santhosh N L Dhio Center for excellence
20.	Job opportunity in Govt. Sector.	Mr. Mundhe
21.	Resume Writing & E-mail Communication	Mr. Parag Shirarkar
22.	Placement cell active It's	Mr. Imtiaz Khan
23.	Interactive session with student	Dr. V. M. Domkundwar
24.	Cutting Tool Manufacturing	Mr. Hement Dadhe, Industrialist
25.	Engineering in Astronomy	Dr. Amitabha Ghosh
26.	World outside campus	Mr. Nikhil Zine (Alumini)
27.	Guest Lecture	Mr. S. K. Kulkarni Dr. V. L. Dharurkar
28.	Interaction with Faculty Members	Dr. B. Satyanarayana, Scientific Officer (G), Tata Institute of Fundamental Research
29.	Staff Interaction	Mr. Anuj Jajoo (Infosys P. Ltd. Pune)
30.	Workshop on IoT	Mr. Mahesh Kulkarni (A4 Technologies, Pune)

Sr.No.	National/ International conferences/symposiums /workshop /seminars/short term training programme/ staff interaction with eminent professor	Expertise
31.	Staff Interaction	TCS, Pune
32.	Guest Lecture	Mr. Vatsal Thakor (Red Hat)
33.	Staff Interaction	Mr. Anuj Jajoo (Infosys P. Ltd. Pune)
34.	Workshop on IoT	Mr Mahesh Kulkarni (A4 Technologies, Pune)
35.	Staff Interaction	(TCS)
36.	Guest Lecture	Mr. Vatsal Thakor (Red Hat)
37.	Guest lecture by Vishwashri Consultancy	Mr Naim
38.	Inauguration of Red Hat Academy and Lecture Talk by Red Hat Trainer and Consultant	Mr. Amel Mathai
39.	Lecture talk by Edukinect Future Technology	Mr. Sudhir Kulkarni
40.	Workshop by Red Hat on Linux & Open Source Technologies	Mr. Satyajeet bulage, Mr pawan Wankhede and Mr. Ankush Kathar
41.	Refluxo 2017 Student Symposium	Expert Lecture from National Health and Safety Council, Mumbai

Sr.No.	National/ International conferences/symposiums /workshop /seminars/short term training programme/ staff interaction with eminent professor	Expertise
42.	Guest lecture on application of python computing language in chemical engineering by	Mr .C.D. Gourshete
43.	“What thermodynamics mean to Chemical Engineer”	Dr. D Subramanyam
44.	Lecture talk on Entrepreneurial opportunities in plastic industry	Mr Pravin Bachhav ,CIPET, Aurangabad
45.	Lecture talk on oral Hygiene by	Dr. M S Indurkar , Dental College , Aurangabad

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

- The institute gives duty leave to the faculty members for attending conferences/ seminars/ workshops. More than 20 % of the faculty members have availed duty leave for attending various programs. This helps the faculties to interact with researchers and academicians and boost their interest towards research.
- The faculty is granted with study leave for pursuing higher studies.
- The details of faculty members who have availed this facility for Ph.D./ ME/ M. Tech research work from the institute in last five years.

See 2.4.4

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)

- Students do participate in Project Competitions outside institute and present their work.
- The Information Technology Department organizes an Intercollegiate Project Competition (Proyecto 2017) which is a platform for showcasing the work done by students at UG level.
- PG students are motivated to participate in International conferences.
- A few departments do organize intra-department exhibitions to display the work done by the students. (e.g. COMPREX of CSE Department)
- Every year an open day is organized, on which all the departmental labs are open for students as well as parents and general public and personnel from

industries.

Some of the examples of technology developed in college and transferred to industry:

- Mechanical Department students do participate in SAE BAJA and SUPRA automobile making National level competitions.
- A group from mechanical developed a project for solving a problem for the MGM Khadi manufacturing unit.
- Few groups from mechanical engineering provided solutions to live problems from local industries (GIZ Projects.)
- Computer department students did project of Remote Patient Monitoring for MGM Hospital which was a Mobile based solution for Doctors.
- Two project groups from the Computer department solved the real time problem for a mechanical manufacturing industry, Forbes Company Ltd, Aurangabad. One job was for tracking the entire process of manufacturing the tool and optimizing the process lead time. Second job was for porting a software“ Employee Efficiency System” from a DOS based system to a Windows based GUI system.
- Students are associated with research oriented projects alongwith the faculty members.

Table 3.8: Lab to land

Depart ment	Year	Description of Work	Beneficiary Organization
IT	2016-17	Plant Detection (BE Project)	A4 Technologies, Pune
		Audio Guidance System for Visually Impaired Person	A4 Technologies, Pune
		Remote Monitoring	MGM Hospital Aurangabad
		JNEC MIS project	JNEC
		Fun-time Play-School: Android App	Fun-time Play-School, Aurangabad
		Q and A on reports	MGM
		Interior Design App.	Paymon, Technologies ,Pune
		Tours and Travels	Paymon, Technologies ,Pune
		Vidyarthi Bhandar	Online shopping
		Weather forecasting using IoT	MGM
		Core applications for FS-payment Processing systems-Accounting funds check,payment accept,validation processing,delivery,collation	Paymon Technologies ,Pune

IT	2015-16	Data hub for FS mainly Oracle datacenter +	
		Channel Systems for financial service	
		Shared services for FS Billing , Notification system, Reporting, AMS, Sanctions for FS, FX, Fees charges.	
		Side stream services for FS-audit, operation data store, Routing for clearing systems.	
		Down stream services for FS-Archival, Warehouse, Reconciliation	
		Payment operations management services, Fraud, Dispute investigations, Repair, payment, Status monitoring, Query management systems. PMA	
IT	2012-13	Platform based applications for cloud computing-IEEE	Central Desktop
CSE	2015-16	Remote Patient Monitoring	MGM Hospial Aurangabad
	2015-16	Employee Efficiency System	Forbes company limited, Aurangabad.
	2015-16	Process Tracker	Forbes company limited,Aurangabad
	2015-16	Emplyoe Management System	CMS, Institute
EEP	2014-15	Process Control of Gear Hobbling Machine Using PLC	
CHE	2016-17	Smoke less chulah	Sanjay Technoplast Ltd.
	2014-15	Studies of heating and cooking devices: Energy, Thermodynamics and cost analysis	M/s Sanjay Techno Plast Pvt. Ltd, Aurangabad
		Fuel oil from wood	Sanjay Technoplast
	2015-16	Analysis, Separation and application of wood pyrolyzed oil	M/s Sanjay Techno Plast Pvt. Ltd, Aurangabad
MECH	2015-16	Automatic etching on metal	Yugma impressions
		Fixture design of LED back	Deogiri D industries

		panel of display stand for wrapping	
		Vibrating sorter machine	Kisan rigid P.V.C pipe
	2014-15	Bearing press fit machine	Swagati Engg. Aurangabad
	2013-14	4-in-1 hydraulic pull-push fixture	Municipal Corp.Aurangabad
		Bearing staking system	IARE technologies Pvt. Ltd.
		Design and manufacturing of crate washer	HMT Ltd.
		Pneumatic clamping fixture	Swagati Engg. Aurangabad
		Plastic sheet cutting machine	Tec Edge Control
		Low cost automation spray painting robot	Ankai auto.
		Design ,Development and implantation of double spindle pneumatic chamfering SPM	Lakson Industries
		Design and implantation of SPM for center grinding of tap	Vijay industries
		Automation in power coating machine	Manish engineering works
		Up gradation of production quality at NRB	NRB
	2012-13	Automated assembly of brake lever	Ssilhouettez-CAD/CAM
MCA	2015-16	Digital notice board	MGM's JNEC, Aurangabad

3.2 Research Facilities and Resource Mobilization

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

2.63% of the total budget is earmarked for research. The major heads of expenditure, financial allocation and actual utilization is given in Table below.

Table 3.9(A): Total Budget and Expenditure

Item	Budgeted in CFY 2016-17 (in Lacs)	Expenses in CFY till Dec 2016 (in Lacs)	Expenses in CFYm1 2015-16 (in Lacs)	Expenses in CFYm2 2014-15 (in Lacs)	Expenses in CFYm3 2013-14 (in Lacs)	Expenses in CFYm4 2012-13 (in Lacs)
Infrastructure	25	26.3	167.44	74.09	95.52	304.49
Library	44.34	16.8	9.16	14.32	10.93	20.33

NAAC – SELF STUDY REPORT

Item	Budgeted in CFY 2016-17 (in Lacs)	Expenses in CFY till Dec 2016 (in Lacs)	Expenses in CFYm1 2015-16 (in Lacs)	Expenses in CFYm2 2014-15 (in Lacs)	Expenses in CFYm3 2013-14 (in Lacs)	Expenses in CFYm4 2012-13 (in Lacs)
Laboratory Equipment	172.6	81.6	99.33	10.21	19.85	88.65
Laboratory consumables (Recurring)	48.85	36.99	128.29	165.84	171.47	36.13
Teaching and non-teaching staff salary	2208	1494.58	1903.49	1731.03	1576.2	1393.16
R&D	8	1.95	20.35	30.86	21.79	4.93
Training, Travel, memberships and Paper Publications	41.75	9.69	30.41	45.88	38.29	36.84
TOTAL	2548.54	1667.91	2358.47	2072.23	1934.05	1884.53

Table 3.9 (B): Expenditure on R & D

Item	Budgeted in 2016-17 (in Lacs)	Expenses 2016-17 till Dec 2016 (in Lacs)	Expenses in 2015-16 (in Lacs)	Expenses in 2014-15 (in Lacs)	Expenses in 2013-14 (in Lacs)	Expenses in 2012-13 (in Lacs)
1.R&D	8	1.95	20.35	30.86	21.79	4.93
2.Training, Travel, memberships and Paper Publications	41.75	9.69	30.41	45.88	38.29	36.84
Sub Total of 1 & 2	49.75	11.64	50.76	76.74	60.08	41.77
% Expenses on R & D	2 %	0.7 %	2.15 %	3.7 %	3.1 %	2.21 %
Average Expenditure for R& D 2.632 % of Total Budget. (For last Five years)						

For the enhancement of research, institute has provided,

- Very good library facility with resources such as e-Journals, e-books, Print journals, Magazines and periodicals.

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?

Guidelines for Seed Money/Grant

The Institute gives a seed grant to faculty for initiating a research. It is a platform meant to help faculty in terms of initiating the project work for which funding proposal has already been submitted to the external funding agencies. The faculty member writes a brief research proposal and submits it to the Research Centre after approval from the Head of Institute/The Principal. The internal proposal along with a copy of proposal submitted to the external funding agency should include a description of research that he/she wishes to conduct over the next 2-3 years

Guiding notes:

- a) Internal Proposal will be submitted to the Institute's Research Centre. Research Coordinators of Research Centre will arrange to get review comments from the subject experts. Review comments will be appropriately incorporated / addressed by the Faculty before final submission.
- b) Internal Proposal will be presented by the faculty before an Institute level research committee, consisting of Research Coordinators, research committee members and 2 Faculty members from the concerned department.
- c) The initiation grant is normally for an amount of 10% or maximum Rs. 1,00,000 whichever is minimum, of the funding sought from an external funding agency to support the research as proposed by the faculty member and approved by the Institute Head. A higher amount can be approved by the Institute Head.
- d) Under situations where Institute's involvement is necessary to encourage research among students, and subsequently promotion of the institute, the head of institute can sanction a seed grant for a particular project.
- e) Funding provided as a travel grant and towards registration charges for attending conferences and symposium and workshops. This is also considered under seed money.

Institute provides the seed money to interested faculty members and students for the research projects, subject to need of the project.

Table 3.10 : Details of financial assistance

Year	Description	Estimated Equipment Cost/Seed Money Sanctioned (Rs.) in Lakhs	Key Faculty Faculty Name (Dept)	Departments that will use the facility
2012-13	Motor Car Vaayu 1.0 to 4.0	21.72	Dr.M.S.Kadam S.A.Dharurkar S.B.Pawar	Mech Engg and all other interested Departments
2014-15	Motor Car Ashwa 1.0	10.22	Dr.M.S.Kadam S.A.Dharurkar	Mech Engg and all other interested Departments
2015-16	Car Ashwa 2.0 & 3.0	11.72	Dr.M.S.Kadam S.A.Dharurkar	Mech Engg and all other interested Departments
2015-16	Robocon (Robotics)	0.8	V. V. Ukarande	Mech & ETC Engg and all other interested Departments
2016-17	Robocon (Robotics)	2.8	V. V. Ukarande	Mech & ETC Engg and all other interested Departments
	Total	47.26		

Institution provides ‘on duty’ (OD) permission for faculty members and there is a policy in place for reimbursements of expenses incurred by faculty towards attending conferences, seminars and workshops etc. The percentage of faculty who have availed this facility is more than **75%**.

3.2.3 What are the financial provisions made in the College budget for supporting student research projects?

- As and when the students approach for specific projects, Institute adequately supports students in their project and paper submission, in their final year projects.
- Students get their expenses (e.g. registration, poster printing) partly reimbursed when they present their work in project competitions, conferences.
- Institute organizes number of national level events and provides funds for prizes, certificates and other expenses.

- Students can use Institute infrastructure and resources after working hours for doing their projects.

The funding provided to student projects is given in 3.2.2.

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

- Institute has many strong research areas.
- Efforts are taken consistently to strengthen these areas and interdisciplinary projects are encouraged in the campus.
- Faculty who attend conferences and workshops share the details about the new research areas with faculty from different disciplines which further helps in triggering the interdisciplinary projects.
- The faculty of different department gets associated with the professional societies like IEEE, CSI, IEI, IChE etc. These professional societies' related events also trigger the interdisciplinary areas of research.
- For the technically innovative projects, departmental staff under goes relevant training session by experts from various fields. Staff gets enough information and knowledge about the process/method. Staff then delivers that idea to the students who are participating.
- Institute having well established laboratory facility in various departments, a facility specific project demand is satisfied through inter-disciplinary projects.

Table 3.11: Some of the collaborative projects undertaken include:

Sr.No.	Project Title	Departments involved/Interacted	Faculty Involved (Dept)	Uses
1	Student Project: Synthesis of Gold and Copper metal nano particles and its antimicrobial activity	Chemical Engineering and Biotechnology.	Dr S.Y. Guhe (Chem Engg)	Sharing of laboratory infra-structure.
2	Plant Detection (BE Project)	IT and Computer Sci. and Engineering	Dr.S.C. Tamane (IT)	
3	JNEC MIS Project	IT and Computer Sci. and Engineering	Dr.S.C. Tamane (IT) Dr.D.S. Deshpande (CSE) Dr.S.L. Kasar (CSE)	

4	E-Yantra	Mech and ECT	Dr.A.L. Chel (Mech) S.D. Kaldate (Mech) V.V.Ukarande (ECT)
5	Pneumatically operated Robotic Arm	Mech and ECT	R.B. Patil (Mech) F. I.Shaikh (ECT)
6	Solar Car	Mech, EEP and ECT	Dr. A.L.Chel(Mech)V.V. Ukarande (ECT) P.B. Yadav (ECT)

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

Table 3.12: Details of optimum use of facilities

Sr.No.	Equipements/Lab shared between Departments
1	Chem- Biotechnology
2	Chem - Mech
3	CSE - IT - MCA
4	ECT - EEP
5	Mech - Civil
6	ICE-ECT
7	ECT- Mech

- The laboratory facilities available in the campus can be utilized by the staff and students with no time restriction.
- Library is kept open 24 hours after end of term. Log books are also available to record the usage.
- E-journals are available for 24 hours.
- Facilities such as digital library, Wi-Fi internet connectivity, software, computing facilities, and electronic equipment are available to be used on a shared basis among faculty members and students.
- Research project related facilities are available to students in their project work and are guided by concerned faculty member of a particular laboratory and relevant expertise.
- Research scholars from other colleges register their doctoral candidacy in our data Centre to carry out their doctoral research work.
- Students pursuing final year inter disciplinary projects are encouraged to make use of these facilities to the full extent.
- Research scholars from other institute are carrying out their research work in our research center.

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.

- Institute received Grants from the UGC and AICTE which is being partly used by development of research facility i.e. purchase of scientific equipment and/or software. The sanction project details are given in Section 3.2.7.
- Computer Sci. & Engineering Department has received GPU cards for Parallel Programming Education and research from Nvidia Company. The cost of the Processors is about Rs. 2.5 lakhs.
- Mechanical Engineering department received instruments from Forbes Gokak Ltd., Aurangabad to set up a Metrology Laboratory at the institute.
- Sun Solar Systems Ltd, Nanded donated Rs. 30,000/- for making of Solar car.

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 is recognized under Section 2 (f) & 12 (B) of the UGC Act 1965.
- Institute is recognized as a research center for six branches (Mechanical Engineering, Chemical Engineering, Civil Engineering, Environmental Engineering, Applied Science and Environmental Science) by Dr Babasaheb Ambedkar Marathwada University (NAAC A Grade), Aurangabad .

Details of supports extended are the following:

- Seed money is provided to the faculty members to carry out initial research if they have submitted a research proposal to the external funding agency. (as per Research & Development Funding Policy)
- Institute's Research Centre motivates and helps the faculty in preparing the research proposals. On Duty leaves are sanctioned to the faculty for studying and visiting the relevant places for the proposal. TA/DA is also given for the same purpose as well as to present the work.
- Institute's Research Centre facilitates the Principal Investigators of the ongoing projects to interact with national and international experts from other academic institutes and industries in the relevant areas and arrange lectures by these experts.

Table 3.13: (A): The details of externally funded ongoing projects

Nature of the Project	Duration Year From To	Title of the project	Faculty Name	Name of the funding agency	Total Grants Sanctioned (Rs. in lakhs)
Major projects	2012-13 onwards	Optimization of Minimum Quantity lubrication in Turning of Hardened Steel	Dr. S. D. Deshmukh	AICTE-RPS	17.42
Minor projects	2012-13 onwards	Optimization of Dry turning	Dr R. R. Deshmukh	UGC	5.02
	2014 onwards	ThiaThiamine Hydrochloride (VB1) In Synthesis Of Some Heterocyclic Compounds	Dr. S.B. Sapkal	UGC	2.35
	2015 onwards	Development of Hybrid Model for detection of Heart Disease from Electrocardiogram Signal	Dr. S. L. Kasar	UGC	1.5
	2015 onwards	Voice Guidance System for Visually Impaired Person	Dr. S. C. Tamane	UGC	1.3
Students' research projects	2013- 16 onwards	SAE BAJA, Formula-I, Go-Kart, Solar Car	Mech Engg. Dept.	Institute	43.16
	2015-17 onwards	Robocon	ECT Engg.	Institute	3.6
				Total	74.35

Table 3.13: (B): Details of the Industry sponsored projects:

Year	Project Tiles	Funding agency/Company
ECT		
2014-15	Automated Grinder	Akshay Flexi Houses PVT.LTD. Walij,Aurangabad
	Weighing Machine using Load Cell	
2016-17	Automated Welding Positioner using Arduino	Weld –Tech Engineers and Fabricators Aurangabad
	Smart 4 Legged Level Sensing Robot	Kanaka Telicom services Aurangabad
	LOW Cost UV-VIS Double Beam Spectrophotometer	MGM Institute of Biotechnology
	Automation in Purification Process in Spinning Mills using PIC Controller	Manjeet Cotton Pvt. Ltd.
	Step Pillion Assembly	SOM ATTOTECH PVT. LTD. Bidkin
	Wireless Temperature Measurement System for Rota Molding Machine	SS controls Chikalthana Aurangabad
	50 A Relay Test (Sponsored)	BG LI-IN Electricals Ltd. Aurangabad
	Industrial Plant Error Detections, Alarming on Announcement Board and Message Deliverance to Authorities (Sponsored)	CAN_ PACK India Pvt. Ltd. Aurangabad

	Real Time Monitoring of electric Meter Reading and Automatic Update on Server for Analysis. (Sponsored)	
	To Ensure Length Diameter Machine (LDM) Coil is Working state or Not	NRB Bearings Chikalthana Aurangabad.
	Automatic On-Off Television with Human Detection	Videocon Industries Ltd. Aurangabad
	Automatic Glass Painting Robot	GDSK INTERIOR and INFRASTRUCTURE PVT. Ltd.
	Industrial Project On System Scanning Devices	ENDRESS HOUSER WETZER PVt. Ltd. Aurangabad
	PLC Based Automatic Traffic Light and Street Light System	Logica automation and Controls, Karve nagar Pune
	PLC Based Man less Railway Gate Control	
	NFC Wwearable devise	PayMOn technologies Pvt. Ltd.
	P100 weld automate	Tool Tech SPM Chikalthana Aurangabad.

MECHANICAL ENGG.

Duration Year	Title of the Project	Name of Funding Agency
2012-2013	Automated Assembly of Brake Lever	Silhouettes - CAD/CAM
2013-2014	4 in 1 Hydraulic Pull-Push Fixture	Municipal Corp. Aurangabad
	Bearing Stacking System	IARE Technologies Pvt. Ltd
	Design and Manufacturing of Crate Washer	HMT Limited
	Pneumatic Clamping Fixture	Swagati Engineering
	Plastic Sheet Cutting Machine	Tech Edge Controls
	Low Cost Automation Spray Painting Robot	Ankai Auto
	Design , Development and implantation of double spindle pneumatic chamfering SPM	Lakson Industries
	Design and implantation of SPM for center grinding of tap	Vijay Engineering
	Automation in powder coating machine	Manish Engg. Works
	Up gradation of production quality at NRB Bearings	NRB Bearings
2014-2015	Bearing Press Fit Machine	SwagatiEngg.Aurngabad
2015-2016	Semi-Automatic Etching Machine	Yugma Impressions
	Fixture Design of "LED-Back Panel of Display stand for Wrapping"	Deogiri D Industries
	Vibrating Sorter Machine	Kisan Rigid P.V.C Pipe
2016-2017	Auto blanking on Press machine	Auto blanking on Press machine
	Automation of tapping and champhering process	Excel pressing pvt Ltd

	Improving Press Die life by Cryogenic Treatment	K C Precision
	Pneumatically operated fixture for milling machine for flange of fuel feed pump	Swagati Engg.Pvt. Ltd
	Automation of lube oil pump Discharge testing machine	Gaike Industries
	PCR Machine	MGM Institute of bioscience and Technology, Aurangabad

CHEMICAL ENGG.

Acad. Year	Title of the Project	Beneficiary Organization
2014-15	Studies of heating and cooking devices: Energy, Thermodynamics and cost analysis	M/s Sanjay Techno Plast Pvt. Ltd, Aurangabad
2015-16	Analysis, Separation and application of wood pyrolyzed oil	M/s Sanjay Techno Plast Pvt. Ltd, Aurangabad

3.3 Research facilities

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

- Apart from the curriculum requirement the college has developed over the years several research facilities for doing research activities in various fields.
- With consistent efforts, the institute has research center for six branches approved by Dr. Babasaheb Ambedkar Marathwada University namely, Civil, Mechanical, Chemical, Applied science, Environmental Engg., Environmental Science. Research facility for P.G. and Ph. D. students is made available in the center.
- A research committee identifies the requirement of equipment; literature etc. required for research and ensures its availability.
- International and national journals and reference books of good standards are available in the central library. (Refer 3.3.5)
- Advanced equipments, high end data systems, mathematical and analytical software's are made available to UG, PG students and research scholars.
- Number of doctorate faculty members is every year increasing, which shares their knowledge with the students which eventually increases research awareness.
- All the institutional facilities are made available even beyond working hours of the institute

- Aurangabad, being a world known tourist place guests of national and international dimensions keep visiting. Those related with engineering and technology, shares their experiences with our students and faculty as well.
- Aurangabad has got considerable industrial corridor, people from industry keep visiting the institute and share their views.

Some of the major facilities created and made available for students, research scholars and faculty members are as detailed below:

Table 3.14: Research facilities

Sr. No.	Dept.	Research Facilities
1	MECH	ANSYS-13.0, CATIA V5.0, Surface Roughness Tester ,CNC Lathe Machine 3D CNC Engraving Machine, Profile Projector PP-200 Tool makers microscope Siemens Team Centre Software, Robot(Pick & Place) R-12 Robot (Articulated Arm)
2	EEP	Software: ETAP 20 user and PSCAD 25 user software
3	CIVIL	<ul style="list-style-type: none"> • ETABS 2013 Software – 10 Licenses • SAFE 2014 Software – 10 Licenses • Horizontal shake table with eccentric cam • Vertical shake table • Weather Station • Respirable Dust sampler
4	ECT	10 Nos of 256MB RAM Windows XP Pentium-4, Combined platform embedded Systems(ARM-7) and VLSI (Sparten 6)
5	CHEM	Incubator, Turbidity meter, ph meter, DO meter,Centrifuge, Water bath, Flootation Column, Chromatogrphy column, Magnetic Stirrer, Electrophoresis unit, Soxhlet Apparatus, CHEMCAD Process Simulator software
6	CSE	18 Computers with 2 GB RAM with internet facility for accessing e-journals, e-books, Nvidia GPU cards company, Pune.

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

- A separate research committee (RC) has been established to facilitate research and promote research culture among the students and faculty.

- Institute makes separate departmental budget allocation every year. Department allocates funds to enhance research facilities for procuring advanced equipment in laboratories.(eg. Engraving machine)
- Institute encourages department to fill up various proposals to various funding agencies for procuring and upgrading different equipments.
- The research committee keeps in touch with the recent trends in the research oriented programs through conferences, workshops, seminars etc.
- The library of the Institute is enriched with wide range of books and various National and International Journals. Library also has e-journals.
- Institute takes up initiative to sign MOUS with various reputed industries for upgrading and creating infrastructural facilities to promote research.
- Institute has purchased license software which enables students and researchers to acquire online help.
- Institute also encourages students to take up the innovative projects and agro based projects that are needed to the society.
- As institution is very keen in promoting research, many unique infrastructural facilities are created for the students and faculty where students can work even beyond working hours. Just to mention a few,

Table 3.15: New Facilities Created

Facilities	Location & Usage
MGM's Mechanical Museum - Extended special workshop for students to carry out beyond syllabus tasks(BAJA,SUPRA) in the filed of automobiles and I.C. Engines & for working on Formula 1 Car making and maintenance .	Mechanical Museum Majorly used by Mechanical, Civil and Electronics students
Robot(Pick & Place) R-12 Robot (Articulated Arm)	Robotics Lab Used by all interested students
Siemens Team Centre Software,	CAD LAB Used by mechanical students
E-Library (Springer e-books, NDL, NPTEL, DELNET Journals , Gale Cengage)	Central Digital Library, Hall no. GF-16, Civil Department For all.
High performance computing- GPU cards by Nvidia company, Pune.	CSE Dept. Project Lab For Computer Engg. Students
Open Source Lab, made available to work on emerging open source technologies, RED HAT Academy	IT Dept. Majorly for the students of CSE, IT and MCA
A weather station is installed in the institute, hourly data is available .One can take up a project based on it.	CIVIL department monitors. Android Application of Weathers station is freely available which shows current and past data from www. weatherlink.com website

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?

Table 3.15: A : Details of special grants or finances

Sr .No.	Details	Funded by and use and cost (Rs.)	Total project Cost (Rs.)
1	A project on MQL Turning of hardened steel	AICTE (CNC)-14,00,000	17.42 Lacs
2	A project on Hard turning of stainless steel	UGC (Roughness tester)-404250/-	5.02 Lacs
3	Metrology Lab	Forbes Precision Tools, Chikhalthana MIDC, A'bad	1.52 Lacs
		AND Mikronix Gauges Pvt Ltd , Chikhalthana MIDC, A'bad (Slip gauges set)	1.5Lacs
4	High performance computing- GPU cards	Nvidia company, Pune.	2.5 Lacs

Table 3.15:B: Details of Major Equipment Purchased

Sr. No.	Dept.	Equipment details	Facility	Year
1	Mechanical Research Lab	3D-CNC Engraving machine +Art cam software for the same	Design and manufacturing of engraved parts by using art cam software for design purpose.	2015-2016
		Exhaust gas analyzer-FEM-7	To carry out complete analysis of flue gas.	2015-2016
		Profile projector	To measure geometry of complex parts.	2015-2016
2	Civil Research Lab	Universal Testing Machine (100 Tons)	Material testing	2015-16
		Horizontal shake table – with eccentric cam	Earthquake resistant building models	2015-16
		Vertical Shake Table, Total station.	Behavioral study of different building models	2015-16
3	Chemical Research Lab	CHEMCAD Process Simulator	Process modeling and simulation	2015-16

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

- Every department of the Institute is having tie up with outside industries to know about latest development in technology, new machines etc. and to take up any collaborative projects and to promote R & D and consultancy activity.
- Some of the Research facilities available for the faculty and students are
 - Auto cluster, Aurangabad
 - E-Yantra
 - Robocon
 - Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
- PG and research scholars carry out their experimentation using facility available in these organizations.
- Activities of students' chapters of several professional bodies like CSI, IEEE, IET enable the students to interact with professionals from the industry and academia to undertake in-plant training and projects at state of the art facilities of the industries and research institutes.
- The college is one of the NPTEL study centers and a remote centre for various faculty development programs conducted by NITTR, Bhopal which also helps for the research dimension.

3.3.5 Provide details on the library/ information resource centre or any other facilities available specifically for the researchers?

- The college has subscribed to the e-journal packages. The packages cover journals with multiple accesses and download facility for all faculty, students, researchers and staff members. Considering the importance given for R&D in our campus, all faculty and staff members utilize this facility to come out with constructive outputs in terms of publication, funded projects, consultancy and innovative products and solutions. Faculty members have been provided with login facility. The list of journals offered by each publisher is attached for ready reference:

Table 3.16: Library details

Sr.No	Particulars of E-Journal / e-Books	Available	Web Sites
1	Springer e-books	10340	www.link.springer.com
2	NDL	1500 registrations are queued.	ndl.iitkgp.ac.in
4	DELNET journals (Developing Library Network)	1150	http://164.100.247.17/
5	Gale Cengage Online	2233	http://infotrac.galegroup.com/itweb/injawaharlal2?SP=04
6	Magazines/ Journals - National Technical (Hard copies)	106	-
7	News papers	17	Daily

- Other facilities available are in library;
 - Photocopy, Scanning
 - Downloading facility
 - Printing facility
- The library has a very good reading room facility which is kept open beyond the college working hours.
- There is a common internet access available through a Computer Centre Lab for all the students.
- Library is kept open for extended hours.

3.3.6 What are the collaborative research facilities developed/ created by the research institutes in the college. For ex. Laboratories, Library, instruments, computers, new technology etc.

- A Metrology Lab facility is developed in collaboration with Forbes Precision Tools, Chikhalthana MIDC, Aurangabad and Mikronix Gauges Pvt Ltd, Chikhalthana MIDC, A'bad (Slip gauges set) costing Rs. 3.02 lakhs.
- Facility of Hard turning is created through the UGC support costing Rs. 5.0 lakhs.

- Facility of MQL turning on hardened steel is created through the AICTE support costing Rs. 17 lakhs.
- Every year, averagely five projects are sponsored by the local industries.
- Institute has purchased many software's , which are help fill in carrying out research(See 3.3.1)

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the faculty and students in terms of

a) Patents obtained and filed (process and product)

Table 3.17:A: Details of Patents obtained and filed

Sr. No.	Title of the Invention	Author(s)	Date
1	Apparatus for determining dimensions of aggregate particles used in concrete (Design patent)	Sanjay S Jamkar, Madhuri N Mangulkar	No.265756 18-09-2014 Granted
2	“Apparatus and Process for Measurement of percentage ethanol content in blended Gasoline”	Savita Kulkarni, Madhuri Joshi, Anagha Kunte	Date of Publication: 25/01/2013 2084/MUB/2012
3	“Sensor for dielectric characterization of low loss liquid (particularly for petroleum liquids)”	Savita Kulkarni, Madhuri Joshi, Ishan Dabholkar, Shreeraj Kadam, Harshal Dakhode	Date of Publication: 25/4/2013 E-101/20152/ 2013/MUM
4	Solar cum Biomass Cook Stove	Arvind Chel Gitanjali Kaushik	Date of Publication: 9/9/2011 1713/DEL/2011A
5	Method and Apparatus for Measuring Characteristics of Aggregates of Concrete Mass by Using Digital Image Processing	S.S. Jamkar, M.N. Mangulkar, Md. Vazeeruddin	Date of Publication: 24/4/2014 1454/MUM/2014
6	Fixture for design of twist drill bit	R.R. Deshmukh Pankaj Dhobale	(Patent Filing in Process)

b) Research studies or surveys benefiting the community or improving the services

Table 3.17:B: Details of Surveys

Sr. No	Names of Faculty	Title of Research studies/ surveys	Benefits to community / Improving the services	Date
1	Dr. Geetanjali Kaushik Dr. Arvind Chel , Dr. Sangeeta Shinde(CIVIL)	Assessment of Pm ₁₀ In Aurangabad City Of Central India Field study in Aurangabad published by International Journal of Environment Volume-5, Issue-2, March-May 2016 ISSN 2091-2854	To monitor the air quality in and around Aurangabad	May 2016

Research inputs contributing to new initiatives and social development

SN	Dept.	Names of Faculty /students	Title of New Initiatives and social development	Year
1	MECH	Dr. M.S. Kadam Vaibhav Tanapur Vaibhav Kshirsagar	Plastic injection molding machine- Plastic granules making machine	2016-17
2		Dr. Arvind Chel	Solar Dryer Project-Helps saving electricity	2015-16
3		Dr. Arvind Chel	Solar Greenhouse Dryer- Helps saving electricity	2015-16
4		P.S. Shinde	Automatic etching on metal	2015-16
5		Dr. V.S. Joshi Shubham Deshpande Sumit Jadhav	Eco-cooler- Help to reduce temp. Most useful for under privileged class. Also it saves environment from nin-degradable materials.	In process
6	ECT	M.A.Muley Dhanshree R. Joshi Chaitali A. Kulkarni	Smart girl security system	2015-16
7		S.J.Deshmukh Ajinkya S. Nand Shubham K. Patange Saket S. Wazurkar	Voice Based Alert System For Blind People	2015-16
8		Mrs. A.P.Phatale	Portable Medication Reminder	2015-16

		Komal D. Deshpande Disha A. Gandhi Chaitra J. Joshi	With Android And Web Page	
8		S.D.Gavraskar Harsha Sugathan Pratima M. Patil Yogita A. Tambe	Multi Patient Monitoring System For Hospital	2015-16
9		M.K.Pawar Limbaji S. Dound Abhijeet P. Gavhane Shubham S. Talokar	Automatic Medicine Drawer	2015-16
10		Dr.S.A.Naveed Priyanka S. Sonawane Rutuja K. Warkad Shivani M. Pakal	Intelligent Stick for Blind, Deaf and Dumb	2015-16

**3.4.2 Does the Institute publish or partner in 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?**

Yes, Institute publishes International Journal recognized by News Paper Agency,
Govt. of India.

RNI Number: MAHENG/2016/68030;

Title: VISTA International Journal On Energy, Environment & Engineering

ISSN No: 2456-5342 (Print)

Annual Vol-1-6, 2016, Published in 20th Dec 2016.

3.4.3 Give details of publications by the faculty and students:

Publication per faculty Number of papers published by faculty and students in peer reviewed journals (national / international) 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.)

Selective faculty publications published in peer reviewed journal are enlisted as follow:

Table 3.17: Details of publication

Sr. No.	Faculty Names	Publication by Faculty	Papers Published by Faculty & Student	No. of publications listed in International Database	Chapter in Books	Books Edited	Citations	Impact Factor (Maximum)	h-index
1	Dr. S D Deshmukh	20	30	-	-	-	-	-	-
2	Dr. M S Kadam	05	14	-	-	-	-	-	-
3	Dr. R R Deshmukh	17	20	-	-	-	24	-	-
4	Dr. V S Joshi	06	04	05	-	-	-	2	-
5	Dr. A B Kulkarni	09	07	-	-	-	-	-	-
6	Dr. N G Phafat	14	09	-	-	-	4	-	2
7	Dr. D R Dolas	70	51	44	-	-	59	-	02
8	Dr. Arvind Chel	51	03	22	1	1	672	5. 746	13
9	R A Kathar	4	3	-	-	-	-	-	-
10	D S Khedekar	05	15	07	-	-	-	2.5	1
11	S B Ubale	4	09	02	-	-	-	-	1
12	R B Patil	1	08	-	-	-	-	-	-
17	K R Jagtap	2	- 2	- -	--	--	-	1.20	1
18	Arif Pathan	2	-	2	-	-	-	1.605	-
19	S N Quadri	10	-	06	-	-	-	-	1

Sr. No.	Faculty Names	Publication by Faculty	Papers Published by Faculty & Student	No. of publications listed in International Database	Chapter in Books	Books Edited	Citations	Impact Factor (Maximum)	h-index
20	Dr. V. M. Arole	12	-	-	-	-	-	-	-
21	Dr. L. D. Chavan	05	-	-	-	-	2.62	-	-
22	Dr. S. B. Sapkal	22	06	04	-	-	-	-	-
23	K. R. Zakade	02	-	04	-	-	-	-	-
24	A. B. Itolikar	01	05	-	-	-	-	-	-
25	J. G. Gawai	02	02	-	-	-	-	-	-
25	Dr. S. N. Deshmukh	01	02	-	-	-	-	-	-
27	Dr. G. C. Lomte	02	02	-	-	-	-	-	-
28	Dr. V. B. Musande	6	4	4	-	-	11	-	2
29	Dr. M.S.Joshi	11	30	40	1	-	108	2.943	6
30	Dr. D. S. Deshpande	11	-	3	-	-	-	-	-
31	Parminder Kaur	08	-	2	-	1	-	-	-
32	Dr.S.L.Kasar	12	-	2	-	-	5	-	2
33	Dr.J.D.Pagare	6	-	-	-	-	6	-	-
34	A.V.Dusane	6	-	-	-	-	2	-	1
35	C.G.Patil	3	-	-	-	-	11	-	2
36	J.G.Rana	24	-	2	-	-	9	-	-
37	F.I. Shaikh	24	-	3	-	-	6	-	-
38	Dr V.B.Malode	23	-	3	-	-	4	-	-
39	Dr S. A. Naveed	24	-	15	-	-	10	-	2
40	Dr. S. N. Pawar	22	-	-	-	-	4	-	-
41	V. A. Kulkarni	20	-	-	-	-	31	3	-

Sr. No.	Faculty Names	Publication by Faculty	Papers Published by Faculty & Student	No. of publications listed in International Database	Chapter in Books	Books Edited	Citation	Impact Factor (Maximum)	h-index
42	S.A.Annadate	24	-	-	-	-	5	2	-
43	G.R.Gidveer	20	-	-	-	-	1	-	-
44	Dr. V.A.More	24	-	6	-	-	18	3	-
45	A.P.Phatale	17	-	8	-	-	4	-	-
46	A.R.Salunke	13	-	1	-	-	3	1	-
47	C.S.Khandelwal	15	-	5	-	-	5	-	-
48	Dr. S. C. Tamane	21	-	-	1	1	18	2.5	-
49	V.K.Ahire	04	-	-	-	-	-	-	-
50	A.M.Mohsin	04	-	-	-	-	-	-	-
51	B.T.Deshmukh	30	-	02	-	-	-	-	-
52	J.R.Rana	06	-	03	-	-	-	-	-
53	Dr O K Mahadwad	15	10	-	-	-	38	3.2	2
54	Dr. S. Y. Guhe	14	05	04	-	-	05	5.01	1
55	M. U. Pople	04	-	-	-	-	-	-	-
56	Ms. M. R. Gaonkar	06	-	-	-	-	-	-	-
57	S. B. Mundhe	06	-	-	-	-	-	-	-
58	Dr. R.D. Kokate	06	-	-	-	-	12	5.7	-
59	A.R.Tungar	7	-	-	-	-	-	--	
60	Dr.S.N.Deshmukh	5	-	-	-	-	18	2.05	3

Sr. No.	Faculty Names	Publication by Faculty	Papers Published by Faculty & Student	No. of publications listed in International Database	Chapter in Books	Books Edited	Citations	Impact Factor (Maximum)	h-index
61	V.S.Agrawal	1	-	-	-	-	-	2.5	-
62	G.R.Agarwal	8	-	-	-	-	-	-	-
63	K.K.Misal	1	-	-	-	-	-	2.5	-
64	Dr.S.B.Shinde	28	-	25	-	-	17	2.79	2
65	Dr.M. D. Sadique	12	-	12	-	-	05	1.39	1
66	Dr.V. S. Pradhan	03	-	03	-	-	04	1.07	1
67	L.G.Kalurkar	08	-	08	-	-	28	0.98	4
68	Dr. M. N. Mangulkar	13	-	13	-	-	16	1.65	2
69	Dr.Suddhasheel Ghosh	15	-	15	-	-	23	3.06	3
70	L. K. Kokate	01	-	01	-	-	03	0.7	1
71	R. V. Wanjule	02	-	02	-	-	04	1.2	1
72	Dr S. D. Saptarshi	04	-	-	-	-	-	-	-

Total Paper Publications= 947

3.4.4 Provide details (if any) of

- Research awards received by the faculty
- Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally
- Incentives given to faculty for receiving state, national and international recognitions for research contributions.

Table 3.18:A: Research awards received by the faculty

SN	Faculty Name	Details of Research Award	Year
1	Dr.S.B.Sapkal	Pre-Sci. Congress At Dr. BAMU Aurangabad.- 1 st Prize Oral presentation	30-31 Dec-2014
2	Dr. S. Y. Guhe	Best Paper award in Environmental Engineering discipline received for paper presented at National Chemical Engineering Congress CHEMCON 2016, Chennai.	December 2016
3	Dr. V.S.Joshi	Production engineering division prize, IEL.	December 2012
4	Dr. A.L.Chel	Bharat Jyoti award	December 2012
5	Ms. C. G. Patil	1 st prize paper presentation at National Conference	February 2013
6	Mr. A. V. Dusane	2 nd prize paper presentation at state level conference	March 2012
7	Dr. V. B. Malode	Silver Certificate in Paper presentation, Paper presented at 4 th International conf. on Communication , Signal Processing , Computing and IT, Telangan	December 2015

Table 3.18:B: Recognition from Professional bodies

SN	Faculty Name	Recognition & Name of Professional Body	Year
1	Dr. S. D. Deshmukh	Chairman - IE, IIIE, QCFI, INSSAN Aurangabad Chapter	2016-17
2	Dr. A.B.Kulkarni	Secretary - IIIE, QCFI Aurangabad Chapter	2014-17
3	Dr. D. S. Deshpande	Jt. Secretary Indian National suggestions Schemes Association INSSAN	2015-16
4	P. Kaur	Chairperson – CSI Aurangabad Chapter	2016-17
5	P. Kaur	Won “Longest continuous SBC award”, CSI National Conference	2013-14
6	Dr. V.B. Musande	BOS Chairman, T.E. and B.E. syllabus, Dr. BAMU	2013-14
7	Dr. M.S. Joshi	Vice –Chairperson – CSI Aurangabad Chapter	2015 - 16
8	Dr. V.B. Musande	BOS Chairman, S.E. syllabus, Dr. BAMU	2012-13
9	Dr. S. B. Sapkal	Editorial Member of International Journal of Green Chemistry (Journals Pub).	2016

Table 3.18:C: Details of role played

Sr. No.	Name of the Staff	Research Activity	Role played
1	Dr. S. C. Tamane	Recognized Award of Appreciation in ICTCS, International Conference on Information and Communication Technology for Competitive Strategies, at Udaipur, 04-05, March, 2016	Worked as a Session Chair
2		International Conference on Research in intelligent computing in Engineering RICE-2016, at Nagpur, 08-09 April 2016	Worked as a Session Chair
3		Participated in RED HAT Training Partner Conference held at SRI LANKA, Bentota, November 2016	Participation
4		Editor for an edited book on Privacy and Security Policies in Big Data, IGI Publications, June 2017	Worked as an Editor

5		Author for one of the chapter of an edited book on Privacy and Security Policies in Big Data, IGI Publications, June 2017	Author for a chapter
6		Presented a webinar on “Adaptive Neuro Fuzzy Inference System” to students and faculties of various colleges in India which are associated to Infosys Pune, 31/08/2015	Presented a webinar
7		Presented an on line seminar on “NoSQL Data Management for Big Data” at Inspire 2016 event, to students and faculties of various colleges in India which are associated to Infosys Pune, January 2016	Presented on line seminar
8		American Association for science & technology (AASCIT) from 10/01/15	Editorial Board Member & Reviewer for two years
9		Coordinator for Keynote speaker and member of Publication Committee, 2 nd International Conference On Cognitive Knowledge Engineering (ICKE-2016) December 21-23, 2016	Coordinator
10	Dr. S. C. Tamane, Mr. S. N. Jaiswal, Mr. A. C. Karve	Recognized as a Bronze Partner faculty under Inspire, Campus Connect, Infosys, Pune, 28/06/16	Bronze Partner
11	Dr. V. B. Musande & Mr. R. N. Narawade	Recognized as a Bronze Partner faculty under Inspire, Campus Connect, Infosys, Pune, 28/06/16	Bronze Partner
12	Dr. S. Ghosh	Peer reviewed	Peer reviewer to international journals from Elsevier Taylor and Francis and ASPRS
13		Session co chair ,2014	Session co chair in “National work shop on micro wave

			remote sensing “, organized at Dr. BAMU
14		Invited member,2015	DST, sponsored national air borne LiDAR meeting at IITK
15		Conducted short term training program on LaTeX-A hands on workshop on LaTeX software and communication, 2015	Research and development cell and department of electrical engineering, GECA under TEQIP
15	Dr. V.B. Musande	Session chair,2016-17	International Conference, MIT, Aurangabad
16		Session chair,2016-17	International Conference, G.Y. Pathikar college , Aurangabad
17	S.L.Kasarr	Session chair,2014-15	CPGCON-PG Conference,MET Institute,Nasik
18	Dr. V.B. Musande	Session chair,2013-14	National workshop on microwave remote sensingDr. BAMU, Aurangabad
19	Dr. N.G. Phapat	Recourse faculty, two days work shop on DOE, 2016	Everest Engineering College Aurangabad
20		Session chair , Inter National Conference, AIMTDR 2016	COEP, Pune,
21		Recourse faculty, one day work shop on DOE,	Deogiri

		2016	Institute Of engineering , Aurangabad
		Recourse faculty, one day work shop on DOE, 2016	Sinhgad College of Engineering ,Solapur.
22		Member of BoS, 2017	Dr. BAMU
23		Sharing of technical expertise, on M.E. Design, 2016	Deogiri Institute Of engineering , Aurangabad
23		Resource faculty, on DOE, 2016	Everest Engineering College, Aurangabad,
24	Dr. D.R. Dolas	Session chair ,57 th National Convention of IIE(ICIE), 2015	SVNIT, Surat
25		Session chair, GITS-MTMI, International Conference on innovations in science, 2015	Geetangali institute of technical studies,Udaipur
26		Session chair, 2 nd International Conference on Advances in mechanical Engineering,2016	Amrutvahini College of Engineering ,Sangamner
27		Session chairman, International Conference on Manufacturing Excellence , ICMAX2017	K.K. Wagh institute of engineering, Nasik
28	Dr.A.C. Chel	Recourse faculty, one day work shop on Environmental Pollution,2017	Dr. BAMU
29		Key note speaker, ICONRER-2017 New and renewable energy sources,	SWAMI KITMG,Jaipur
30	Dr. V.S. Joshi	Sharing of technical expertise,2015	Deogiri Institute Of engineering , Aurangabad
31		Recourse faculty for training in IGTR, 2011	IGTR, Aurangabad.

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

- EDP cell arranges many interaction programs to develop institute-industry interface.
- The Training and Placement department plays the role of maintaining relationship with number of industries from many disciplines.
- Faculty members' meetings with the industry personnel have resulted in collaborations i.e. signing MOUs.
- Faculty members also develop industry institute relationship during industrial visits and in-plant training programmes.

Table 3.19: Details of institute-industry interaction

Sr. No.	Interaction Type	Facilitator	Duration
1	Student Placement, Expert Speakers from Industry	Training and Placement Department	Throughout the year
2	Industrial Visits, Guest lectures and Workshops by expert, Training for faculty members	Individual Departments	Throughout the year
3	In-plant training/Internship by students	T&P Cell/ Individual Departments	During Term/Vacation
3	Students' Practical/Project Viva-Voce	Individual Departments	Biannual (End of semester)
4	Curriculum Development	Individual Departments	Syllabus revision time
5	Conference, Project competition,	Institute	Throughout the year
6	Persons of International Repute	Individual Departments	Once / Twice a year

Table 3.20: Details of EDP Cell activity

Sr. No	Academic Year	Facilities /Venue Available	Activities organized	No of students attended	Impact Observed
1	11,12 March 2011	Jack kilby hall	Workshop on Entrepreneurship (Entrepreneurship as a career) Mr. T. R. Sharma, MSME, Aurangabad Mr. Dipak Bhingardeo, MCED, Aurangabad	60	1. Creativity in Entrepreneurship 2. Entrepreneurial quality & intelligence test 3. Managing people and resources 4. Choosing right product

NAAC – SELF STUDY REPORT

Sr. No	Academic Year	Facilities /Venue Available	Activities organized	No of students attended	Impact Observed
2	11,12,13 Oct 2011	Einstein Hall	Entrepreneurship awareness camp Mr. T. R. Sharma, MSME, Aurangabad Mr. Dipak Bhingardeo, MCED, Aurangabad	87	Enhancement of soft skill, accounting, project report preparation.
3	15 th Oct 2012	Aryabhata hall	One day workshop on Entrepreneurship Development Mr. T. R. Sharma, MSME, Aurangabad Mr. Dipak Bhingardeo, MCED, Aurangabad	110	Awareness about Entrepreneurship among students
4	16 th Oct 2012	Aryabhata hall	Success story of first generation Entrepreneur Mr. P. V. Gaikwad, Swaraj Engineers, Aurangabad	100	Experiences and steps in Entrepreneurship
5	04 th Mar 2013	AGF 06 (Mech EnggDept)	Lecture talk on Entrepreneurship Development Mr. Shalabh Mittal	100	Awareness about Entrepreneurship among students
6	3 rd Mar 2015	Einstein Hall	Lecture talk on Entrepreneurship Development Mr. Satish Tambat	100	Experiences and steps in Entrepreneurship
7	30 th Mar 2015	Hotel Windsor castle, A'bad	National Young Entrepreneurship Program Mr. Sandip Patil, Udyogvardhini And Sunil Chandak, Aurangabad	65	Assistance in incubation of innovative ideas to form MSME
8	21 st Apr 2015	ASF 14 Seminar hall, ChemDept	Lecture talk on Entrepreneurship Development Mr. Ashok Kumar	90	Awareness about Entrepreneurship and government schemes among students

Sr. No	Academic Year	Facilities /Venue Available	Activities organized	No of students attended	Impact Observed
9	2 nd Feb 2016	ASF 14 Seminar hall, ChemDept	One day workshop on Entrepreneurship Development Mr. Ashok Kumar, Mr. Nilesh Latad and Mr. R.S. Rajput	124	Awareness about Entrepreneurship and government schemes among students
10	20 th Feb 2016	Einstein Hall	Business Idea Competition Dr. Amol Murgai. D. S. Khedekar, JNEC, Aurangabad	65	Innovation of business idea. Budgetary information

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

- Policy of the Institute is in Place (The details are given in 3.5.5).
- Institute has signed MOUs with companies which may promote consultancy.
See 3.7.2
- The expertise of the faculty is also published on the institute website, and in institute brochure.
- Details of expertise of faculty members are available with the institute and are made available to interested parties, for potential collaboration.

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

- Policy of the Institute is in place to encourage faculty members to take up consultancy.
- Departments identify the area expertise of the faculty and if required, Institute deposes the staff for skill development programs.
- Institute organizes the programs on methodology which encourage the staff for consultancy.

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

Table 3.21: Details of consultancy services

Sr. No.	Department which offered Consultancy	Year	Name of the Industry	Details of Consultancy offered	Revenue Generated in Rs.
1	CSE	2015-16	MGM Institute of Biotechnology	Staff Training on Hadoop	30,000
2	Civil	2015-16	Different Institutes	Training	45,000
3	Civil	2015-16	Outside JNEC	Testing	1800
4	Mechanical	2015	Auto CAD training of PWD engineers	Four days training	1,60,000
5		2015	Basic of CNC programming and machining	Six days workshop	9000
6		2016-17	Various Local Industries (GIZ)	Design based	65,000
7	ECT	2016	Aspects of MATLAB tools in communication and signal processing with simulink	Six days workshop	49425
				Total	3,59425

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

Policy for Promotion of Consultancy among Faculty (Revenue Sharing)

Institute has Consultancy Policy in place for sharing of income generated through consultancy. As per the institute's Policy about revenue sharing out of consultancy services, provided to external clients, the faculty involved is given

the share as an incentive and the breakdown of the income generated out of these services are shared as given below.

It is divided in three parts

1. Consultancy carried out by using Institute infrastructure and equipment (may include only material testing)

(Institute 45%: Administration 10%: Staff 45%)

2. Knowledge based Consultancy (Institute 35%: Administration 5%: Staff 60%)

Policy for Promotion of Research among Students

Institute has Policy in place for promotion of research activity among students so that they can present their research work and ideas in Conferences and project competitions. Institute retains the IPR generated, if any, out of these research activities of students.

It is cost bearing is divided in two parts

- Institute will bear **60 %** of expenses incurred by students if conference and project competition is of the International Level.
- Institute will bear **50 %** of expenses incurred by students if conference and project competition is of the National Level.

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 encourages both students and faculty members to involve in the various social activities to enhance the moral values among them. E.g. Blood donation, Tree plantation, helping farmers through NAAM foundation. etc.
- The Institute always motivates the students' for social participation and also drives to achieve its goal by providing technical education to create equitable society with ethical values.
- Students involve themselves in different social activities which help them to become good citizen in the society.
- Institute also motivates students to participate in competition of social value eg. Transfer Maharashtra.

The Institute has organized following activities to promote institution-neighborhood community network:

- Street plays, lectures, seminars.
- Organizes health check-ups/blood donation camps at institute campus periodically.
- Visits to social organizations like Navjeevan Vidyalay , a school for specially able children.
- Visit to Orphanage and old age homes.

- Visit to Anandvan and Melghat
- Clean and green activities and awareness programs on environmental protection.
- ‘Vachan Prerana Diwas’, book reading on the auspicious day, birth day of Dr. APJ Kalam
- Inspirational books are often distributed to faculty members.
- Celebration of various historical and freedom fighter’s birth anniversary.
- Tree plantation program and environment awareness program (save tree, save environment, save fuel) are regularly arranged in the institute.(3.6.4)

National Service Scheme (NSS):-

Institute has an active NSS cell of 100 students which is affiliated to Dr. BAMU through which different social activities are planned for each academic year. The NSS unit organizes many social service and community development programmes and inculcates the importance of social responsibility and service in the minds of students.

Entrepreneurship Development Program (EDP):-

The Institute has established Entrepreneurship Development program Cell (EDP). The objectives of this cell are -

- Developing entrepreneurial spirit, characteristics, and personality among students.
- Developing technical, technological and professional competency needed for self-employment and productive work.
- Managerial capabilities to run business or self-employment activity successfully.
- To contribute towards creation and dissemination of new knowledge and insight in entrepreneurial theory and practice.
- Through this EDP cell, Google start-up India was organized to provide the opportunity for young talent to explore the innovative ideas.
- For EDP activity See 3.5.1

3.6.2 What is the Institutional mechanism to track students’ involvement in various social movements / activities which promote citizenship roles?

Any event is organized on the principle of, ‘by the student, for the student’. Hence numerous events are arranged and coordinated by institute for preparing students for developing their leadership quality, group working, decision making capability, disaster management, etc.

- Students are encouraged to participate in national movement like ‘Transfer Maharashtra’. Institute provides infrastructural facility and they are given little relaxation from attending regular college.
- Institute encourages extracurricular activities of students like movie making for ‘Aura 18 film’s festival’ by providing financial help to the students.

- Student council members and departmental student associations organize various events through which students involvements can be tracked.
- Department student committee along with faculty In-charge recognizes the students those who can work in a group and can be involved in social programs.
- Institute as well as the university has its own mechanism to monitor NSS activities carried out by the students.
- For technical events (BAJA, SUPRA), interviews are conducted from a local body consisting of the In-charge faculty and subject expert.
- Institute keeps track of the articles of students related to their activities which were published in local newspapers and in the department notice board.
- Students get certificates and are marked under college work in ERP.
- Departmental in charge of student activities collects annual report of all activities.

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

- The vision and mission of the institute are prominently displayed at the major locations (as mentioned earlier) of the institute. Students are made aware of these vision and mission.
- Feedbacks are taken from students to evaluate faculty performance and measures are taken to improve effectiveness of the teaching learning process.
- The Institute conducts parents meet and collects feedbacks and it helps to improve the quality of the product i.e. knowledge and placement of students.
- Institute has ERP for attendance which easily keeps attendance record of each student in every subject. This helps in tracing the students with less attendance and immediately corrective measures are taken by discussing the same issue with the parents.
- The institute takes exit poll from final year students as well as alumni for keeping pace with the industrial growth.
- Suggestion boxes are placed at the entrance, near the T and P cell and also near library and any suggestions or complaints received from the stakeholders are rectified by the institute.
- Parents, guests from various fields and alumina are invited in annual social gathering, this makes the society in touch with the institute and it helps in getting their perception.
- Every year a prominent alumni is invited as a chief guest for annual social gathering, this definitely helps in getting correct feedback of society.

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.

The institute plans and organizes number of extension and outreach programs. NSS unit of the institute is quite active in such endeavors. NSS students reach out to the villagers and their children through yearly camps as well as other activities. One of the major efforts taken by the NSS was building drainage for the rural areas near Aurangabad.

The details of expenses on social welfare activities through NSS unit are appended below,

Table 3.22: (A):Expenses Table for NSS Activities:

Sr. No.	Academic Year	Expenditure of Regular Activities	Expenditure of Special camp
1	2015-16	38793/-	63675/-
2	2014-15	35931/-	40081/-
3	2013-14	46303/-	44330/-
4	2012-13	34305/-	36296/-

Table 3.22:(B): Institute Social Responsibility, Activity Report 2012-2016

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
2012-13						
1	20 th July 2012	Goods (Cloths, toys) collection activity	Donated Cloths,Toys to different NGO's like Apala Ghar, BSSK,Snehalaya etc.	200	The material in good condition but not required by people was fruitfully used.	Students felt happy of donation and enjoyed the company of children.
2	1 st August 2012	Raksha bandhan celebration at Navjeevan	NSS volunteers celebrated Raksha Bandhan at Navjeevan organisation, a school for Mentally challenged children.	110	Share the company of socially deprived children.	Children did enjoy a lot and students had a memorable day.

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
3	15 th August 2012	Independence Day Celebration	Celebrated Independence Day at Navjeevan NGO.	53	Share the company of socially deprived children.	Children enjoy a lot with students
4	24 th Sept. 2012	Photo exhibition (NSS foundation day)	Organized a Photo Exhibition of various activities from last four years.	146	To give a boost for creativity of students and let others get motivate to be a part of NSS.	Hardworking students realized that their work was Noticed and Appreciated.
5	24 th Sept. 2012	Blood donation camp	Organized a Blood Donation Camp, About 178 students donated blood to MGM Blood Bank.	200	To satiate the increasing need of Blood.	The blood requirement of MGM Blood Bank was met with ease.
6	24 th Sept. 2012	Skit for Anti corruption	Arranged a Skit about Anti-Corruption in college campus.	23	Increase the social awareness through media.	students realized the importance of social issues
7	19 th August 2012	Visit to Vidyadeep Orphanage.	Donated cloths and distributed sweets, fruits to Vidyadeep Orphanage near Holy cross Marathi School.	75	The material in good condition but not required by people was fruitfully used.	Students felt happy of donation and enjoyed the company of children.

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
8	21 st August 2012	Interaction with NSS Advisers	Organized a Interaction Session for NSS volunteers of JNEC with NSS national Advisers.	100	Fruitful interaction with a experienced person and knowledge about the NSS	Students were duly motivated and promised to opt for a career in Socially deprived areas.
9	24 th August 2012	Visit to Snehalaya-Aapla Ghar	Organized a visit to “Snehalaya” an AIDS rehabilitation center n Ahmadnagar MIDC and “Aapla Ghar” Orphanage center Sinhgad Tq.Donje,Dist.Pune .	115	To make the people over there feel that they are also the part of mainstream.	Students realised the need of social awakening in the modern world.
10	12 th Sept. 2012	Social workshop	Organized a One day social workshop on various social issues.	150	Creating awareness about social responsibilities of individual.	Students acknowledged the importance of social responsibility to develop better society.
11	24 th Sept. 2012	Mahawachhata Abhiyan	On occasion of NSS foundation day and Gandhi Jayanti NSS volunteers along with all departments students and staff members participated in cleanliness drive.	500	Awareness about clean campus.	Students understood the importance of green and clean surrounding.

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
12	29 th Sept. 2012	Police Mitra Campaign	Campaign to assist Police personnel during anant-chaturdashi.	17	Creating awareness about social responsibilities of individual.	Students understood the role of police in our society.
13	25 th January 2013	Lecture talk on “facing competitive exams”	Lecture Talk of Mr.K.B.Bhoge on “How to face Competitive Exams”.	175	To encourage students to via a career in civil services.	Students were duly motivated and promised to opt for a career in Administrative services
14	15 th FEB 2013	lecture talk on sex education.	Lecture Talk on ”Sex Education” by Dr.Ajay Mane & Dr.Swati Shiradkar.	150	Misconceptions regarding the Diseases needed to be cleared out.	Doubts of the students regarding the disease were cleared and the knowledge was improved
15	1 st April 2013	Fund collection for drought	Collected funds for Drought prone areas.	150	To make students aware about draught prone areas.	Students learned that just by sharing part of their pocket money they can help many

2013-14						
1	21 st August 2013	Lecture Talk of Mrs. Malti Karandi kar	To develop interpersonal skills of students a lecture talk on “human values” were organised .	132	To develop interpersonal skills of students.	Students learned to groom their skills to develop their personalit y.
2	22 nd August 2013	Raksha bandha n at Navjee van	NSS volunteers celebrated Raksha Bandhan at Navjeevanorganisa tion, a school for Mentally challenged children.	136	Share the copmpany of socially deprived children.	Children did enjoy a lot and students had a memorab le day.
3	27 th August 2013	Street Act on Social Awaren ess	Arranged a Skit on social issues like female feticide in India.	40	To create awareness against foeticide in society.	Students acknowle dged facts about foeticide in our society.
4	31 st August 2013	Food Grains collecti on and Donatio n	NSS Unit of JNEC undertook a project of providing food grains to Navjeevan school for whole year.		To make students aware of poverty driven NGO's and their problems	Students learned that just by sharing an ounce of grains or some clothes they can bring smiles to many people.
5	19 th Sept 2013	Poster Present ation On social Issues	Organized a Photo Exhibition on social issues like female feticide in India , dowry system , pollution ,	172	To create awareness about various issues in society.	Students awared about various issues in our

NAAC – SELF STUDY REPORT

			corruption etc.			society.
6	22 nd Sept 2013	Lecture talk of Adv.Ar chana Jondhal ekar	To differentiate about love , friendship , attraction , infatuation in relationships for youths.	146	To aware students about social laws and rights of individuals.	Students understood different sections of law.
7	23 rd Sept 2013	Lecture talk of Mr.Kris hna Bhoge(I AS)	Lecture talk of Mr.K.B.Bhoge on “How to face Competitive Exams”.	175	To encourage students to vie a career in civil services.	Students were duly motivated and promised to opt for a career in Administrative services
8	23 rd Sept 2013	Lecture talk on sex education.	Lecture talk on Sex Educationby Dr. Ajay Mane & Dr. Swati Shiradkar.	240	Misconception s regarding the Diseases needed to be cleared out.	Doubts of the students regarding the disease were cleared and the knowledge was improved.
9	24 th Sept 2013	Photo Exhibitio n	Organized a Photo Exhibition of various activities from last four years.	142	To give a boost for creativity of students and let others get motivate to be a part of NSS.	Hardwork ing students realized that their work was Noticed and Appreciated.
10	25 th Sept 2013	Street Act on Social Awaren ess	Arranged a Skit about on social issues in India.	250	To create awareness about various issues in society.	Students awared about various issues

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
11	26 th Sept 2013	Swachhata Abhiyan	On occasion of NSS foundation day and Gandhi Jayanti NSS volunteers along with all departments students and staff members participated in cleanliness drive.	600	Awareness about clean campus.	Students understood the importance of green and clean surrounding.
13	28 th Sept 2013	Visit to Snehalaya	donated cloths and clocks to orphans in Snehalaya.	114	To make the people over there feel that they are also the part of mainstream.	Students realised the need of social awakening in the modern world.
14	29 th Sept 2013	Visit to Bahadurgarh.	A beautiful fort on the river of Bhima at shrigonda dist. Nagar.	114	Students should know about glorious history of the land they belongs to.	Students understood the importance of the forts and their role in today's world. Also learnt how people built and maintained them in early era.
16	09 th Oct 2013	Blood Donation Camp	Organized a Blood Donation Camp, 222 students donated blood to MGM Blood Bank.	250	To satiate the increasing need of Blood.	The blood requirement of MGM Blood Bank was met with ease.

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
17	20 th Nov 2013	Donation to Sakar	Donated Cloths, Toys to Sakar trust.	5	To make students aware of poverty driven NGO's and their problems	Students learned that just by sharing an ounce of grains or some clothes they can bring smiles to many people.
19	24 th to 29 th March 2014	Voting Awareness Campaign	Students appeal to people at various public places for awaring them about voting.	80	To create awareness about voting.	people got to know importance of voting.
20	15 th April 2014	Night Treck at Gautala Forest	Trekking at Gautala forest at night.	60	To observe and experience Jungle life at night.	Students learned about different nocturnal species in forests.
2014-15						
21	27 th July 2014	Visit to Deogiri Fort	A one day visit to Deogiri fort at Daulatabad.	62	Students should know about glorious history of the land they belongs to.	Students understood the importance of the forts and their role in todays world. Also learnt how people built and maintained them in early era.

NAAC – SELF STUDY REPORT

22	10/8/2014	Rakhabandhan at Navjeevan	NSS volunteers celebrated Raksha Bandhan at Navjeevan organisation, a school for Mentally challenged children.	140	To share Happiness with mentally challenged people.	Students experienced the Joy of giving and sharing with mentally challenged students.
23	24 th to 31 st Sept. 2014	Photo exhibition (NSS foundation day)	Organized a Photo Exhibition of various activities from last four years.	200	To aware students about NSS activities.	Students got motivated and many students shown their interest for social activities.
24	14/09/14 to 21/09/14	"Dhadak Mohim" at Melghat area.	Maitri a pune based NGO organizes "Dhadak Mohim" in Melghat. NSS students participated in activity.	27	Provide medical facilities and create awareness about cleanliness.	Students learned about preliminary treatment. also got acknowledged about problems in tribal area.
25	12 th Sept. 2014	INNOV A	The competition based on innovative creations made by the students.	240	To enhance innovative thinking in students. Also to aware them about E-waste reuse.	Students were able to create useful products from waste, also they realized the importance of reuse.

26	10 th to 11 th Sept 2014	Blood Test For Girls and Ladis faculties	Blood check up and health awareness talk by Dr. Swati Shiradkar for womens.	250	To aware them about various health issues due to unhealthy diet.	Girls understood about their health issues and started taking healthy diet.
27	16 th Oct. 2014	Blood donation camp	Conducted Blood Donation Camp at JNEC.	150	To create awareness about blood donation.	Students understood the importance of blood donation.
28	Through out the year.	Food Grains / Cloths collection and Donation	NSS Unit of JNEC undertook a project of providing food grains to Navjeevan school for whole year.	1000	To make students aware of poverty driven NGO's and their problems	Students learned that just by sharing an ounce of grains or some clothes they can bring smiles to many people.
29	8 th Feb 2015	Rose Day Celebration with Orphan s	Celebrated Rose Day at Bhartiya Samaj Seva Kendra.	124	Share the company of socially deprived children.	Children did enjoy a lot and students had a memorable day.
30	10 th Feb 2015	Chocolate Day Celebration with sweepers.	Celebrated Chocolate Day with sweepers at CIDCO office.	56	Share the company with society cleaners.	students enjoyed a lot and had a memorable day.

31	14 th Feb 2015	Valenti nes Day Celebrat ion with Old age Home People	celebrating valentines day with old age people.	46	Share the copmpany of socially deprieved old people.	Students understoo d the importanc e of elder people in our family and society,an d how society and families are ignoring them.
32	27 th Feb 2015	Star Gazing Worksh op	Lecture Talk by Scientist Santosh Takale	180	To know about our universe and constellations	Students understoo d about different constellat ions of stars and planets and their significan ce.
33	6 th March 2015	Visit to Krishi Vidnya n Kendra Baramat i	Visited Krishi Vidnyan Kendra at Baramati.	110	how to implement engineering aspects in agriculture to increase yield.	Students understoo d how farming can be carried out in rainshado w regions.
34	6 th March 2015	Interacti on With Hon. Sharad Pawar	Interaction with MP (Ex- Agriculture Minister) Hon.Shri.Sharadch andraji Pawar.	110	To know and discuss some of the issues in our politics and society and how to overcome them.	And they were able to understan d different aspect of politics other than what

NAAC – SELF STUDY REPORT

						image media has created about it.
35	07 th Feb 2015	Rose day celebration	To offer roses to police and bus conductors and drivers.	55	To offer roses to police and bus conductors and drivers.	Students showed gratitude towards Police and conductors
36	09 th Feb 2015	Chocolate day	To offer chocolate to deaf and dumb girls.	55	To offer chocolate to deaf and dumb girls.	Students felt happy of enjoyed the company of children.
37	14 th Feb 2015	Valentines' day	To spend day with old people in oldage home.	55	To spend day with old people in oldage home.	students had a memorable day.
38	04 th March 2015	Visit to Snehalaya	Awareness about AIDS and social responsibilities.	106	Awareness about AIDS and social responsibilities.	Well awareness about AIDS has been done
39	05 th March 2015	Visit to Baramati	To meet Hon. Mr. Sharadchandra Pawar	106	To meet Hon. Mr. Sharadchandra Pawar	A great work by him in drought prone area and his political studies inspired students to join politics.

NAAC – SELF STUDY REPORT

Sr No	Date	Activity	Details	Participants	Intention	Outcomes
40	27 th July 2015	Cleaness program	To aware people about clean Aurnagabad.	62	To aware people about clean Aurnagabad.	Students understood the importance of green and clean surrounding.
41	05 th August 2015	Friends hip day	To make new friends from our society.	80	To make new friends from our society.	Students spent quality time with physically challenged childrens.
42	29 th Sept 2015	Raksha bandhan	To celebrate Rakshabandhan with orphan children	140	To celebrate Rakshabandhan with orphan children	Children did enjoy a lot and students had a memorable day.
43	11 th To 21 st Swept 2015	Dhadak Mohim	To work in tribal area.	29	To work in tribal area.	Students learned about different species in forests.
44	24 th Sept 2015	Grain donation	Social responcebility (Grains and grossary of about Rs.18000 was given)	ECT Dept.	Social responcebility (Grains and grossary of about Rs.18000 was given)	Students learned that just by sharing an ounce of grains or some clothes they can bring smiles

NAAC – SELF STUDY REPORT

45	02 nd Sept 2015	Lecture talk by IPS Amite h Kumar	MPSC, UPSC guidance and awareness of social responsibility.	200	MPSC, UPSC guidance and awareness of social responsibility.	Students get inspired and started planning for their carrier.
46	24 th to 30 th Sept 2015	NSS Week Celebra tion	Awareness about social responsibilities (Photo exhibition, Street plays and lecture talks).	500	Awareness about social responsibilitie s (Photo exhibition, Street plays and lecture talks).	Many other students joined NSS inspired by this exhibitio n.
47	24 th to 30 th Sept 2015	Cleanin g drive	Awareness about clean and green environment.	2000	Awareness about clean and green environment.	Students understo od the importan ce of green and clean surroundi ng.
48	08 th August 2015	Blood Donatio n	130 bottles donated. Social awareness	300	130 bottles donated. Social awareness	The blood requirem ent of MGM Blood Bank was met with ease.
49	17 th to 23 th Jan 2016	Special Camp	Special Residential Camp at Kolupur, Melghat.	80	Special Residential Camp at Kolupur, Melghat.	Students got inspiratio n from Dr.Ravin dra Kolhe to work for socially backward people

- There are various activities such as, departmental seminars, national conferences, workshops, orientation programs, state level technical model exhibition and competitions, which is helpful to develop overall personality of students.
- The institute arranges various programs through ‘Internal Complaint Committee’ to know the problems of girls, ladies staff and also solve the problem.
- Organized various seminars / lectures to develop leadership quality among the students.
- Organized seminars like “Higher Studies in Foreign countries”, “Opportunities to Engineers in UPSC & MPSC Exams” for student’s bright future.



Donation of new Clothings to Orphanage at Georai Village



Blood donation camp

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 institute has strong NCC working and active cadet. Students are encouraged to take active participation in emergency situations
- The Institute undertakes initiates widespread multi curricular enrichment activities through NSS and students associations.
- Details of programs are displayed on notice board.
- The attractive banners of relevant activities prepared by the students are displayed at various prominent locations in every department. Student

volunteers campaign for the said activity in all the classes to explain the importance of the activity and benefit of participation.

- A help desk is set up for the information of the activity.
- Street plays are organized during the lunch break for the publicity of the activity.
- Announcement using PA system is also done.
- Fashion shows and flash mobs are arranged for publicity.
- Students are motivated to participate in Youth festival.
- Photo of prize winners advertised in local news paper and also on notice board.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the Institute to ensure social justice and empower students from under-privileged and vulnerable sections of society

Institute gives relaxation in fees to the students from under privileged and vulnerable sections of society.

The details of the social surveys conducted are given below.

Table 3.23: Details of social Survey

Sr. No.	Department / Institute	Details of social survey	No. of students participated	Out come	Year
1	Institute Level	Hospital awareness, road work & rain water harvesting village Donje Tq. Purandar, Dist. Pune.	75	Urbanizing the rural India by students. Labor work enabled students to realize importance of hardwork.	Feb 2014
2	Institute Level	About providing medical facilities and create awareness about cleanliness, at Melghat in association with an NGO, Pune	27	Students learned about preliminary treatments. They got knowledge about problems in tribal area.	Sept 2014

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.

Objectives:

- To enhance social and ethical values among the students.
- To enable the students to identify the social problems and help in finding the solution.

- To make awareness amongst the students in nation building
- To start the day with National anthem and prayer
- To develop the leadership qualities and moral responsibilities, by giving major role to students in various programs.
- To imbibe social responsibility in the minds of students

Outcomes:

- By visiting the rural areas, old age homes etc.
- Building of sanitation system in villages.
- Students are motivated to participate in competition like Transfer Maharashtra which includes rural education, cashless payment, health awareness etc.
- Institute takes up responsibility to enable faculty to undertake projects which are useful to the society.
- Unity and peace of mind in students.
- Motivational talk by the person working for NGO like NAAM Foundation

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

- The Institute has created awareness in the students about the need of enrolling in electoral voting which helps during general elections and also to motivate the public on usage of Vote Right.
- Institute also motivates the faculty to vote in graduate constituency elections and elections of various professional bodies to vote for the appropriate person and help in upliftment of the society.
- Institute organizes health awareness camp and blood donation camp in collaboration with hospital and blood banks in campus.
- Institute organizes tree plantation program to maintain greenery and nature's balance.
- Every year Environment Protection Rally is organized. As a result campus is maintained green.
- Institute encourages reading habit by arranging a book reading competition on the occasion of Dr. APJ Abdul Kalam's birth day by involving other institutes.



Voting Awareness Campaign

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.

- To develop constructive relationships to other institutions, our faculty members visited various engineering colleges located at Noida, Mumbai, Nagpur, Baramati, Kopargaon, Nanded, Osmanabad, Tuljapur, Nagar and all local engineering colleges, to enhance the skills by sharing their views, ideas and also by guiding the students.
- Institute developed relationship with blood banks for collection of blood during blood donation camp held every year.
- INSAAN Organization helped in arranging mock interviews and group discussions to improve the campus placement ratio.
- Barkley organization had sponsored a ten days training to the students which helped in placement of the students.
- Our students participate in “AVISHKAR” project competition of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- With the association of **IIT Bombay** under the scheme of **Spoken Tutorials-Learn Open Source for Free**, students are trained on various open source software in every semester since 2014.
- Institute and MGM’s Medical College, Aurangabad has jointly organized a program on hygiene and health education to girls and boys separately.
- Institute Industry Interaction (III) is a common activity in the institute.

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.

- Mr. Akshay Kolte (NSS Secretary) is one of the student selected from Dr.BAMU, Aurangabad to participate in Republic day celebration at New Delhi
- 2015-2016 Best NSS Program Officer Award - : Dr. R. R. Deshmukh
- 2015- 2016 Best NSS Cadet Award - : Akshay Kolte
- Letter of Appreciation from MGM’s blood bank for blood donation camp.



Dr. Ravindra Deshmukh receiving award of “Best NSS co-ordinator” at the hands of Hon’ble Vice Chancellor Dr. B.A. Chopade

3.7 Collaboration

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.

- The objective of the Industry Institute Interaction is to reduce the gap between industry expectations (practices) and academics so as to establish the symbiotic relationship. Following are some of the key activities carried out by the cell:
 - 1 The college has E-YANTRA lab set-up under MHRD in collaboration with IITB. Under this, four faculty members from different branches are trained and they can further guide students from various branches of engineering .with this students can participate in technical competition under E-YANTRA
 - 2 Mr. R.N. Moghe from Electronics and Telecommunication Dept. is working for setting up Learning centre in NRB Bearings, B-18, Shendra MIDC, Auranganad. (as per MOU since 1/12/2011.)
 - 3 Dr. Arvind L. Chel completed Post- Doctorate research program at Ghent University, Belgium under the scheme of Swagata.edu during 12.12.2013 to 9.01.2015.

IBM Centre of Excellence

The IBM Software Centre of Excellence aims at improving the quality of technical education and increasing the skill sets of the faculty and students, leading to improvement in the quality of technical education, increase in the employability of students and placing the college in a leadership position.

Infosys Campus Connect

Infosys Campus Connect is a unique academia-industry initiative to “architect the education experience”. This Campus Connect program is meant for enhancing the quality and quantity of the IT talent-pool and sustaining the growth of the IT industry itself. This nation-wide program aims to build a sustainable partnership with engineering educational institutions in India, and produce “industry ready” professionals by aligning engineering students’ skills with the needs of the industry. Following programs were conducted:

1. Faculty Enablement Program on Foundation Program.
2. Students Contest on Programming, Distinguished Engineer and Paper Presentation.
3. Webinar on various topics like Microsoft VB.Net 2010 and MS Sharepoint 2010.

Students Projects

The students prepare the projects reflecting the needs and problem of the industry. Institute faculty interacts with industry personnel for successful implementation of

such projects. The projects they prepare also assist them in future regarding their profession.

Training for the Students

Professional training is an integral part of the study to acquaint the student's with actual practical problems. The students are placed at various industries under supervision and guidance of respective industry personnel. The faculty carries out monitoring and evaluation regularly.

Industrial Visit

Industry visits of the students with faculty members are organized to the relevant industries at various locations. It serves the objectives of exposure to large scale practical applications of theoretical aspects for the students.

Expert Lectures

Institute organizes expert lectures series during seminars or at the department level in coordination with student organizations. Such lectures familiarize the students and the faculty with industry practices and correlation with the text book material taught.

Campus Placements

Placement of students in the right kind of job opportunities is an endorsement of institute excellence in the respective field. National & Multinational companies are regular visitors of the institute for seeking out fresh talent.

- Institute having collaboration with Marathwada Atocluster. UG and PG students can use the facility for their research work.
- Collaboration with NITTR, Bhopal also helps in training faculty members.
- Collaboration with Treezec- E Solutions Pvt. Ltd. helps in training students

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.

Table 3.24 : Details of MoU

Sr.No.	Dept.	MOU Details
1	Chemical	1. M/s Sanjay Techno Plast Pvt. Ltd. MIDC Waluj Aurangabad 2. M/s Varad Fertilizers Pvt. Ltd. Jalna 3. M/s Dhananjay Group of Industries.
2	Electrical, Electronics & Power	1. Krish Automation , Aurangabad 2. Ambekar Associate, Aurangabad
3	Mechanical	1. Marathwada Auto cluster, Aurangabad

		2 NRB 3.Collaboration with industry for CAD/ CAM training.
4	Electronics& Telecommunication	1. Gill Instruments, Bangalore
5	Training & Placement	1.Treezee-E Solutions Pvt Ltd 2.Indian Institute of Material Management Aurangabad Branch
6	Architecture	1.Nadkarni Mahajan & Associates, Aurangabad 2.Yogendra Ballal & Associates, Aurangabad 3.Ar.Gangwal & Associates, Aurangabad 4.Ar.Manish Kale & Associates,Aurangabad
7	Information Technology	1.Infosys Pvt Ltd Pune 2. Red Hat Certification Courses.
8	Civil	Nandadeep Consultants

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.

- Institute interacts by inviting scientists and industrialists to deliver guest lectures and organizes workshops and seminars which help students to understand and adapt to the changes between campus life and corporate life.
- Faculty and students are trained to meet the technological needs of industry and society.
- Laboratories are upgraded with advanced equipment through the amounts allotted from Institute budgets.
- Awareness on importance of collaborative research projects and live projects for students is created by inviting eminent scientists and industrial persons.
- Both faculty and students are benefited by organizing Industry oriented workshops where they gain hands-on experience and industrial exposure.
- Institute encourages student to participate in National/International technical events. eg. BAJA,SUPRA etc. Students attends various workshops under this, people from industry visits the institution to monitor and to guide the progress of vehicle building, Rule book helps students to understand details of automobiles.
- Students take up the live problems from industry and suggest the proper solution to them. See 3.1.10 and 3.3.6

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 Institute during the last four years.

Institute organizes National conference every year and invites papers on latest trends from the participants. Eminent persons are invited as judge and to deliver key note for the conference. Details of are as follows:

Year	National/International Conference / Event	Eminent Persons
March 2014	National conference ENVISION 2014 on Environmental Safety	1. R.Ramprasad 2. Dr. Diptendu Das Scientist from Atomic Energy Regulatory Board (AERB)
Upcoming 5-6 OCT 2017	IEEE& CSI Sponsored International Conference on Intelligent Systems & Information Management	1. Dr. Upasana Geetanjali Singh, UKZN, South Africa 2.Dr. S N Singh, IIT Kanpur 3. Dr. Umesh Belur, IIT Bombay 4. Dr. K.R. Murlimohan, DST New Delhi
Upcoming 14-16 Sept 2017	59 th IIIE convention and ICMIE International Conference on Manufacturing & Industrial Engineering	1.Col (Prof) Aditya Parida, Ph.D., Sweden 2.Prof. M. K. Tiwari, IIT, Kharagpur 3.Cdr.Dr. B. M. Bhandarkar, Director General , IIIE 4.Dr. R. P. Mohanty, Sr. Advisor ICFAI group Hyderabad

INTERNATIONAL SCIENTIST

Sr. No.	DATE	FACULTY	OBJECTIVE
1	16/12/2016	Albert J Shih	To deliver Lecture on design & manufacturing of biomedical devices, machining of advance engineering material
2	14/12/2016	Dr. Kornel Ehmann	To deliver Lecture on Micro/Meso scale mfg. , precision engg. ,M/C tool dynamics and controls, material removal processes, automation & robotics.
3	27/02/2015	Dr.Takle BARC	Personality development

4	21/03/2014	Dr Diptendu Das and Mr. K. Ramprasad	To deliver Lecture on “Process Safety and Hazards” towards environment protection and pollution control
5	10/03/2014	Dr. Amitabha Ghosh	Effect of miniaturization on industry and their development.
6	21/11/2012	Mr. M. Matpati & Allena	To deliver Lecture on free Education in Germany
7	22/07/2012	Dr. Ioan Marinscew	To deliver Lecture on Micro to nano machining
9	20/11/2010	Dr. S. Bhattacharya Dr. P. Ray	To deliver Lecture on status of present on going research at JNEC
10	09/10/2009	Mr. Dberhi Mayar	To Deliver Lecture on Impact of Gandhi in USA

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

a) Curriculum development/enrichment

BoS of each department has experts both from Industry and Reputed Institute. The BoS meets frequently and suggests the affiliating university the modifications and up-gradation in the syllabus keeping in view the needs of Industry and ongoing changes in relevant disciplines. See 3.4.4 Table 3.18

b) Internship/ On-the-job training

Collaboration with various industries provides an opportunity to the students for industry exposure, acquiring training skills for placements and getting projects from industries.

c) Summer placement

Collaboration with various industries / organizations helps the students to undergo short-term training and internship programs during summer vacation period and semester break period.

d) Faculty exchange and professional development

- Institute arranges workshops, seminars and conferences at department and inter-department levels to exchange the ongoing research activity in the fields of national importance and industry needs.

- Institute also deputed faculty to exchange their research expertise at workshops, conferences and training programs arranged at other Institutes/organizations.
- Institute also arranges frequently faculty development programs inviting resource persons from reputed Academic and Industry persons.

e) Research

Workshops and seminars on research area are regularly arranged with the help of academic and industrial experts.

f) Consultancy

The Institute encourages the faculty to take up consultancy works and to extend services catering the needs of the society and industry / companies.

g) Publication

The Institute encourages the faculty and students to publish their research outcome results in reputed journals and conferences.

h) Student Placement

- Providing job market information and related inputs to students has become prominent due to accreditation with TCS Company.
- Pre-placement training from Second year onwards by reputed training agencies.
- Personality Development Programs and frequent Assessment Tests in Aptitude, has been organized in association with Barclays Company, and other companies.

i) Introduction of new courses

Keeping in view the needs of the industry, a few departments could introduce a new Elective course in association with Company. As an example Computer Science & Engineering Department has introduced the course on “Agile Methodology” in association with Infosys.

j) Twinning programmes – (No)

k) Student exchange

- Students are deputed to industries / research organizations during summer vacation for industry exposure and to take up the projects related to industry needs.
- Experts from industry and research organizations are invited for interactive sessions with students for exchange of knowledge and practical skills making the students fit for industry requirements.
- The departments organize state-level and inter collegiate festivals, seminars and technical events and students from various institutions exchange their ideas in thrust areas of engineering and other fields.

MOUs with Industries:

Sr.No.	Dept.	MOU Details
1	Chemical	1. M/s Sanjay Techno Plast Pvt. Ltd. MIDC Waluj Aurangabad 2. M/s Varad Fertilizers Pvt. Ltd. Jalna 3. M/s Dhananjay Group of Industries.
2	Electrical, Electronics & Power	1. Krish Automation, Aurangabad 2. Ambekar Associate, Aurangabad
3	Mechanical	1. Marathwada Auto cluster, Aurangabad 2. NRB 3. Collaboration with industry for CAD/CAM training.
4	Electronics & Telecommunication	2. Gill Instruments, Bangalore (See 3.3.2)
5	Training & Placement	1. Treezee-E Solutions Pvt Ltd 2. Indian Institute of Material Management Aurangabad Branch
6	Architecture	1. Nadkarni Mahajan & Associates, Aurangabad 2. Yogendra Ballal & Associates, Aurangabad 3. Ar. Gangwal & Associates, Aurangabad 4. Ar. Manish Kale & Associates, Aurangabad
7	Information Technology	1. Infosys Pvt Ltd Pune 2. Red Hat Certification Courses.
8	Civil	Nandadeep Consultants

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations.

- Planning and establishing linkages/collaborations related to academic and research activities for students and faculty members in various specializations.
- Signing MoU with various industries for students and faculty development.
- Inviting Expertise from various industries for delivering Guest Lectures, seminars, Judges and keynote address in Conferences etc.
- Conducting joint technical programs and events with Industry.
- Arranging Industrial visits to reputed Industry.
- Establishing Consultancy Development Cell (CDC) in the department.

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?

Before the beginning of academic year the Heads of the departments make a detail assessment of the following additional requirements.

- Faculty members
- Major /minor equipment for the laboratories
- Computer systems
- Class rooms
- Software tools
- Books for the library.

The management shows keen interest in the enhancement of infrastructure in the institution for smooth running of all the academic, co-curricular and extra-curricular activities and ensures effective teaching learning processes including seminar halls, hostels for boys and girls, establishment of labs and other research facilities, improvement in academic and administrative infrastructure, maintenance of existing buildings, water supply, inter-net and intra-net connectivity.

4.1.2 Detail the facilities available for

a) **Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.**

The College is situated in an area of = 40,670.90 sq.mt

The total area of building constructed is = 33461.24 sq. mt

Infrastructure facilities available in table 4.1:

Table: 4.1 Infrastructure facilities

Facility	Total Number	Total Area in sq.m
Class rooms	51	4128.49
Class room cum studio	05	720
Laboratories	85	5774.84
Computer lab	38	1861.74
Seminar/Tutorial Halls	11	2826.11
Workshop shed	3	1160
Drawing Hall	02	167.24

Table : 4.2 Equipment for Teaching Learning and Research

Teaching Aids	Total Numbers available
LCD projectors	25
Laptops	4
Computers	1242
CCTV Cameras	418

Co-Curricular activities: Every department conducts seminars, workshops and technical contests in areas concerning their programmes to strengthen the theoretical and practical knowledge of the students. There are also student members in the respective professional societies and these societies also promote technical activities and student participation. Institution funds, facilitates the conduct of these activities for the benefit of students. Seminar halls, classrooms and other amenities as required by the co-curricular activities are made available by the respective faculty coordinator. The planning and conduct of the activities are also supervised by the coordinators along with the student members. The institute has halls such as Rukhmini Hall, Einstein Hall, Aryabhatta Hall, and Jack Kilby Hall which are equipped with audiovisual aids for conducting such activities. Each department is associated with various professional societies .

b) Extra-curricular activities–sports, outdoor and indoor games, gymnasium, Auditorium, NSS, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

MGM trust has developed sports club equipped with necessary facilities which are made available to students such as:

Outdoor Games: Cricket, Football, Volley Ball, Basket Ball, Khokho, Kabbaddi, Athletics, Lawn Tennis, Swimming.

Indoor Games: Gymnasium, Carom, Badminton, Table Tennis, Chess, Riffle Shooting, Fencing. Other activities such as NSS, JNEC Cadet Corps (JCC), Pratibimb (photoclub), Blood donation Camps and Health Checkup . Cultural activities are in form of Razzmatazz, Snehmilan, Blossoms. NSS organizes blood donation camps and health checkups. Students do various activities which create social awareness amongst them.

The students also can enhance their communications skills by taking part in activities such as Agnitio, Klystron, Envision/Reflexo, Proyecto and Awut organized by various dept.

Extra-curricular activities are shown in table 4.3

Table: 4.3 Extra-curricular activities

Activity	Hall No.	Area(sq.m)
IQAC	UG/04	54.31
ISO	AGF/15	25.56
NSS/EDP/Student council / Alumni office	GF/19	96.15
Training & Placement cell	GF/20	50.4
QCFI	GF/23	25.56
IIIE	AGF/01	31.07

JNEC is sharing following sports activities with MGM as shown in table 4.4

Table: 4.4 Sports activities

Sr. No	Sports Activity
1	Gymnasium
2	Swimming pool
3	Rifle shooting
4	Lawn tennis court
5	Badminton court
6	Cricket stadium
7	Basket ball

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.

Yes, As and when required according to the norms new infrastructure is developed. College optimizes use of labs and class-rooms as per the time table.

In the last four years the following infrastructural facilities have been developed:

- Laboratories have been developed.
- Research labs have been developed.
- Classrooms.
- Landscaping.
- Renovations of architecture department is in progress

Amount spent in last four years is shown in table 4.5

Table: 4.5 Amount spent

Item	Budgeted 15-16 (In Lacs)	Expenses 15-16 (In Lacs)	Budgeted 14-15 (In Lacs)	Expenses 14-15 (In Lacs)	Budgeted 13-14 (In Lacs)	Expense 13-14 (In Lacs)	Budgeted 12-13 (In Lacs)	Expense 12-13 (In Lacs)
Building	100.00	167.44	250.00	74.09	225.00	95.52	313	304.49

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

- By providing barrier free access through provision of Lift and Ramps.
- By providing concrete roads inside the campus
- Institute provides examination block on ground floor for disable students.
- Special toilet blocks.
- They need not wait in any queue for paying fees, collecting I-Cards, documents or for any other work

4.1.5 Give details on the residential facility and various provisions available within them:

Yes

Residential facility in the form of hostel is provided to both boys and girls within campus.

Hostel Facility – Accommodation available : Hostel Facility is shown in table 4.6

Table: 4.6 Hostel Facility

Facilities	Ganga Girls hostel	Baa Girls hostel	Indrayani Girls 'hostel	Bapu Boys hostel	Gandhi Dham
No. of rooms	51	17	2	21	0
No. of students	150	51	3	21	0
No. of staff	9	4	7	3	2
Internet lab/Wi-Fi connection	Yes	Yes	Yes	Yes	Yes
Dormitory	Yes	Yes	Yes	Yes	Yes
Guest room	Yes	Yes	Yes	Yes	Yes
TV room	Yes	Yes	Yes	Yes	Yes
Reading room/study halls	Yes	Yes	Yes	Yes	Yes
Room with attached bath	18	73	104	41	8
Common bath room	32	-	-	11	12
Washing room	32	-	-	-	-

- **Recreational facilities, gymnasium, yoga center, etc: Yes.** Recreational facilities are used for the following purposes. Swimming pool, Table Tennis, badminton
- **Computer facility including access to internet in hostel: Yes**
- **Facilities for medical emergencies: Yes,** MGM Hospital is available in the college campus.

In case of emergencies, transport is provided by the college in order to take the students/staff to hospital.

- **Library facility in the hostels:** The central library is kept open beyond the working hours during preparation leave (24hrs) to facilitate the use of library by the hostel students: yes
- **Internet and Wi-Fi facility: Yes** it is available.

- **Recreational facility-common room with audio-visual equipments. Yes**
There are common rooms with audio visual equipments in both boys and girls hostels.
- **Available residential facility for the staff and occupancy.:**Due to scarcity of space such facilities has not been developed.
- **Constant supply of safe drinking water: Yes,** potable water is supplied
- **Security:**
 1. Trained Security Personnel, are outsourced from Modern Veer Rays Security Forces India Pvt Ltd. At the college main gates there is supervision of a security officer, they keep constant vigilance on all the movements inside the campus and check outsiders entering the campus.
 2. Housekeeping team has 46 employees and it is done by M/S Balaji Labor Services. Garden maintenance is taken care of by a team of gardeners.
 3. CCTV Cameras are installed in various points inside college campus and also in class and labs for surveillance.
 4. Well laid passages for movement within the campus are provided.
 5. Centralized fire safety system is installed on entire campus .Fire extinguishers are provided in labs.

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?

- First aid box is available in each department.
- Health care facilities are available at Mahatma Gandhi Mission Medical College and hospital established and run by the same trust, can be made use of by faculty, non-teaching staff and students.

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 Center, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

Common Facilities are shown in table 4.7.

Table: 4.7 Common Facilities

Common Facilities	Availability	Block/Floor/Room No.
IQAC	yes	UG/04
ISO	yes	AGF/15
NSS	yes	GF/19
EDP	yes	GF/19
Grievance Redressal committee	yes	-
Training and Placement Cell	yes	GF/20

Common Facilities	Availability	Block/Floor/Room No.
Health Center	yes	MGM medical college and Hospital
Cafeteria	yes	UG/41
Safe drinking water facility,	yes	Available on each floor
Auditorium	yes	Rukhmini hall(UG-44)
Generator/Power back up facility	yes	-----
Transport	yes	-----
Internal compliant committee	yes	----

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

Yes.

Composition of Committee :

Principal – Chairman

Librarian/Assistant Librarian –Secretary

Head of Departments or Staff representative of HOD of Concerned Dept. – Member

Composition of Committee is shown in table 4.8

Table: 4.8 Composition of Committee

Sr. No.	Name of Faculty	Department	Designation
1	Dr. Deshmukh. S. D	Principal	Chairman
2	Mr. Somwanshi Y.A	Librarian	Secretary
3	Mr. Nagaroje S.G.	Mechanical	Member
4	Mr. Patil B.A.	Inst. & Control	Member
5	Mr. Jadhav U.G	Civil	Member
6	Ms. Suradkar R.P.	EEP	Member
7	Mr. Yadav S.D	Chemical	Member
8	Ms. Yadav P.	ECT	Member
9	Ms. Varsha Ajit	CSE	Member
10	Ms. Deshmukh. S.N	MCA	Member
11	Mr .Kale S.K	AS	Member
12	Ms. Hanmante V.S.	IT	Member

There is library committee which recommends new books, journals and e-journals at the commencement of the session, which in turn are processed further and recommended by the principal and thus the purchase is done.

Initiatives:

- Smooth conduct of library.
- Books requirement and purchase.

- Monitoring library time.
- Library welfare activities.
- Circulation, Reading room, book bank and Reference section.
- Training of library staff.
- Reprography facility.
- Book binding.
- Books are donated to the library for utilization of students.

4.2.2 Provide details of the following:

- **Total area of the library (in Sq. Mts.)** :1587.75 Sq.Mts
- **Total seating capacity** = 600
- **Working hours** (on working days, on holidays, before examination days, during examination days, during vacation)

Working hours for library are shown in table 4.9

Table no 4.9 Working hours for library

Sr. No.	Days	Timings
1	On Working Days	9:30 am to 6:30 pm
2	Before & During Examination	24 hrs.
3	During Vacation	10:00 am to 5:30 pm.

Layout of the library: (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources): enclosed

4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

Library ensures purchase of current/new titles after discussion with the advisory committee and then it is finalized with Principal. Books are made available to all departments.

- The requisitions of the books are received by the librarian through HOD.
- Depending on the availability of the books, e-journals, print journals and other reading materials the consolidated requisition is submitted for the purchase.
- The monitoring of purchased books is done on regular intervals to ensure the received books during the term.

Library ensures use of books for students through book bank. Every students can change the books through circulation. Reference books, journals and other reading material are made available to them in the reading room. News papers are available.

Library holdings are shown in 4.10

Table: 4.10 Library holdings

Sr. No.	Library holdings	Holdings
1.	Print	Volumes:-68,717 Titles:-18,645
2	Non Print	CD's-Books-2239, Magazine-296, Others & College function-79, Cassettes-90
3	Electronic(e-books, e-journals)	e-books-Springer-10340 e-Journals-DELNET-3383 e-books-DELNET-3000
4	Special collection(eg : Text Books, Reference book)	Text Books-54008 Reference-9507 Other(Fiction & General) =5202
5	Other holding	Separate racks on biography of leaders are maintained.

Amount spent on books/ Journals / E-sources are shown in table 4.11

Table: 4.11 Amount spent on books/ Journals / E-sources

Library holdings	Year 2012-13		Year– 2013-14		Year 2014-15		Year2015-16	
	No.	Cost (Rs)	No.	Cost (Rs)	No.	Cost(Rs)	No.	Cost (Rs)
Text books/ references	4546	27,63,243/-	5506	32,67,078/-	2724	21,23,946/-	2042	13,42,095/-
Journals/ Periodicals	90	1,87,650/-	96	2,36,235/-	102	2,75,645/-	106	2,88,445/-
e-resources	3383	69,000/-	3383	64,000/-	3383	66,500/-	3383	66,500/-

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

- **OPAC : Yes**(Online Public Access Catalogue)
Offline facility is available: Offline public access Catalogue is extensively used by the students to access and check the availability of book.
- **Electronic Resource Management package for e-journals:**
Yes. DELNET, Info track engineer science and technology consortia (IESTC).
- **Federated searching tools to search articles in multiple databases:** Delnet, Gale Cengage.
- **Library Website:** <http://www.library.jnec.com>

- In-house/remote access to e-publications : Yes (remote access work in progress)
- Library automation:- Yes
A library automation software **Qualsoft system Pvt. Ltd.** is used for day to day transaction of the library. Barcode technology speeds up the transaction (Dewey Decimal system is followed for Categorizing the books.) CCTV is installed for effective surveillance.
- Total number of computers for public access:24
- Total numbers of printers for public access: 01
- Internet band width/ speed : 48mbps leased line
- Institutional Repository: Syllabus Copies, Question Papers.
- Content management system for e-learning : yes
The College has a facility NPTEL for e-learning.
- Participation in Resource sharing networks/consortia (like Delnet) : Yes

4.2.5 Provide details on the following items:

- Average number of walk-ins: 274/day
- Average number of books issued/returned: 403/day
- Ratio of library books to students enrolled: 1:19
- Average number of books added during last three years: 3704
- Average number of login to opac (OPAC): 201/days
- Average number of login to e-resources: 15/ Day
- Average number of e-resources downloaded/printed: 0.45/day
- Number of information literacy trainings organized: 01
- Details of “weeding out” of books and other materials: 7695

4.2.6 Give details of the specialized services provided by the library

- Manuscripts:-Nil
- Reference: 9507
- Reprography: Yes
- Photocopy, scanning facilities: Yes.
- ILL (Inter Library Loan Service) : Yes
- Information deployment and notification :Yes
Information relate to current issues, competitive exams etc. is displayed on the library notice board. List of new titles .new arrivals are displayed o and the concerned department is informed.
- Download: Yes, Provided as and when required.
- Printing: Yes, Provided as and when required.
- Reading list/ Bibliography compilation: Provided on demand.
- In-house/remote access to e-resources: In-house facility is available.
- User Orientation and awareness: Yes
On the first day of first year students they are taken for orientation in the

library.

- Assistance in searching Databases: Yes, staff is available to help the students.
- INFLIBNET/IUC facilities: No

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

Library staff helps the students and faculty members to locate books in the sections consisting of reference book, journals and on-line data basis. Library provides latest edition books, newly arrived books & journals. Assistance is provided for searching or browsing the e- resources. Library provides assistance to staff & students to search for relevant information on OPAC. Access to research scholars for various research materials. Photocopy facility, issue of book and book bank facility are also provided.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give detail

Library is easily accessible to physically challenged students. Library staff helps them as and when 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 from users? How is the feedback analyzed and used for further Improvement of the library services?)

Yes. The Library gets the feedback from its users through following ways

- Exit level feedback is taken from the students to ascertain the efficiency of the Library as a learning resource.
- Suggestion box placed at the entrance of the library invites suggestions to improve infrastructure facilities/resources and its contents are examined once a week.
- Oral feedback from the students and teaching staff is encouraged.
- Before the commencement of the course, the librarian sends a format to be filled up by individual subject teachers, indicating the requirement of books / journals. These suggestions are reviewed by Library Committee and necessary action is taken to improve library services.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the institution.

- Number of computers with Configuration (provide actual number with exact configuration of each available system)

Number of Computers with configuration are shown in table no 4.12

Table: 4.12 Number of computers with configuration

Sr. No.	Configuration	System Name	Total Computers
1	IBM P4,1.3 Ghz, 512 MB DDR RAM, IDE 80 GB HDD, 15" CRT	IBM	48
2	LG Pentium 1.6 & 1.8 Ghz,512 MB RAM, 160GB HDD, 15"/17" CRT,30	LG	32
3	Dell 360, Core2duo, 2.4 Ghz, 1 GB RAM, 160 GB HDD, 15" TFT, SFF	DELL360	161
4	Dell 380,Core2duo,2.93 Ghz, 1 GB RAM, 320GB HDD, 17" TFT , SFF	DELL380	190
5	Lenovo i5 ,3.00 Ghz, 4GB RAM, 500 GB HDD, 19" TFT	LENOVO	10
6	Lenovo Pentium, 2.80 Ghz, 2GB RAM, 80 GB HDD, 15" CRT	LENOVO	60
7	HP Core2duo, 2.93 Ghz, 2 GB RAM, 500 GB HDD, 18.5" LED TFT, DVD Writer, SFF	Hp	233
8	HP Core2duo, 2.93 Ghz, 2 GB RAM, 500 GB HDD, 18.5" LED TFT	HP	363
9	HP i3, 3.6 Ghz, 4 GB RAM, 500GB HDD, 18.5" TFT, SFF	HP	145
	Total		1242

- Computer-student ratio 1:3, (For CSE/MCA/IT, the ratio is 1:1.)
- Stand alone facility: Yes
- LAN facility: Yes, LAN facility is available and all the systems in campus are provided with the LAN facility
- Wi-Fi facility:-Yes. Wi-Fi facility is available.
- Licensed software:46
- Number of nodes/ computers with Internet facility: 1242
- Any other: Scanner : 10 and Printer: 106

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

- Computer and internet facility are provided to faculty and students.
- Central computing facility is available for faculty and students.

- 48Mbps dedicated 1:1 leased -line(ISP:BSNL)
- 24hrs Wi-Fi connectivity is available for Boys' and Girls' hostel.
- Digital display is available at the entrance of the college.
- The attendance of the students is entered online on the ERP and students as well as parents can access using the computers or android mobiles devices.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT Infrastructure and associated facilities?

- **Internet bandwidth:**-Currently the college is equipped with High speed 48 mbps leased line. Institute is planning to double the bandwidth in due course of time to provide faster service.
- **Software Development Center:** Staff and students are developing softwares for automation of most of the transactions in the campus (i.e. online applications forms, Biometric attendance analysis, and online examination portal).
- **ERP based systems:** Adding more features /facilities to existing systems
- **High Performance Servers:** Developing more scalable applications to automate teaching learning methodologies.
- **Advanced Labs:** Developing labs for advanced technologies like Internet of Things (IOT), robotics, cloud computing
- **Smart class rooms:** Adding ICT tools for enhancing teaching–learning mechanism.
- **Student Portals:** Modifying existing student portal to provide more facilities to the student
- **SMS services:** Further refinements in the SMS services which are being used and promote the deployment of information on the mobile devices for faculty and, staff, students, parents.
- **Android applications:** Developing various applications for smooth conduction of various routine processes at institute level.
- **Cloud Computing:** Developing own cloud for the college. Preparing cloud environment to deploy various cloud applications in the campus.
- **Data Center services:** Institution plans to establish a set of core campus data center infrastructure services, standards, methodologies and these resources to a broad range of campus entities.
- **Data storage and retrieval:** Developing platform to store, access and retrieval of valuable data, information at a click of point at any time, any place anywhere.
- **Paperless office:** Digitalize the office record and retrieval.

4.3.4 Provide details on the provision made in the annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

Budget for computers and accessories shown in table no. 4.13

Table: 4.13 Budget of computers and accessories

Budget in Rs (lacs)				
Academic Year	2015-16	2014-15	2013-14	2012-13
Computers	100	37.10	26.60	34.94
System software	37.75	52.06	35.85	57.16

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?

- ERP based systems: The material related to teaching learning which is helpful for the students whenever they need are uploaded on ERP based systems and students can access at any time as per their requirements.
- Lecture videos on you tube delivered by the staff: Teaching learning related videos of the faculty are available on you tube and on college portal.
- LCD usage and NPTEL videos: Staff and students are making use of LCD projectors, NPTEL videos for effective information sharing related to teaching learning and also encouraged to use the power point presentation for delivering lectures. Students are encouraged to deliver the seminars, presentations using the modern teaching aids.
- Application: Attendance, internal assessments are software based using ERP.
- Students are encouraged to deliver the seminars, presentations using ICT resources.
- Online Examinations: Facility of Online examinations is available.

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 Center of teaching-learning process and render the role of a facilitator for the teacher.

- PCs, LAN, Wi-Fi connectivity, Projectors etc. are available in the campus.
- Availability of the ERP based systems through which important things related to teaching learning are uploaded.
- Students are provided with login ID and Password to access necessary information.
- Necessary information related to teaching learning is always shared with the students using the ERP based systems.
- Teaching learning related videos of the staff is available so that students can refer as per convenience.
- ICT enabled classrooms help the students in better understanding of the subject contents.
- Organized webinars help the students to interact with industry/research experts time to time

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?

No, the institution does not avail of the National Network connectivity.

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 upkeep of the following facilities (substantiate your Statements by providing details of budget allocated during last four years)?

The College gives great prominence to maintenance and upkeep of all the infrastructure necessary for effective teaching-learning, positive development and efficient maintenance.

Budget allocated and utilized for maintenance is shown in table no 4.14

Table: 4.14 Budget allocated and utilized for maintenance

	Item	Budgeted 15-16 (in lacs)	Expenses 15-16 (in lacs)	budgeted 14-15 (in lacs)	expenses 14-15 (in lacs)	Budgeted 13-14 (in lacs)	expenses 13-14 (in lacs)	budgeted 12-13 (in lacs)	expenses 12-13 (in lacs)
a.	Building	145.00	24.05	145.00	140.3	120.00	140.3	106.5	143.85
b.	Furniture	25.00	3.27	15.00	24.12	8.00	24.12	15.00	41.90
c.	Equipment	3.00	--	7.50	0.91	6.00	0.91	9.00	1.82
d.	Computers	12.00	3.36	5.00	11.52	4.00	11.52	10.00	2.84
e.	Vehicles	4.00	0.87	5.00	2.65	5.00	2.65	2.50	2.44
f.	Any other	--	--	--	--	--	--	--	--
	Total	189.00	31.55	177.50	179.5	143.00	179.5	143.00	192.85

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure facilities and equipment of the college?

- Construction office looks after the work of maintenance and upkeep.
- Lab equipment's are serviced by the concerned manufacturers and service personnel. Wherever necessary annual maintenance scheme is also made use of.
- If there is a breakdown/ failure of any equipment, the repairs are made at the department level using all possible methods. If not done at the departmental level, the equipment's are sent to central hardware/maintenance section.

- If the breakdown is major, equipment are sent outside for the repairs following the standard procedure.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/ instruments?

As and when required, the institution takes up calibration and other servicing measures for the equipment/instruments through suppliers and authenticated service personnel periodically and in some cases through annual maintenance services. The departments maintain the complete records of such services. Every six months the functional check register is updated by the concern lab in charge.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

- Necessary precautions are taken depending on the equipment before installing them.
- Uninterrupted power supply is provided to all computers. Generator facility is also available in case of power failure.
- All computer labs are provided with ACs.
- Stock registers and service requests are maintained by software and in registers.
- Voltage stabilizers, spike guard and UPS are provided to ensure uninterrupted power supply.
- Water supply provision is made near needed equipment's/lab and 24 hour water supply is ensured.
- Periodic maintenance and calibration of the equipment from suppliers, is made on demand or by Annual Maintenance Contract (AMC).

Any other relevant information regarding Infrastructure and Learning Resources which the college would like to include.

- Mechanical department has a museum.
- Architecture section has museum on Art & architecture of Aurangabad.
- Computer museum is developed.
- Weather station is used for recording the weather.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

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, every year prospectus is prepared well in advance and issued with the latest information. The Academic schedule is also prepared in the form of academic calendar.

Prospectus

Vision and Mission of the institution are visibly mentioned in the prospectus along with the faculty information and programmes offered. Information related to MGM Trust, Governing body members, intake capacity in different streams, rules and regulations, highlights of all the departments, career opportunities, glimpse of various technical activities and annual gathering, highlights of Training and Placement cell, details of academic and administrative committees, facilities and amenities like hostel, sports complex etc, are included in the prospectus. It is not done only for the sake of maintaining records or paperwork rather utmost care is taken to fulfill the commitments made in the prospectus.

Website

The Institute hosts its website as www.jnec.org. The website showcase detail information regarding UG, PG and PhD programs offered by the Institute. The brief details of each department, faculty, syllabus and Lab manuals are also provided. The website highlights various committees like Anti ragging and anti-ragging squad Committee, Internal Complaint committee, Grievance Redressal committee and SC/ST committee. The Principal, Vice-principal, Deans and HOD's formulate the details to be provided in the prospectus/website and also ensure that all the information given therein is authentic and as per well laid out norms.

5.1.2 Specify the type, number and amount of institutional scholarships / freeships given to the students during the last four years and whether the financial aid was available and disbursed on time?

The Institute offers freeships to the deserving students and staff wards. The financial aid was available and disbursed on time.

Table 5.1 Institutional Freeship

Institutional Freeships		
Academic Year	No. of Students	Freeship Amount(Rs.)
2012-13	132	38,48,691
2013-14	156	46,98,330
2014-15	146	50,22,624
2015-16	115	46,64,854

Freeship Amount(Rs.)

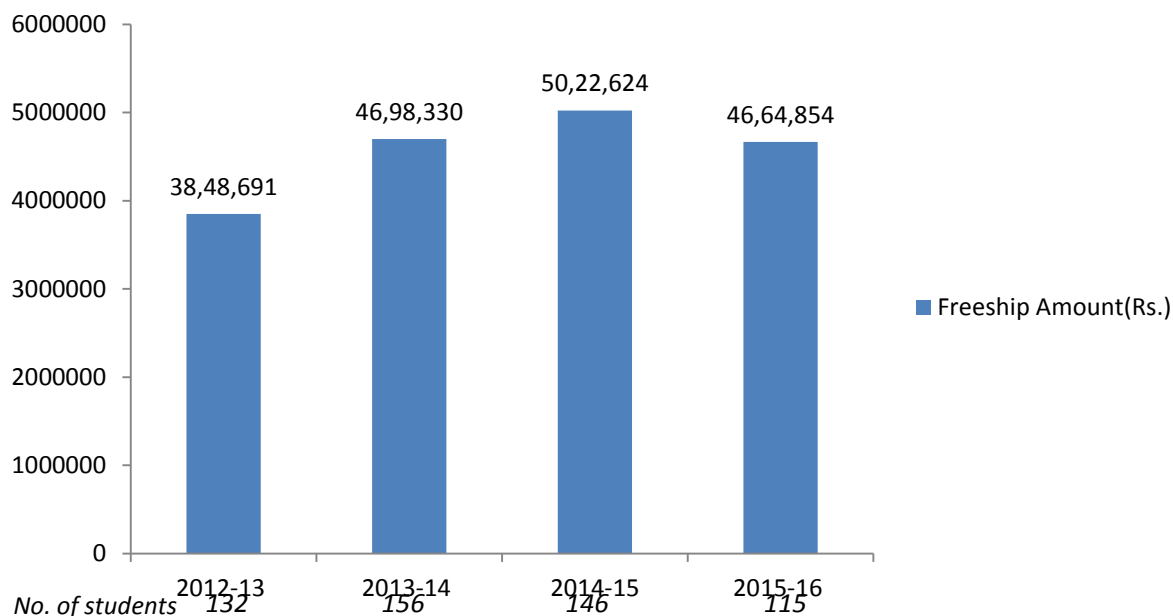


Fig. 5.1 Yearwise Institutional Freeship

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

Table 5.2 Financial Assistance from State/Central Government

Year	No. of Students availing State Govt. Scholarship (OBC /SBC/ VJNT /EBC /Minority)	No. of Students availing Central Govt. Scholarship (SC/ST/ TFWS)	% of students receiving Financial Assistance
2012-13	1940	622	63.82 %
2013-14	2122	687	62.70 %
2014-15	2130	670	66.92 %
2015-16	2024	659	68.23 %

5.1.4 What are the specific support services/facilities available for Students? SC/ST, OBC and economically weaker sections

- Information on various scholarships and funding agencies
- Assistance to obtain scholarship sanctioned by state and central governments
- Waiver of tuition fees
- Free Books from the central Library

- SC/ST committee

As per the instructions from AICTE the college has formed the SC/ST committee with an objective to resolve the grievances of SC/ST students. The members of the committee are as given in the following table.

Table 5.3 SC/ST Committee

Members	Designation	Committee Designation
Dr. S. D. Deshmukh	Principal, JNEC	Chairman
Mr. Sumedh Jadhav	Assistant Professor (SC Category)	Secretary
Prof. Prakash Sirsat	Professor (Social worker from SC category)	Member
Dr. Ms. V. S. Pradhan	Assistant Professor (SC Category)	Member
Ms. Ashwini Dashrathe	Office Superintendent	Member

Divyang:

- Information on various scholarships and funding agencies
- Provision of Elevator
- Ramps are available to move comfortably in the campus.
- One to one help in library and canteen
- Understanding and helpful faculty
- Transport facility to nearby hospitals in case of emergency
- Special Washroom facility
- Concrete roads inside the campus.
- Provide examination blocks on ground floor.
- Not required to wait in any queue for paying fees or any other work.

To participate in various competitions/National and International

- Faculty members provide guidance to the students in preparing for the events.
- The Institute provides financial assistance to the students for presenting and publishing papers in various National/International Conferences and Journals.
- The Institute provides financial assistance to the students for participating in various competitions and technical symposiums.
- The Institute motivates and provides support and financial assistance to participate in cultural youth festivals.

Medical Assistance to students: Health Centre, health Insurance etc.

All the departments of the Institute are provided with First Aid boxes to handle the minor problems of students. MGM Hospital is accessible from JNEC Campus in case of any emergency. From the academic year 2016-17, all the students are insured with Personal Accident Policy with value Rs.1, 00,000 each.

Organizing classes for competitive exams

The Institute conducts classes for few competitive exams in the campus under the guidance of Dr. Satish Dhage.

Table 5.4 Skill Development Training Conducted (spoken English, Computer Literacy)

Sr.No.	Types of Skills	Remarks
1	Communication skills	<ul style="list-style-type: none"> • Dr. S. D. Deshmukh, Principal, JNEC and Mr. M. K. Pawar conducts English Language Classes • Language Lab teachers conduct practical as a part of regular weekly laboratory program • Seminars given by students
2	Aptitude training	Guest Lectures and Workshops arranged by Training and Placement Cell and departments
3	Personality Development	Guest Lectures arranged by departments and Training and Placement Cell.
4	AutoCAD /CNC	Mechanical Engineering Departments conducts the training.
5	Programming Languages	Conducted by Faculty of CSE and IT
6.	Red Hat Certification	Certification Program
7	Business management / Entrepreneurial awareness and development	EDP cell conducts various activities
8	CHEMCAD	Conducted by Chemical Department

Support for ‘slow learners’

- The Students from Diploma usually join the college after a month due to the late admissions. As per the observations the Diploma student needs extra classes especially for Mathematics, hence extra classes are scheduled for this subject.
- For the CSE/IT students, prerequisite workshop on C language is organized when they are admitted to second year.
- Remedial classes are conducted for the weak and failure students.
- Counseling and motivation
- Additional Tests
- Workbooks are prepared as an additional learning support for first year students.

Exposure of student to other institution of higher learning /corporate/business house etc.

- Participation of students in paper and poster presentation in conferences, seminars and technical symposia
- In-plant training, Industrial visits
- Industry sponsored final year projects.
- Participation in extracurricular activities like debates, Quiz, cultural festivals etc. and technical workshops organized by other institutions.
- Circulation of brochures and magazines sent by other institutions.
- Student participation in cultural, sports activities.
- Access to various on-line journals.

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

Table 5.5 Entrepreneurship Skills

Sr. No.	Name of Cell	Particulars
1	Entrepreneurship Development Program Cell	<ul style="list-style-type: none"> • Conducts Entrepreneurship Development workshops and Guest Lectures. • Creates Awareness about Entrepreneurship and government schemes among students • Promotes self-employment by organizing activities like Business Idea Presentation that motivates the budding entrepreneurs from the college. • 3 students started their development units. • Refer 3.5.1
2	Training and Placement Cell	<ul style="list-style-type: none"> • Skill development program presentation on “Kaabil Bano” for TE-CSE/IT BE-IT MCA students. • Industrial exposure through in-plant training.

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**
- **any other**

The policy of the College is to support and promote co-curricular and extracurricular activities in the College as it firmly believes that the participation of students in such activities is essential for their overall development.

- To participate in National events like BAJA, the Institute provides financial assistance to the students for designing and constructing the vehicles.
- The Institute motivates and provides support and financial assistance to participate in technical festivals.

- The Institute organizes industrial visits and tours to provide the insight of real working environment of Industry.
- The Institution organizes a cultural fest for the benefit of the students to showcase their skills in music, drama and choreography. Special guests are invited to inspire students in such activities.
- Music Club - To encourage the technical hand on musical instruments JNEC has a Music Club with instruments sponsored by the Institution. Guidance is given for light and classical vocal singing, guitar, keyboard and Harmonium playing.
- Drama Club To explore the theatre talent in the students and also to express ideas JNEC has a Drama Club and the Institute provides financial assistance to participate in events like Firodiya Karandak.
- NSS (National Service Schemes): Institute provides guidance and financial assistance for various programs and residential camps organized by NSS.
- Sports: The Institute provides financial assistance like registration fees; sports uniform, TA and DA to the participants as per the University norms.
- Additional class tests and practical sessions are conducted for the participants of extracurricular, co curricular and sports activities.

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.

- Guest lectures are conducted for various competitive exams.
- The central library has several books and Journals that help in preparation of competitive exams.
- The Institute conducts classes for competitive exams in the campus and the classes are managed by Dr. Satish Dhage.

Table 5.6 : No. of Student enrolled for Competitive Exam class

Year	Number of Students	
	Foundation Course (UPSC/MPSC)	Aptitude
2016	06	-
2017	01	88

- The number of students qualified in various competitive exams are as given below

Table 5.7 : No. of Students qualified for Competitive Exams

Sr. No	Year	Civil Services	GATE (Qualified)	GRE/ TOFEL	Defense	CAT	GMAT
1	2012-13	03	13	01	-	-	-
2	2013-14	06	27	03	01	-	03
3	2014-15	01	12	05	01	01	04
4	2015-16	02	20	09	01	02	01

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

Table 5.8 Counseling Services

Academic Counseling	Personal Counseling	Career Counseling	Psycho-social counseling
<ul style="list-style-type: none"> HOD conducts the meeting with all the class representatives Respective Subject teachers, Class teacher and HODs carry out the academic counseling from time to time. Dean Academics provides counseling 	Teacher Guardian Scheme: 15-20 students are allocated to each faculty member for counseling and these students are personally taken care of by these Counselors	The Training and Placement guides the students in respect of their career prospect	Students' with personal/family problems if any, are given counseling and support by a professional Counselors.

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 interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

A dedicated Training and Placement Cell is working round the year to impart efficient and effective training and to promote placement of students in various industries and organizations. The T& P cell carries out various activities for overall development of students.

- To guide students for the competitive examinations.
- To facilitate the placement of students in various industries and organizations through campus and off campus interviews.
- To provide industrial exposure through in-plant training.
- To conduct workshops to improve Employability skills

- Conduct seminars and workshops for Skill development and Personality Development
- Campus Drives
- Employers such as TCS, Infosys, Tech Mahindra, Videocon, Goodyear tyres etc.

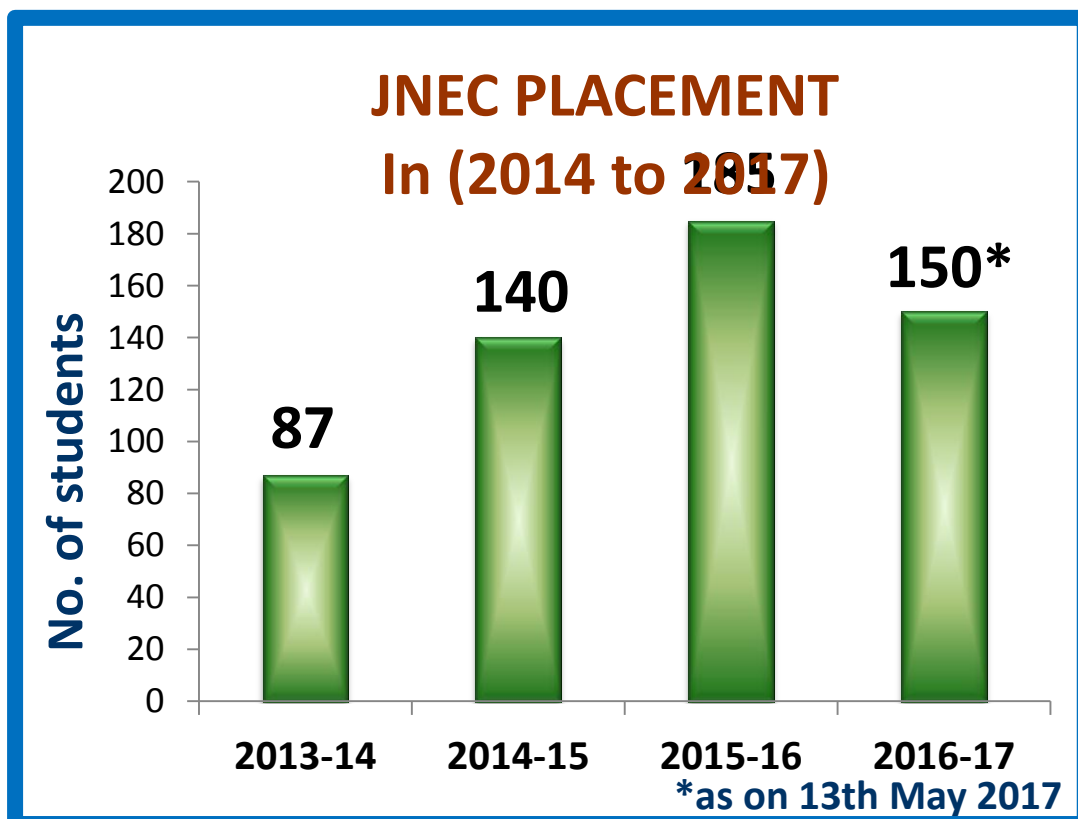


Fig. 5.2 Year wise Placements

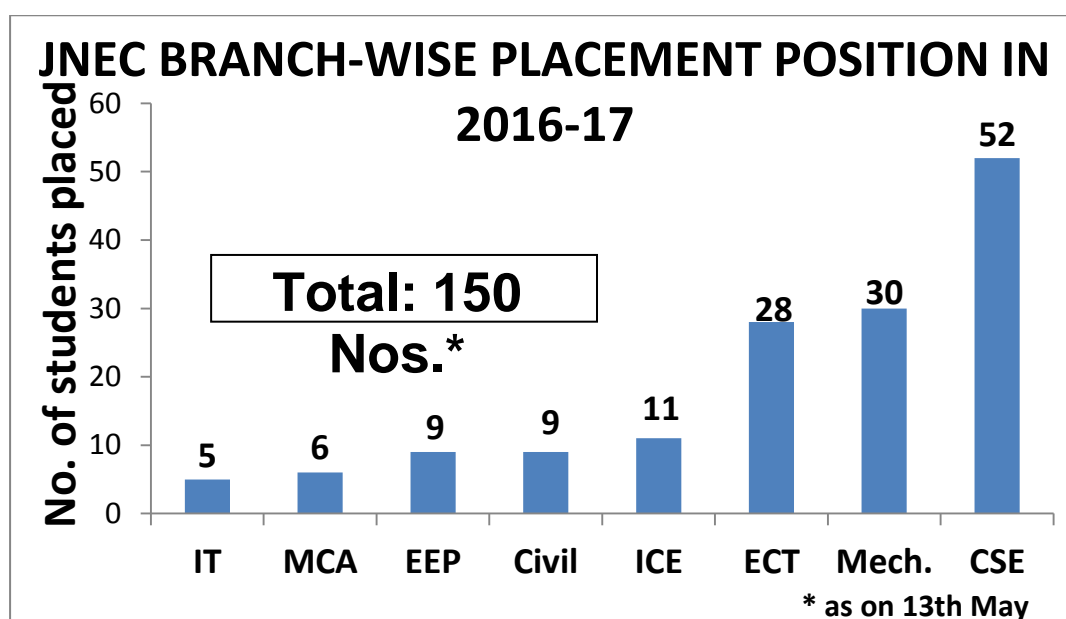


Fig. 5.3 Branch wise Placements

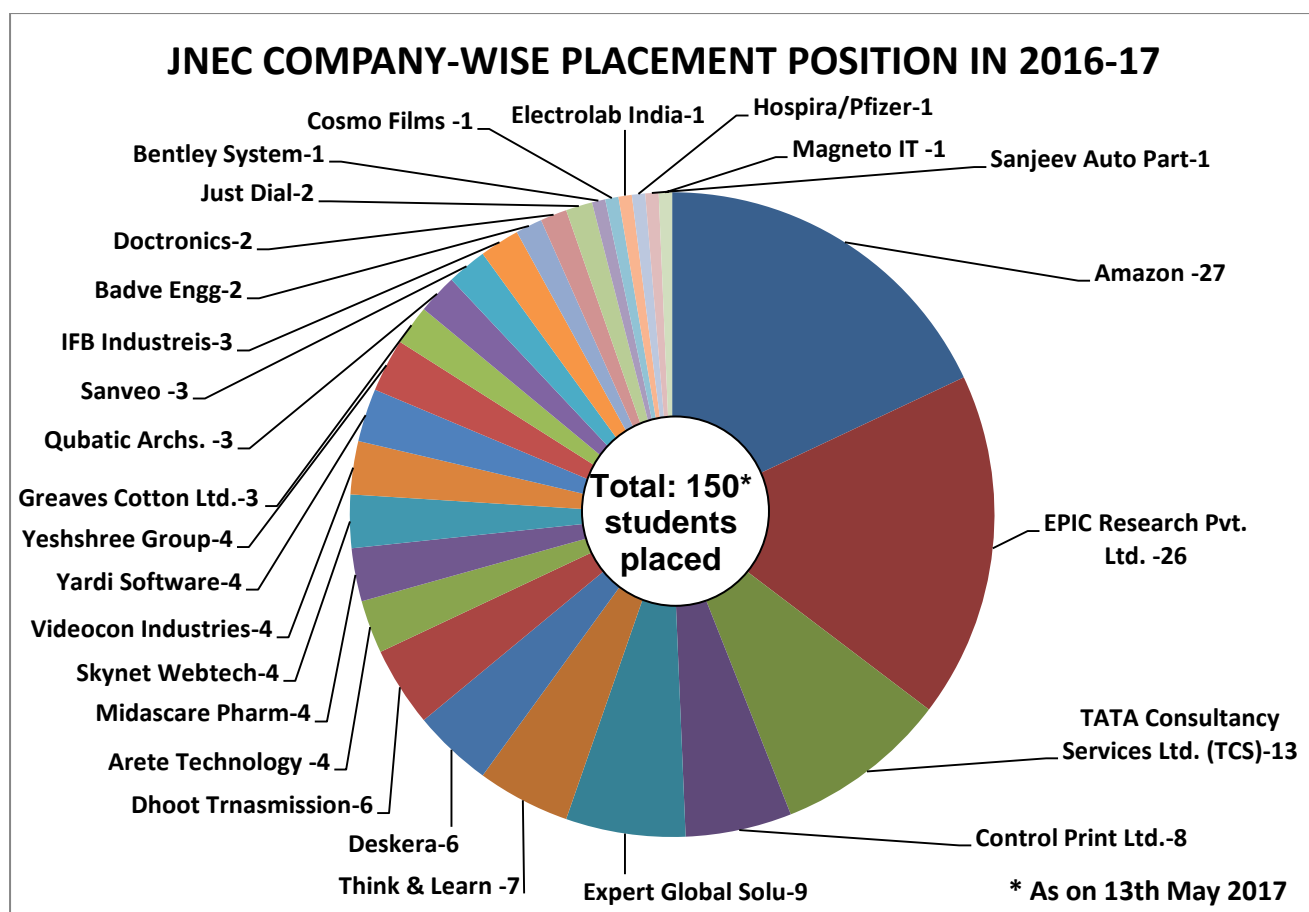


Fig. 5.4 Companywise Placements

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 . The Institution has a student grievance redressal cell. The members of the committee are

Table 5.9 Student Grievance Redressal committee

Name	Designation	Address	Contact no	Email-id
Dr. P. S. Adwani	Principal	Government Engineering College, Station Road, Aurangabad	9812345678	principalgeca@yahoo.co.in
Dr. H. H. Shinde	Vice Principal & Dean Students	JNEC, Aurangabad	9657715342	harirangshinde@gmail.com
Dr. U. B. Shinde	Principal	CSMSS Engineering College, Aurangabad	9422201795	drshindeulhas@gmail.com
Dr. R. R. Deshmukh	Professor	Dept. of Computer Science, Dr. BAM University, Aurangabad	9423147466	ratnadeep_deshmukh@yahoo.co.in

Name	Designation	Address	Contact no	Email-id
Dr. Anjali Bhalchandra	HOD, Electronics and Telecommunication Dept.	Government Engineering College, Station Road, Aurangabad	9422203439	asbhalchandra@gmail.com
Dr. W. K. Sarode	Director, Students Welfare	Dr. BAM University Aurangabad	9423780549	walmik-sarwade@hotmail.com

There are no cases of grievances reported.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

In pursuance of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013 and the Rules framed there under, the Jawaharlal Nehru Engineering College (JNEC), Aurangabad have formed an Internal Complaint committee with the following members.

Table 5.10 Internal Complaint Committee

Dr. M.S. Joshi (CSE. Dept.)	Presiding Officer
Dr. S. B. Shinde (Civil Dept.)	Member
Dr. M. S. Kadam (Mech Dept)	Member
Mr. G. R. Gidveer (ECT Dept)	Member
Adv. Mrs. Archana Gondhalekar (Advocate High Court)	Member

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. The college has Anti ragging committee and Anti ragging squad that works under the Anti ragging committee.

Preventing the menace of ragging in the college and making the campus Zero Ragging Zone is the moral responsibility and accountability of the entire institution. Any employees of Jawaharlal Nehru Engineering College (JNEC) are bound to take immediate action if any case of ragging is noticed or brought to the notice or reported to any staff of the institution. The following procedure is adopted for the redressal of any ragging complaint.

- Any employee of JNEC shall be bound to take immediate action on the occurrence of any incidence of ragging and to report it to the anti ragging squad. The report will also include the identity of those who have engaged in ragging and the nature of the incidence.

- Anti ragging complaints, in whatever form or from whatever source these may emanates, shall be dealt with immediately and appropriately. The action will also be conveyed to the appropriate authorities. The identity of the complainant will be kept confidential.
- In all cases a First Information Report (FIR) will be filed without exception by the college authorities with the local Police authority.
- Any decision of the parent/guardian to file their own FIR directly will not absolve the college authorities from filing their own FIR.
- Such incidents will also be reported to the district administration like, SDM, Deputy Commissioner, the media and the state authorities.
- Whenever any student or, as the case may be, the parents or guardian or a teacher, the non teaching staff or an Officer-in-Charge makes a complaint, in writing, of ragging to the Principal, the Principal shall, without prejudice to the foregoing provisions, within 24 hours of the receipt of the complaint, enquire into it and, if, prima facie, it is found true, suspend the student found guilty.
- Where, on enquiry by the Principal, it is proved that prima facie there is no substance in the complaint of ragging; he shall intimate the fact, in writing, to the complainant.
- The anti ragging punishment will vary from:
 - Imprisonment
 - Permanent Expulsion from the institution
 - Suspension from the institution
 - Permanent Expulsion from Hostel
 - Suspension from Hostel
 - Fine with a public apology
 - Fine
 - Withholding of any form of financial grant (scholarship etc)
 - Withholding of result of examination
 - Debarring from representation in college events

The Anti ragging committee for current year 2016-17 is given as below

Table 5.11 Anti ragging Committee

Sr.no	Members	Designation	Constitution
1	Dr. S. D. Deshmukh, Principal	Head of the Institution	Head of the Committee
2	Ms. Dhanorkar Anjali, Deputy Collector Forests Settlement Officer	Representative of Civil Administration	Member
3	Ms. Patil Archana, Assistant Police Inspector	Representative of Police Administration	Member
4	Mr. Savergave Madhav, Lokmat Group	Representative of Local Media	Member
5	Mr. Akhil Bhalekar	Representative of NGO involved in youth activities	Member

Sr.no	Members	Designation	Constitution
6	Dr. V.M. Arole. (App.Sci) Ms. A.R. Tungar .(MCA) Mr. S.B. Ubale.(Mech)	Representative of faculty members	Members
7	Mr. Manish Dhandgaval	Parents Representative	Member
8	Mr. Rama Shinde	Representative of non teaching Faculty	Member
9	Mr. Kunal Arun Kulkarni . (FE VII) Ms.Ketki Mahadev Joshi (FE VI) Mr.Praveen Deore, (BE MECH) Ms. Renuka Shingare (TE IT)	Representative of students belonging to fresher's category as well as senior students.	Member

Anti-Ragging Squad is responsible for maintaining vigil, oversight and patrolling functions and shall remain mobile, alert and active at all times. The Anti ragging Squad committee is

Table 5.12 Anti ragging Squad Committee

Sr.no.	Members	Constitution	Contact no	Email-id
1	Dr. H. H. Shinde.(Vice Principal)	Head	9657715342	harirangshinde@yahoo.com
2	Dr. R. R. Deshmukh. (Dean Academics)	Member	9422749908	prithardeshmukh@rediff.com
3	Mr.C. M. Deshpande. (App.Sci.)	Member	8446565383	cmdeshpande@yahoo.co.in
4	Dr. M. S. Joshi.(CSE)	Member	9423707652	madhuris.joshi@gmail.com
5	Dr. D. R. Dolas (Mech)	Member	9422655271	drdolas@yahoo.com
6	Mr. S. S. More (NSS Co-ordinator CSE)	Member	9096828246	sujeet.more@gmail.com
7	Ms.Prerna Dalvi. (Rector, Girls Hostel)	Rector Girls Hostel	9871474859	prerna.dalvi@gmail.com
8	Mr. Zavheri Sadashiv (Rector, Boys Hostel)	Rector Boys Hostel	9881471452	zavheri.sadashiv@gmail.com

- One case has been reported in the year 2014.
- Committee was formed on College level comprising Dr. H. H. Shinde, Chairman, Dr. M. S. Joshi and Mr. C. M. Deshpande as members.

- Action Taken: Committee submitted a report and the college suspended those two students involved in the activity for the academic year 2014-15.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

The Institute believes in overall development of students besides empowering them with knowledge, skills and financial assistance (if, required), necessary for personal growth and capable of leading a peaceful and successful life in the society. Few welfare schemes for students are listed below

- Earn and Learn scheme (University level)
- NSS volunteers are given additional 10 marks by the University in the final year, provided he/she completes 120 hours of NSS work and attend two residential camps.
- Institute Level: The students are supported financially for assisting in Library work, Central Computing Lab, Department Labs and data entry excluding their academic schedule.
- The payment of fees in installments for deserving students is permitted. Few details are given below

Installments

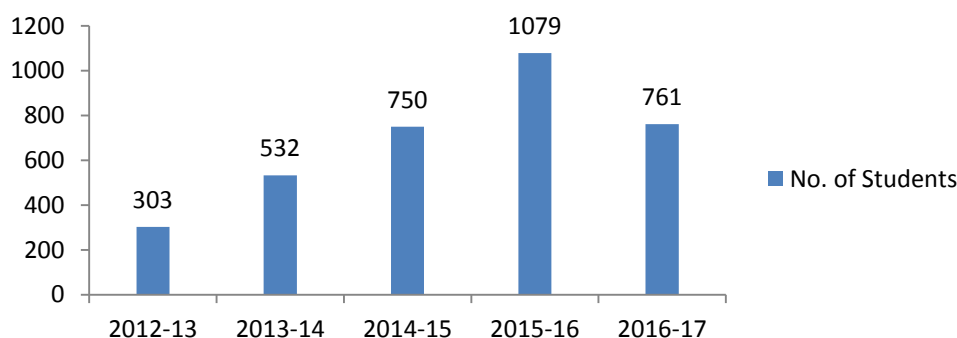


Fig. 5.5 Number of Student Paid fees in Installment

- Library provides Book Bank facility for all students. The details are as given below

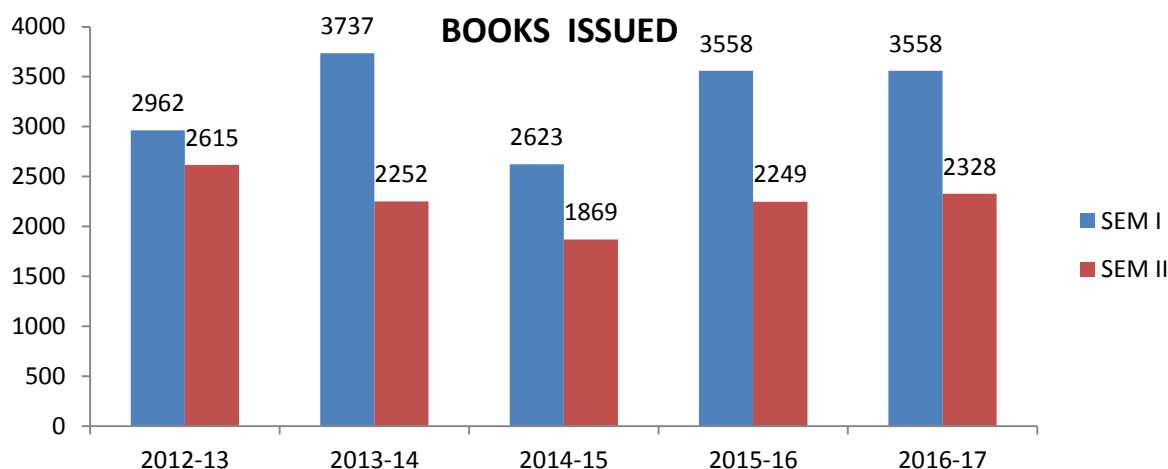


Fig. 5.6 Book Issued in Book Banks

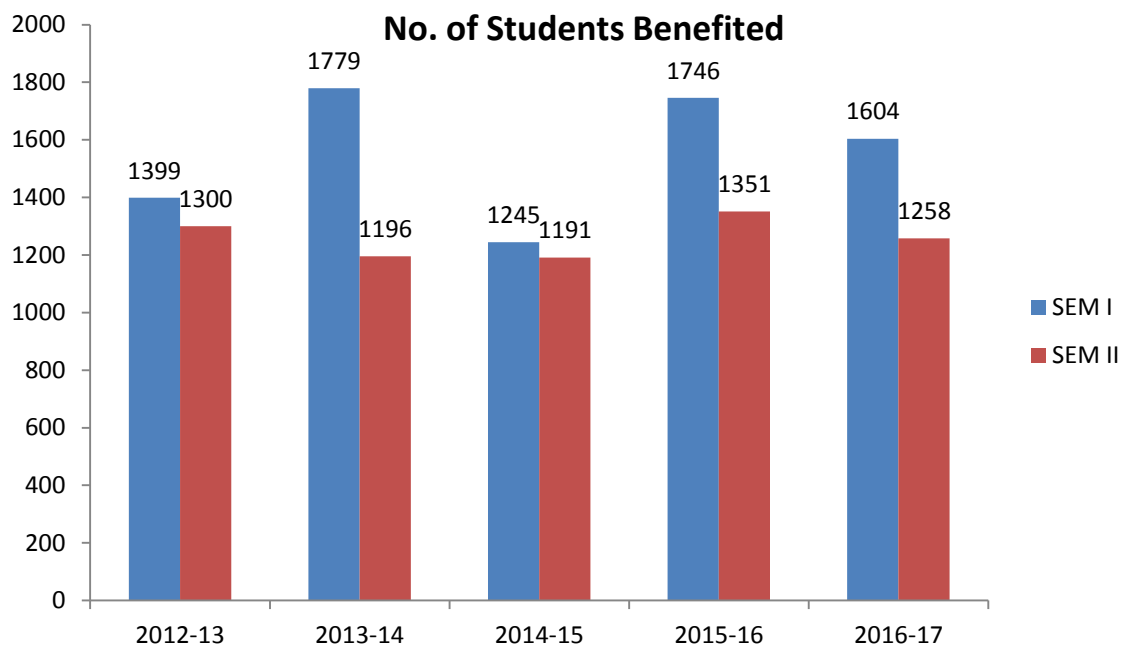


Fig. 5.7 Number of Students availed Book bank facility

- To motivate the students towards academic excellence the following prizes are given
 - Abhay Gawali Memorial Award of Rs. 12,000 is given to the topper of Final year Mechanical Engineering.
 - First year engineering top five Class toppers and subject toppers are given prizes and felicitated in the FE Address.

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 institution has a registered Alumni Association. The Alumni association registration number is MAHA/497/04. JNEC alumni association is one of the most vibrant cells responsible to foster many activities. Few activities are mentioned below.

- To arrange for financial aids to meritorious deserving students through JNEC corpus fund. JNEC alumnus and Managing Director of Jaypee Power Ventures Ltd Mr. Suren Jain has taken noble initiative to form JNEC Corpus Fund. He and his better half Mrs. Anjali Jain contributed Rs. 25 lakhs to start this fund.
- JNEC alumni association actively contributes towards institute’s growth.
 - Gifted 397 books to library
 - 01 podium to college
 - Components worth Rs. 30,000 given for BAJA event by Mr Chaitanya Rajurkar, Dhruv Industries, Aurangabad
 - Sponsorship of Rs. 15,000 for Klystron , Technical Festival by Mr. Rahul Swami, Shrushti Vishwa Construction, Aurangabad
 - Sponsorship of Rs. 30,000/ for Go-Kart by Mr. Shrikant Badve, Badve Industries, Aurangabad

- Arrange for visit to the industry where they are employed.
- Alumni provided job opportunities to the students
 - Mr. Manoj Kabra, GM, IndoMIM, Bangalore
 - Mr. Shrikant Badve, MD, Badve Group of Companies
 - Mr. Rahul Dhoot, MD, Dhoot Transmissions Pvt. Ltd.
 - Mr. Abhijit Kotnis, VP, Videocon Industries Limited
 - Mr. Shaikh Abdul Wajid, Qubutech Engineering Pvt. Ltd.
- Alumnus Piyush Kocheta, faculty Dr. R. R. Deshmukh, Mr. Sujeet More, Mr. Ajay Khake, Mr. T. A. Mohije, Mr. Vishal Lipne are supporting meal and other expenses of needy student Rajendra Hinge.
- Graduates who have passed out of the institution and are placed in companies, guide and help their immediate juniors to undergo the recruitment process with confidence
- To organize alumni meet/reunion.
- Arrange guest lectures of alumni to help the students explore latest technologies and key expertise in relevant area.
- Organized interactions with first generation alumni entrepreneurs Mr. Sanjay Bhat, Shri Industries, Mr. Vishwanath Borade, Upturn precision tools industry, Mr. Dayanand Modani, Modani group of company and Mr. Prashant Verma, Nandadeep Constructions to motivate and guide students.
- To organize interaction, sharing of success stories of eminent alumni with the students.
- To explore the possibilities of active participation and support of alumni for projects, technical events, industrial visits and similarly in training and placement activities as well.

Distinguished Alumni

- Mr. Milind Godbole, GM, GEBBS Healthcare solutions, alumnus of ECT batch 1988
- Alumnus of 1990 ECT batch Mr. Alok Sinha, CEO Globus Eight Inc is featured on the cover page for CIOReview May 2016.
- Mr. Suren Jain, VP, JP group of Companies, alumnus of batch Production branch, 1992
- Mr. Sudarshan Shelgaonkar, VP, Videocon, alumnus of ECT batch 1992.
- Mr. Shankar Jhunjhunwala, MD, Orion Laminates Ltd, alumnus of Production batch 1992.
- Mr. Rahul Dhoot, MD, Dhoot Transmissions Pvt. Ltd. alumnus of ECT batch 1994.
- Alumnus of 1998 batch and President of Amanka enterprises Mr. Amit Sharma received award from Hon'ble Mr. Kalraj Mishra, Minister of Micro, Small & Medium Enterprises, Government Of India at Plenary Hall, Vigyan Bhawan, New Delhi on 28th January 2016
- Mr. Shrikant Badve, MD, Badve Group of Companies, got National Award for Quality products by the hands of the president of India.
- Mangal Kakkad, Indian Navy, selected for Antarctica Expedition.
- Dolly Devgan working as a Fighter Pilot, Indian Air Force.

- Anurag Parikh, MBA from IIM Ahmedabad, consultant, Exeter Group Inc.USA
- Dr. Swapneshu Baser, Adjunct Faculty ,IIT Mumbai, got young Engineer Award 2000 by Indian National Academy of Engineering.
- Mr. Santosh Kasliwal, MD, Sunil Plastics, alumnus of Mechanical branch.

5.2 Student Progression

5.2.1 Provide the percentage of students progressing to higher education or employment (for the last four batches) highlight the trends observed.

Table 5.13 Student Progression

On Campus (%)					
Sr. No.	Branch	2015-16 (%)	2014-15(%)	2013-14(%)	2012-13(%)
1	Mechanical	33.07	54.66	13.97	15.30
2	Civil	--	0.08	15.38	17.50
3	Chemical	57.89	31.81	100	28.57
4	ECT	26.25	28.28	23.28	13.18
5	CSE	50.45	21.42	29.76	27.63
6	IT	46.15	58.13	24.24	26
7	ICE	13.63	28.57	-	-
8	EEP	13.72	15	26.47	3.33
9	MCA	85.71	11.50	-	9.75
Off Campus (%)					
Sr. No.	Branch	2015-16 (%)	2014-15(%)	2013-14(%)	2012-13(%)
1	Mechanical	3.72	7	17.75	11.85
2	Civil	08	07	08	21
3	Chemical	-	01	01	-
4	ECT	13	17	10	10.20
5	CSE	-	20	23	36
6	IT	-	13.63	14.28	20.25
7	ICE	12	10	-	-
8	MCA	4.44	25.86	21.7	-
9	Bio-Tech	11	27	40	14
UG to PG (%)					
Sr. No.	Branch	2015-16 (%)	2014-15(%)	2013-14(%)	2012-13(%)
1	Mechanical	4.18	7.69	12.42	4.44
2	Civil	2	2	3	12
3	Chemical	2	2	1	2
4	ECT	10	10	17	12
5	CSE	-	4	7	17.1
6	IT	3	6.06	5.3	6.3
7	ICE	4	8	-	-
8	EEP	3.84	5.97	4	4.65
9	Bio-Tech	11.11	45.45	27.02	42.85

Trend Observed: Students in Bio-Tech prefer higher studies due to scope in research and development. Other students prefer recruitments in Companies as compared to higher studies.

5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (course wise/batch wise as stipulated by the university)? Furnish programme-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.

Table 5.14 Results for UG are given as follows

DEPT.	Year	2012-13		2013-14		2014-15		2015-16	
		Appeared	Passing %	Appeared	Passing %	Appeared	Passing %	Appeared	Passing %
CIVIL	BE	75	77.33	121	61.98	124	80.65	146	73.97
MECH	BE	135	88.15	192	67.71	143	93.01	215	86.98
ECT	BE	112	92.86	125	80	174	93.68	214	92.52
CSE	BE	101	98.02	189	85.19	167	97.01	167	92.23
EEP	BE	43	97.67	89	80.90	67	94.03	78	94.87
ICE	BE	-	-	-	-	23	95.65	50	92
CHEM	BE	35	74.29	50	72	22	77.27	38	86.84
IT	BE	79	98.73	90	78.89	66	100	58	89.66
BIO-TECH	BE	28	85.71	39	71.79	11	90.91	27	96.3
ARCH	5TH	29	89.65	36	75	27	77.77	34	88.24
MCA	TY	55	96.36	46	100	64	95.3	53	89.99

PG First Year Result

Table 5.15 Results for PG are given as follows

DEPT (ME)	2012-13		2013-14		2014-15		2015-16	
	Appeared	Passing %	Appeared	Passing %	Appeared	Passing %	Appeared	Passing %
CIVIL STR.	17	62.50	14	64.28	9	100	7	100
MFG.	2	100	2	50	3	100	6	83.33
CAD/CAM	5	60	5	100	3	66.66	-	-
EC	25	36	27	85.18	16	81.25	5	100
CSE	18	72.22	15	80	17	88.23	9	77.77
EPS	-	-	17	100	7	100	4	50
CHEM	-	-	8	100	4	100	-	-

- Dissertation in PG Second Year.

5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment?

- The Institution facilitates the students for higher level of education and employment by providing employability enhancement activities like guest Lectures and workshops. These activities enable students to acquire employability skills and confidence and perform well in the interviews and subsequently in the corporate environment.
- Career guidance programs, personality development programs are organized every year.
- The Training and Placement cell offers guidance and support for students aspiring for higher studies.
- Employability skills training organized by Barclay every year. The detail list of skill development programs for the year 2015-16 is given below

Table 5.16 : Skill Development program

For the Year 2015 - 2016										
Class & current year	TCS- Campus Commune and Webinar	Indian Army	Face Training	Communication Skills	Communication Skills- Kabil Bano)	Technical Skills	Aptitude & Personal Interview	Barclay - Youth Employability Initiative training Program	Inhouse Activities	Overseas Employability
TE CSE	✓	✓			✓	✓ Vedic Maths	✓ CoCubes	✓ Phase 1		
BE CSE			✓				✓ Persistent		✓ Online Mock Test- 1,2	✓ RBI
SE Mech				✓ Cygru s Design Solution Mumbai	✓		✓ AMCAT Employability			
TE Mech	✓	✓				✓ Vedic Maths	✓ CoCubes	✓ Phase 1		✓ Shri Industries,
BE Mech			✓			✓ SAP			✓ Online Mock Test	
TE IT	✓	✓				✓ Vedic Maths		✓ Phase 1		
BE IT			✓		✓		✓ Persistent		✓ Online Mock Test	
TE EEP	✓	✓				✓ Vedic Maths		✓ Phase 1		
BE EEP									✓ Online Mock Test	
SE ECT					✓					
TE ECT	✓	✓				✓ Vedic Maths	✓ AMCAT Employability	✓ Phase 1		
BE ECT			✓						✓ Online Mock Test	
SE Civil					✓					
TE Civil	✓	✓						✓ Phase 1		
BE Civil									✓ Online Mock Test	

Class & current year	TCS- Campus Commune and Webinar	Indian Army	Face Training	Communi cation Skills	Commun ication Skills- Kabil Bano)	Technical Skills	Aptitude & Personal Interview	Barclay - Youth Employabilit y Initiative training Program	Inhouse Activities	Over: Empl
SE Chem					✓					
TE Chem								✓ Phase 1		
BE Chem	✓	✓							✓ Online Mock Test	
TE Intru								✓ Phase 1		
BE Intru	✓	✓	✓						✓ Online Mock Test	
SY MCA	✓				✓			✓ Phase 1		
TY MCA										

5.2.4 Enumerate the special support provided to students who are at the risk of failure and drop out?

Students at the risk of failure or end up as dropouts are monitored by the departments through the Teacher Guardian scheme and Personal counseling. Mentors keep a record of the students' past performance; results of class tests and through the following strategies address the issue.

- Personal counseling
- Discussion with Parents
- Providing easy to understand notes
- Providing well framed answers for university questions
- Teacher Guardian scheme
- Remedial Classes

5.3.1 List the range of sports, cultural and extracurricular activities available to students. Provide details of students' participation and Program Calendar

- The Cultural activities, games and sports are integral part of education. The institute provides sufficient time and facilities for cultural activities and sports. The annual function is held every year.
- The Student Council aims at the versatile development and betterment of students. It organizes various events which provides a platform for exploring technical, cultural and sports talents in students.
- **Sports:** The Institute encourages the students to participate in various sports such as Chess, Badminton, Table Tennis, Carom, Football, Cricket, Volleyball, and Basketball etc. The Institute provides Sports Complex to cater the needs of many indoor and outdoor games. The Institute also has a well-equipped gymnasium, Swimming pool facility. Many students have participated and won awards in different sports events at various levels.

Table 5.17 Lists of Sports with Students' Participation Details

BOYS TEAM									
SR No	Name of Sport	2012-2013		2013-14		2014-15		2015-2016	
		Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks
1	Badminton	University Aurangabad	Winner	University Aurangabad	Winner	Dr. BAMU Aurangabad	Runner	Kannad	Runner
2	Taekwondo	Kannad	Winner	-	-	-	-	-	-
3	Chess	Beed	Winner	Janvikas Beed	Runner	-	-	JNEC Aurangabad	-
4	Football	University Aurangabad	-	Maulana Azad college Aurangabad	-	-	-	-	-
5	Rifle Shooting	MGM Aurangabad	Winner	MGM GYPC Aurangabad	Winner	MGM	Winner	Lokseva college Aurangabad	-
6	Volleyball	University Aurangabad	Runner	Soegaon	Runner	1.Dr. BAMU Aurangabad 2.COEP Pune 3.Cummins COE, Pune	Winner	Ambegojai	-
7	Basketball	Devigiri Aurangabad	Winner	Gandhi college Kada	-	-	-	University Aurangabad	-
8	Cricket	Osmanabad	Winner	University Aurangabad	-	-	-	MGM Journalism Aurangabad	-
10	Gymnastics	Aurangabad	Winner	MSM Aurangabad	Winner	-	-	MSM Aurangabad	Winner
11	Kabaddi	University Aurangabad		University Aurangabad	-	-	-	Sant Ramdas College Ghansawangi	-
12	Table tennis	University Aurangabad	Winner	Ambegojai	Winner	-	-	-	-
GIRLS TEAM									
SR No	Name of Sport	2012-2013		2013-14		2014-15		2015-2016	
		Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks
1	Badminton	University Aurangabad	Winner	University Aurangabad	Runner	Dr. BAMU Aurangabad	Runner	Kannad	Runner
2	Taekwondo	Kannad Dist.Aurang Aurangabad	Winner	-	-	Georai Beed	Winner	DD college , Waluj	
3	Chess	Beed	Winner	-	-	-	-	-	-
4	Rifle Shooting	MGM Aurangabad	Winner	MGM GYPC Aurangabad	Winner	MGM	Winner	-	-
5	Volleyball	University Aurangabad	Runner	-	-	-	-	-	-

NAAC – SELF STUDY REPORT

SR No	Name of Sport	2012-2013		2013-14		2014-15		2015-2016	
		Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks	Place/Region	Remarks
6	Basket ball	Devigiri Aurangabad	Winner	--		-	-	-	-
7	Cricket	Osmanabad	Winner	Jalna	-	-	-	-	-
8	Gymnastics	Aurangabad	Winner	-	-	-	-	-	-
9	Table tennis	University Aurangabad	Winner	-	-	-	-	-	-

- **NSS (NATIONAL SERVICE SCHEME)** The Institute has active NSS Unit that helps the students to understand and foster the needs of society at different levels. Every year NSS organizes residential camps at different villages and several activities. Few activities organized as below
 - Blood donation camp
 - No vehicle Day for pollution awareness
 - Tree plantation
 - National safety day
 - Fire Fighting demonstration
 - Cleanliness drive
 - Implementation of drainage line system at Golatgaon and Chinchala village during camp.
 - Aids awareness programs
 - Guests lectures

Few details of NSS Camps organized are as shown in Table

Table 5.18 NSS Residential Camps

YEAR	DURATION	REMARKS	STUDENT PARTICIPATED
2015-16	17/01/2016 to 23/01/2016	Special Residential Camp at Kolupur, Melghat.	80
	11/09/2015 to 21/09/2015	To work in tribal area. “ Dhadak Mohim”	29
2014-15	14/09/14 to 21/09/14	Maitri, Pune based NGO organizes NSS Camp in Melghat.	75
2013-14	03-02-14 to 10-02-14	Special Camp for 7 days organized in village Donje Tq.: purandar, Dist.: Pune. NSS volunteers successfully executed various projects like Rain water harvesting, surveys for hospital awareness, road maintenance and design for village cleanliness Lecture talks , seminars, skits, movie show arranged for the villagers.	75

5.3.2 Furnish details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. during the previous four years.

Table 5.19 Few details of Students' Achievements (International)

INTERNATIONAL			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
1	ACM International Collegiate Programming Competition, IIT, Kanpur, 2013	Nikhil Dafale, Yogesh Hole, CSE	Participation
2	Nottingham University Model United Nations Conference - Champion's Cup, Kuala Lumpur, Malaysia 2016	Sushrut Karmarkar, MECH	Chairing the Disarmament and International Security Committee
3	Model United Nations Conference, Mumbai, 2016	Sushrut Karmarkar, MECH	Invited as a member of the Executive Board
4	Harvard World Model United Nations conference held at Rome, Italy between, March 2016	Sushrut Karmarkar, MECH	Participation
5	IDAD-2016 by Dr.RR & Dr.SR Technical university Avadi, Chennai (second international conference on innovative design, analysis & development practices in aerospace and automotive engineering)	Antriksh Mutha, MECH	Participation
6	Research paper titled "Formula one safety – review", IRJET October 2015	Shubham Ugle , Shweta Kate, MECH	Publication

INTERNATIONAL			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
7	Asia Conference by Harvard project for Asian and International relations, KEIO University, Japan, 2014	Sayyed Umair Husaini, ECT	Participation
8	Sports, Aerobics	Sarvesh Bhale, Architecture	Participation
9	University of Westminster Trophy	Sakshi Nahar, Architecture & Others	Participation

Table 5.20 Few details of Students' Achievements (National)

NATIONAL			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
1	IIT, Kharagpur, India Robosapiens (Sponsored), 2013, 2014, 2015	Amar Pawar, Ameya Wadekar, Abhishek Rath, ECT	First prize
2	C-Pulse, Spradica-13, National Level Technical Championship, GECA	Rahul Gunjal, Nikhil Dafale, CSE	First prize
3	“Bridge O Mania (F.O.R.C.E.- 2013)	Nikam Nikhil V, Nipane Jaya A., Civil	First Prize
4	National Level Technical Fest, Awut, JNEC, 2014	Priyanka Pobbishetty, IT	Second Prize (TechnoScrabble)
5	IEEE Conference , Tamilnadu, 2016.	Meenakshi Shinde, EEP	Presented Paper
6	CSI Convention 1-3 Dec. 2011	Bhupinder Gulati, CSE	Active Participation Student Member Award
7	CSI National Level Quiz	Rahul Gunjal and Vijay Jadhav from CSE	Second prize
8	United Minds, National level event, IIM Bangalore, 2012	Krunal Soni, Praveen Sharma, Aniket Ramgiri, CSE	Won first prize in Maharashtra and Seventh in India
9	National Level Technical Symposium, Impetus & Concepts, PICT, Pune 2016	Aakash Tated, Mayur Ambekar, Vikram Phulari, Ali Asgar Taksali, CSE	Participation

NATIONAL			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
10	National Level Technical Symposium, AGNITIO'15	Komal V Mehetre, CSE	Participation
11	Sports, Aerobics	Sarvesh Bhale, Architecture	Won 6 gold Medals and 5 Silver Medals

Table 5.21 Few details of Students' Achievements (State, University and Zonal)

STATE			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
1	Proyecto, Project Competition, JITSA, JNEC	Zaki Hasan, Shaikh Samad, Akash Kotecha, CSE	Second prize
2	State Level Technical Fest, Cybernetics, MIT, Aurangabad, 2015	Mansi Bansod, Pooja Bali, CSE	Participation
3	RYLA: Rotary Youth Leadership Awards, 2015	Aditi Methi, CSE	Certificate of Recognition
4	Project Competition, Lakshanika, 2014	Mansi Bansod, CSE	Participation
5	State Level Technical Fest, Klystron, Virtual Campus, 2016	Payal Jaiswal, IT	Participation
6	Sports, Aerobics	Sarvesh Bhale, Architecture	Won Best player award 'SHIV CHATRAPATI AWARD'
7	Gymnastics	Isha Mahajan, Architecture	Won Gold Medal
UNIVERSITY			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
1	Paper Presentation, COMPSAFEST-4, Technical Event, GECA	Nupur Paralkar from CSE	Winner
2	Roborace, TECH'EVE 2015, GECA	Tushar Kannawar, Devesh Pathak, Rahul More, ECT	Second Prize
3	Tectrix 2013- E logic, PES Aurangabad	Sayali Arvikar, ECT	First Prize

UNIVERSITY			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
4	Techno Blitz2013 - AD-MAD MIT, Aurangabad	Ashwini Chobe, ECT	First Prize
5	Pistol Shooting	Subham Raut, Architecture	Secured 4 th Rank
6	Archery	Payal Date, Architecture	Winner
ZONAL			
Sr. NO	EVENT	STUDENTS	ACHIEVEMENT
1	Indo-US Robo League, 2015	Girija R. Joshi, Mitali Dhoka, CSE	Second prize
2	Robotryst-2014 Zonal Round	Vedika Basarkar, CSE	Participation
3	Robotryst-2015 Zonal Round	Akshay Gorade, ECT	First Prize
4	Youth Leadership Development Program, 2015	Ankita Akolkar, ECT	First Prize
5	Rubens Trophy (Zo-NASA)	Students from Architecture	Second Prize
6	Furniture Design	Kaveri Bahure, Kajal Khinvansara, Architecture	Second Prize

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions.

- Feedback is obtained from graduates in the form of midterm feedback and end term feedback, which helps in the effective curriculum deployment.
- Exit poll.
- Alumni Feedback:
 - The Training and Placement Cell in co-ordination with the faculty members in-charge of each department has been collecting feedback from alumni.
 - The departments have created group e-mail ids in which one or two of the faculty has joined as members.
 - This arrangement facilitates regular interaction with the alumni and helps the department to understand their progress and obtain necessary feedback at the central level.
 - The Training and Placement Cell co-ordinates the activities such as alumni meet.

Wherever there are inadequacies, steps are taken to overcome them and suggestions for improvement are studied and appropriately implemented.

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

- GAVAKSHA: The Institute publishes the magazine quarterly.
- VISTA: Technical magazine published bimonthly on the theme of energy, environment and engineering.

Table 5.22 List of Department Magazine/ Newsletter

SR.NO	NAME OF DEPARTMENT	MAGAZINE /NEWSLETTER
1.	Computer Science Engineering	Reflections
2	Electronics & Telecommunication	Techviz
3	Information Technology	Elite
4	Civil Engineering	Newsletter
5	Chemical Engineering	Chemvoice
6	Mechanical Engineering	Newsletter

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Yes.

As per the Rules and regulations under provision of section 40 of the Maharashtra Universities act, 1994 and guidelines provided by BAMU University, Aurangabad, the Student Council is formed.

CONSTITUTION

Table 5.23 The Student Council for academic year 2016-17

SR.NO	DESIGNATION	MEMBER
1	Chairman	Dr. S. D. Deshmukh, Principal, JNEC
2	NSS Program Officer	Mr. S. S. More
3	Cultural Secretary	Mr. Abhishek A. Mahajan (BE EEP)
4	Sports Secretary	I. Ms. Diksha R. Bokade (BE MECH) II. Mr. Prithiviraj S. Bobade (BE MECH)
5	Girls Hostel Representative	Ms. Sujata B. Shinde (BE ECT)
6	Girls Activity Representative	Ms. Rashmi Mehra (BE ECT) Ms. Rucha Naik (BE MECH)
6	NSS Secretary	Mr. Pravin Deore (BE MECH)

FUNDING

Adequate funds are provided by the Institute.

ACTIVITIES

The Students' Council organizes many activities through its representative's viz. Sports Coordinator, Cultural Secretary, NSS Coordinator. The activities are conducted under the guidance of faculty representatives. The Institute allots budget for student activities. Few events under Student council are

- Participation in youth festivals
- Road Safety campaign
- Communal Harmony week
- General and Technical Quiz
- Donations for social causes
- Annual gathering

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

The following table shows details of student representatives for various Academic/ Administrative bodies.

Table 5.24 Representatives for Various Academic / Administrative bodies

Sr. No.	Academic / Administrative Bodies	Student Representative(s)
1	IEEE Students chapter	Mr. Aditya Deshpande (BE ECT)
2	CSI Students chapter	Ms. Surabhi Sharma (BE CSE)
3	IIIE Students Chapter	Mr. Suraj Chaure (BE MECH)
4	IE(I)	Mr. Ritesh Dongre (TE CIVIL)
5	SAE	Mr. Suraj Shelke (BE MECH)
6	IQAC	Mr. Suraj Sawandkar (BE CIVIL) Mr. Mohsin Chaudhary (BE ICE)
7	Cultural Secretary	Mr. Abhishek A. Mahajan (BE EEP)
8	Sports Secretary	Ms. Diksha R. Bokade (BE MECH) Mr. Prithviraj S. Bobade (BE MECH)
9	NSS Secretary	Mr. Pravin Deore (BE MECH)
10	Ladies Representative (Girls)	Ms. Sujata B. Shinde (BE ECT)
11	Anti Ragging committee	Mr. Kunal Arun Kulkarni (FE VII) Ms. Ketki Mahadev Joshi (FE VI) Mr. Praveen Deore (BE MECH) Ms. Renuka Shingare (TE IT)

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution. Any other relevant information regarding Student Support and progression which the college would like to include.

- Each department organizes guest lecture of alumni and former faculty for students. This helps to know current trends and upcoming technologies in the industry
- Institute takes help of social networking sites to stay connected with alumni and former faculty. All current updates and various activities are shared on social networking sites.
- Training and placement cell continuously interact with alumni for skill development and career guidance.
- Alumni are invited as chief guests, guest of honor for various social and technical events. The institution implements most of the suggestions given by them in the interest of the students.
- The former faculty members of the institution visit the campus periodically, share the experience and help in organizing FDPs, guest lectures etc.

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 characteristics 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.?

Vision of the Institution:

To create self-reliant, continuous learner & competent technocrats imbued with human values.

Mission of the Institution:

- Imparting quality technical education to the students through participative teaching-learning process.
- Developing competencies amongst the students through academic learning and practical experimentation.
- Inculcating social mindset and human values amongst the students.

Mission statement defines the institution's distinctive characteristics through:

- Imparting education through healthy and indiscriminatory teaching practices.
- Implementation of quality management system that ensures continual improvement.
- To enhance practical experimentation skills through well defined process and continuous assessment is carried out emphasizing on case studies, minor and major projects.
- Providing additional resources and facilities required for various activities.
- Making students realize their responsibility towards society.
- Bringing in practice Mahatma Gandhi's vision of education and Pandit Jawaharlal Nehru's technical education into reality and on the path of modernization.

6.1.2 What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?

The Mahatma Gandhi Mission Trust was established with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing higher education and research in professional fields with dedication and commitment. Service to society at the grass root level has been the basic vocation of the Trust along with education.

Role of Top management:

The Governing Council of the institute consists of eminent academicians, industrialists and administrators.

- The top management guides the administration of the college towards the achievement of the Vision and Mission of the College.
- The management committee reviews ongoing academic, extra-curricular and co-curriculum activities in institute.
- The management encourages faculty through various policies of continuous upgradation.

Role of Principal:

- He is the ex-officio Member Secretary of the Governing Council of the college.
- He is the head of both the academic and administrative bodies including IQAC.
- Being a CEO, Principal is constantly coordinating quality improvement strategy as per need of time.
- Reviews Planning and coordination of all the academic and administrative activities.
- Interacts with the Vice Principal, Deans and Head of the various Departments and constantly monitors the teaching –learning processes, evaluation systems and students' performance.
- Implements university guidelines in the institution, takes care of the fulfillment of all the curricular requirements, including internal and external examination etc.
- Recommends the management on introduction of new courses, faculty recruitment and upgradation of existing infrastructure facilities etc.
- Takes care of faculty, staff and student welfare and development.
- Keeps liaison between Trust, staff and students.
- Prepares annual budget in consultation with Deans and Head of the departments.
- Makes recommendations for the future planning and development of the institution.

Role of Vice Principal

- Monitors submission of various proposals to the competent authority.
- Monitors teaching learning process, laboratory work and instructional materials.
- Monitors administrative activities.
- Promotes research activities & projects.
- To attend any other work as may be assigned by superiors from time to time.
- To promote industry-institute interaction.

- To coordinate academic as well as social activities to bring viable changes in academic environment.

Head of the Department:

- To ensure the timely completion of Syllabus, Project works, Term work and attendance and assessment record.
- To prepare and submits the annual budget for the department.
- Providing leadership in both post-graduate and undergraduate courses in field of specialization.
- Planning, monitoring and evaluation of policies besides its promotional activities both at departmental.
- Administers smooth working of the department.
- Executes effectively the curriculum and upgradation/extension of the resources.
- HOD is an academic leader and is responsible for implementation of institutional policies.
- Recommends faculty/staff and motivates students for skill development
- Academic and administrative planning and development work at departmental level and assisting at institutional level
- Proper distribution of workload amongst faculty members.
- Student counseling & interaction.

Professor:

- Professor is engaged in research activities and research guidance.
- Leads consultancy projects and extension services, curriculum development and developing of research material
- Continuing educational activities.
- Member of editorial board on various reputed journals.
- Promoting research activities & providing guidance to UG & PG students.
- Executes effectively the curriculum and upgradation/extension of the resources.
- Policy planning, monitoring, evaluation and promotional activities, both at department & institute level.
- Interaction with industry and society.
- Student counseling & interaction

Associate Professor:

- Academic and administrative work at department and institute level.
- Promoting research activities & providing guidance to UG/PG students.
- Initiate Consultancy Projects and extension Services,
- Helps in effective execution of the curriculum and upgradation/extension of the resources.
- Continuing educational activities.
- Innovation in teaching, laboratory work and instructional materials.
- Mentors and motivates students for co and extra-curricular activities.

Assistant Professor

- Prepares and implements course plans effectively.
- Assists in academic and administrative work at department and institute level.
- Assess and evaluates students' performance.
- Assists in Consultancy work.
- Develops resource materials and suggests resources for lab enrichment.
- Mentors and motivates students for co and extra-curricular activities.

6.1.3 What is the involvement of the leadership in ensuring

The policy statements and action plans for fulfillment of the stated mission

Quality Policy:

Institute is committed to:

- To provide technical education as per guidelines of competent authority.
- To continually improve quality management system by providing additional resources required. Initiating corrective & preventive action & conducting management review meeting at periodical intervals.
- To satisfy needs & expectations of students, parents, society at large.

Goals are set by the top management to ensure attainment of quality policy:

- Identify the market expectations and frame academic activities accordingly.
- To prepare students for employment and advance educational opportunities in emerging areas.
- To continually improve students' performance.
- Upgrade and update faculty members with latest development in technology and teaching methodologies.

Through several ways, the management collects information about different aspects regarding functioning of college.

It also encourages the faculty to participate actively in the decision making process.

Action plans for fulfillment of the stated mission comprises

- College follows ISO 9001-2008 procedures to monitor and ensure academic quality
- The college has set up various committees for academic and administrative requirements. Faculty and staff are involved in planning & execution of procedures.
- Academic meet is regularly planned and conducted to review academic activities and corrective actions are suggested.

- The Principal, Dean Academics, Head of the Departments & Sectional heads formulate necessary action plans by means of academic calendar & course plans. Every department prepares its academic calendar in accordance with the inputs received and ensures effective implementation of the same.

Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan.

The Principal, Dean Academics, Head of the Departments & Sectional heads formulate necessary action plans by means of academic calendar & course plans. Every department prepares its academic calendar in accordance with the inputs received and ensures effective implementation of the same.

Interaction with stakeholder.

Stakeholders of the institute are

- **Management:**
Management members regularly interacts and reviews various quality improvement processes.
- **Students:**
Feedback from students is taken into consideration regarding student-centric activities and necessary actions are taken for improvement.
- **Alumni:**
JNEC alumni association actively contributes towards institute's growth. The alumni have gifted 397 books to library and 01 podium to college, Sponsorship of Rs.30,000/ for Go-Kart by Mr. Shrikant Badve, Badve Industries, Aurangabad and Rs.30,000/ component given for BAJA event by Mr Chaitanya Rajurkar, Dhruv Industries, Aurangabad Rs.15000/ for Klystron by Mr. Rahul Swami, Shrushti Vishwa Construction, Aurangabad 25 Lac given by Alumina Mr Suren Jain, Jaypee Powergrid Ltd., New Delhi.
- **Parents:**
Parent-teachers meets are conducted regularly to make them aware of their ward's performance and their suggestions are taken into consideration. Open day program is arranged on the occasion of anniversary of MGM on 20th December every year to involve the parents.
- **Industry :**
Industry-Institute interaction is established through, industrial visits, expert lectures, implant training and sponsored projects. Suggestions regarding curriculum enrichment are invited.
- **Faculty:**
Regular interaction with the faculty is carried out to review academic progress and improvements in quality policy.
- **Society:**
Interaction with community is ensured through extension activities like NSS, customized training programs such as training to PWD engineers, etc. JNEC participates in community radio program initiated by MGM's College of Journalism.

Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders.

Based on the inputs received from various stakeholders, need analysis is carried out and if necessary, modifications are incorporated.

Stakeholder's feedback is taken by each department that helps in fine tuning policies adopted by the institute for research inputs & employment of students.

The heads of the various departments also identify the needs of departments with respect to infrastructural facilities, faculty and supporting staff requirement and budgetary support and necessary proposals are initiated for further improvement.

Reinforcing the culture of excellence.

JNEC follows well-defined decentralized administration structure.

Dean Academics monitors academic progress of the institute. Dean Administration ensures quality in administration. Dean R&D ensures inculcating and reinforcing the spirit of research in the faculty and students. MR (ISO) monitors processes ensuring quality in all processes through implementation of ISO procedures. Training and Placement officer plans and executes skill development programs to enhance employability of students.

Institute has adopted the following approaches for enhancing technical competencies and teaching skills:

- Skills and competencies of both faculty and students are developed by arranging Training Programs/Workshops/Internships/conferences, keeping short-term and long-term requirements in mind. Faculty and staff are encouraged to participate in the same to keep themselves updated.
- Faculty is deputed for pursuing higher studies (ME/M.Tech, Ph.D.) for career advancement.
- The institute has initiated collaboration with GIZ(an Indo-German consortium) ,IBM Corporation ,Gill Instrument ,IIT Bombay(Spoken Tutorial) to provide exposure to technically challenging environments.
- The institute has provided an Automotive Museum for the students to encourage participation in national events such as SUPRA-SAE, BAJA, Go-Kart and also to facilitate design, assembly of All Terrain Vehicles (ATVs).
- The T&P cell coordinates with the industry to provide training to students, to equip them with employability skills.
- NPTEL lectures of faculty teaching at IITs, are made available for faculty to serve a reference teaching material and faculty members are encouraged to adopt best practices.
- The institute has established Regional Center of NITTTR Bhopal for imparting Teacher Training Programs to improve teaching competencies.

- To enhance teaching skills, faculty is deputed for workshops of MISSION10X, Aptitude Building Teachers Training Program which are specifically designed to improve teaching competencies.
- Faculty induction program for newly recruited faculty is regularly conducted.
- Institute has subscribed to various online resources like DELNET, Gale Cengage and Springer E-books pertaining to diverse disciplines of Engineering to hone research skills amongst faculty and students.
- Various curricular & co-curricular activities are organized by Student's chapter of professional societies like IEEE, CSI, IE(I), QCFI, IIIE, ISTE, ISOI, and IETE.
- Central Computing facility for students & staff.
- ERP system is a facilitator to monitor teaching learning process and academic performance of students.

Champion organizational change

In order to increase the level of standards of excellence, organizational changes are taken into account & implemented with proper planning & precision.

Some examples are given below to illustrate the organizational change brought about within the institute to take care of its expanding activities:

- Senior Faculty represents the institute in various statutory bodies of the affiliating university viz. Board of Studies, Academic Council, Senate and Management Council.
- Deans (Academic, Administration, R&D) review academic, administrative and R&D processes to ensure and improve quality.
- Formation of IQAC for monitoring and ensuring quality in all processes.
- Program Advisory Committee (PAC) in some departments provides vital inputs for outcome based curriculum design.
- College is certified with ISO 9001-2008 and EMS ISO: 14001:2004

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?

ISO quality policy is adapted by institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time. ISO procedures are followed for following activities:

1) Teaching learning process (Given in clause 2.3.1)

Along with ISO, college has strengthened IQAC.

2) Training and Placement policies.

- Training and placement cell prepares a data bank of industries.
- **Provides opportunities for placement:**

- Emails /postal mails (whichever applicable) are sent to the industries inviting them for campus interviews, followed by phone communication as necessary.
 - After receiving reply from industry, based on Industry criteria, list of eligible student is sent by T and P to the concerned companies. The detailed schedule of interview is displayed on notice board by the T and P cell.
 - Training and Placement cell makes all kinds of necessary arrangements for conduct of written tests / interviews and provides hospitality to the interview panel of the industry.
 - The concerned department provides the details of students as per requirements of T and P cell.
- **Provides additional training:**
T & P Cell arranges various campus recruitment training programs.
 - **Provides In-Plant Training facility:**
The In-plant training is arranged as per curricular requirements.

3) Upgradation of faculty.

- **Procedure** (Training of staff)

1. Brochure is circulated amongst the faculty members for willingness to undertake training
when:

(a) The brochures of seminar/ workshop/training courses from the various institutes are received

OR

(b) As and when need is defined by the syllabus

2. HOD recommends the faculty on roster (**R/TEAH/05**) basis in case of restriction on number of participants.
3. A training indent note (**F/TEAH/22**) for approval is submitted to the Principal mentioning the need of training.
4. Permission is granted by the Principal to the concerned faculty member(s).
5. The faculty selected for training registers himself accordingly.
6. Feedback (**F/TEAH/23**) from the faculty is taken by HOD and a lecture talk is arranged for other faculty members/students if required. A hard copy of paper presented or paper published in journal/conference by the faculty is to be submitted to the department. Photocopy of certificate of attended/paper presented should be submitted to the department.
7. Lab Assistant is trained to increase their involvement in calibration and repair of instruments /equipments. Lab Assistant is encouraged to attend necessary up gradation programs.

4) Environmental policy

The college has established following Institutional Policy for EMS to be in line with ISO: 14001:2004

JNEC ensures:

- The environmental control during its activities, product and services.
- That applicable, legal and statutory requirement is met according to environmental needs.
- To reduce waste generation and resource depletion.
- To increase awareness of environmental responsibility amongst its students and staff.
- For continual improvement and prevention of pollution.

Implementation, monitoring & evaluation for continuous improvement are done through:

- Governing Council meetings
- Regular academic meetings
- Feedback system
- Regular ISO Internal & surveillance Audits
- Academic Review

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

The Principal is head of the College. He involves the entire staff members in planning, implementation and evaluation of the plans. All the faculty members are actively involved in decision-making process at all levels. Faculty gets support to conduct conferences/workshops/events. Faculty members are encouraged to participate in various committees like shown in table 6.1.

Table : 6.1 Academic Leadership

Sr. No	Committee Name	Sr. No	Committee Name	Sr. No	Committee Name
1	Library Committee	2	Teacher-Guardian Scheme	3	UG. / PG. admission Committee
4	Website Committee	5	Alumni coordinator	6	Project Coordinator
7	EDP Cell	8	Research & Development	9	Program Advisory Committee
10	NSS	11	Training & placements Dept coordinator	12	SC / ST Committee
13	IQAC	14	Time-Table Committee	15	Industrial Visits Coordinator

Sr. No	Committee Name	Sr. No	Committee Name	Sr. No	Committee Name
16	Anti-ragging Squad	17	Academic Review Committee	18	Grievance Redressal Committee
19	Anti-ragging Committee		20)T& P Officer		21)Internal complaints committee

Highly responsible management pattern is followed to involve, persuade and transform organization effectively which correlates for top, middle and lower level of staff.

6.1.6 How does the college groom leadership at various levels?

Principal:

The Principal lays down necessary mechanism & regulates the academic and administrative activities of the institution. Various committees are headed by the Principal with the approval of the management for effective leadership. Principal directs HOD and faculty to make their role more responsible and effective.

HOD:

HODs are responsible for the overall functioning of the department like:

- subject allocation based on the competency of the faculty
- effective implementation of the timetable
- monitor and control the teaching- learning process
- tracking the academic performance of the staff and students
- planning and execution of various activities
- Implementation of new courses/new syllabus as well as academic model such as CBCS.
- They effectively communicate information to all the subordinates at the right time.
- The requirements and budget proposals of the department are submitted to the Management and Principal.

Faculty:

- Freedom to take up academic pursuits and student related activities.
- Organizing conference, Industrial visits, workshops, Guest lectures, STTPs etc.
- Planning and execution of several department activities, budget, purchase etc.
- As coordinators for the preparation of ISO, NBA, NAAC inspections.
- Various co-curricular and extra-curricular activities are conducted under the guidance of faculty members with student representatives.
- The senior staff members are appointed as conveners of various committees.

Technical Staff:

Technical staffs are assigned to each lab for

- Purchase of consumables and service of equipment.
- Its effective maintenance.
- Assisting faculty in organizing events at the department and institutional level.
- Orientation program is organized regularly.

Student:

- Formation of Student Council.
- Conduct of student centric college events like conferences, Tech. fests, Agnitio, Klystron, Blossoms, Razzmatazz, sports etc.
- Involvement and coordination roles of students in college activities, various hobby clubs, Student Chapter of professional bodies' activities.
- Editorial board of Department Newsletter.
- Organization of community services through NSS.
- Active participation in entrepreneurial and placement initiatives.
- Students participate in local level and national level technical events.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralize Governance system?

The college believes in promoting a culture of empowerment through decentralized governance system.

The college delegate authority and provide operational autonomy to the departments by following ways

- Top management and the Principal coordinate and supervise financial and administrative matters through proper delegation of authority & responsibility to deans, concerned head of department.
- The Head of the Department has the authority in deciding the activities and delegating the responsibilities to the faculty members of the department.
- Head of the department also participate in decision making process with Principal at Institution level.
- The HOD conducts meetings at departmental level & decisions are taken after consultation with the faculty.
- The department has authority to decide timetable, subject allocation, purchase and maintenance of equipment and consumables.
- The department also has authority to organize workshops and guest lectures and recommends necessary industrial visits, in-plant trainings, collaboration and work towards achieving excellence.
- Operational autonomy is provided to various committees of the college to manage academic, research and administrative affairs.
- New topics and courses for training are suggested in innovative manner by faculty and they are developed as per academic discussion.

6.1.8 Does the college promote a culture of participative management? If ‘yes’, indicate the levels of participative management.

Yes, College promotes a culture of participative management by encouraging faculty, staff and students to contribute through participation at various levels. Governing body has been formed to decide policies & take major decisions. Principal is the head of academic and administrative affairs. Principal takes periodic meetings with Deans and HODs, plans and enables implementation of policies which achieve mission and vision. All policy changes and academic activities are planned through a process of dialogue with stakeholders at various levels. Institute level academic calendar is developed after planning of academic activities. Considering the institute level academic calendar, Head of the departments along with faculty members, plan academic and other activities and prepare department academic calendar.

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 a formally stated quality policy which is formulated based on the societal needs of the state of Maharashtra and in order to support the industrial progress of the state/ nation.

Quality Policy:

Institute is committed:

- To provide technical education as per guidelines of competent authority.
- To continually improve quality management system by providing additional resources required. Initiating corrective & preventive action & conducting management review meeting at periodical intervals.
- To satisfy needs & expectations of students, parents, society at large.

Adherence to quality procedures laid down by ISO is ensured through half yearly audits for all departments. The quality policy is reviewed by the top management through MRM at the end of external surveillance ISO audit.

Quality policy as per UGC and NAAC guidelines is implemented properly. NAAC literature has been stored and utilized (NAAC Bulletin).

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

The institute has a perspective plan for development. It is developed by Principal, Vice Principal, Deans and Head of various departments under the broad guidance of governing council to ensure progress of the college.

A round table conference “JNEC 2020” was organized to focus on future development and suggestions were framed in the form of monogram. Perspective plan to implement

2020 futuristic ideas has been prepared. A committee of three members under chairmanship of Shree Pratap Borade Trustee MGM has been formed to develop strategic plan.

The aspects to be included in the perspective plan are generally drawn based on inputs from recommendation of the following constituted committee:

- Governing Council
- Academic Affairs Committee of Principal, Dean, HoDs
- Human Resource Development Department
- Entrepreneurship Development Program Cell (EDP)
- Internal Quality Assurance Cell (IQAC)
- Teacher Guardian system
- Grievance Redressal Committee
- External and Internal Quality Audit
- Anti –Ragging Committee
- Alumni Association
- Library Committee
- Internal Complaint Committee
- SC/ST Committee
- Anti Ragging Squad

6.2.3 Describe the internal organizational structure and decision making processes.

The internal organizational structure adopted for administrative purpose is given below:

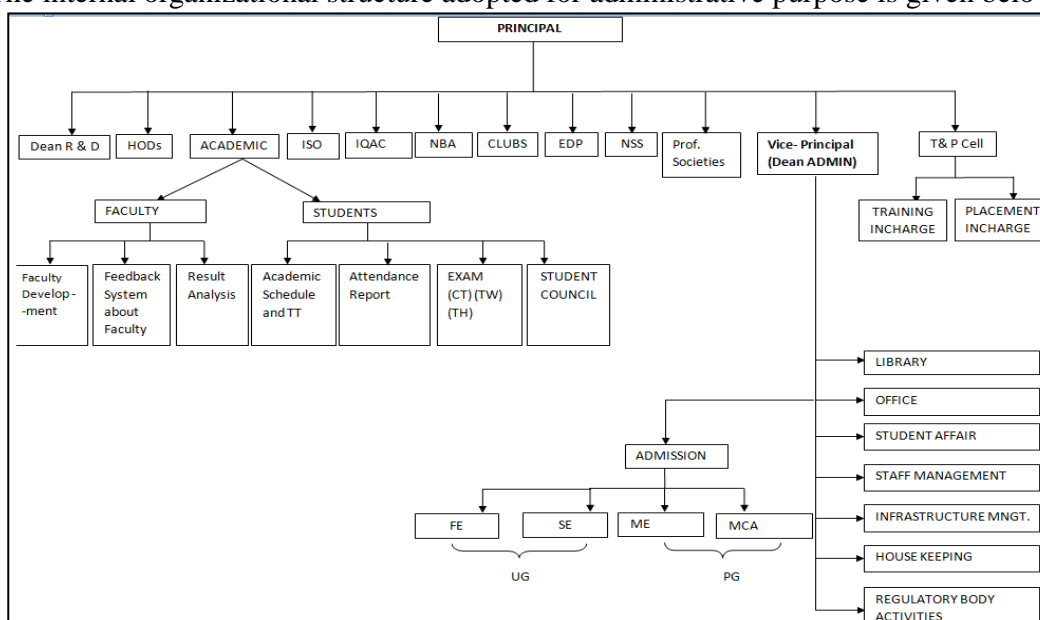


Fig:6.1 Internal Organizational Structure

The administration of JNEC is managed by the following bodies.

Governing Body: The apex body is the Governing Body that formulates policies and directs the affairs of the institution in consultation with the management. It has representation of the management, faculty, government representatives and industry.

The Principal of the college heads both the academic(Faculty & Students) as well as the administrative sections (Professional social activities, NBA,ISO,SOCIAL,NAAC,CLUBS)and is overall in charge of the college.

Deans: Academic, administrative and support units headed by deans help in monitoring and facilitating respective functions.

Vice Principal is also the Dean administration.

Head of the departments assist the Principal in effective functioning of the institute. Various academic support units like training & placements, central computing facility, central library, central stores and workshop support the academic programs. The decentralization of power is evident from the structure.

6.2.4 Give broad description of the quality improvement strategies of the institution for each of the following:

- Teaching & Learning
- Research & Development
- Community engagement
- Human resource management
- Industry interaction

Teaching & Learning:

The institute follows a well defined teaching learning process with the objective continuous improvement.

- Before beginning of semester each faculty is assigned subjects and laboratory work to be taken up in the semester.
- Before commencement of the semester the academic calendar is prepared in coordination with the University calendar.
- Course plan is prepared for theory and practical subjects. Accordingly lectures / practicals are conducted
- Faculty members make use of innovative teaching methods.
- To enhance subject knowledge, expert lectures training programs, workshops, seminars and industrial visits are arranged.
- Faculty prepares lab manuals. Printed lab manuals are made available to students for reference.
- The lectures and practical are regularly monitored by HOD, Academic In charge, Dean Academics and Class Teachers.
- Student feedback is taken twice in a semester regarding the teaching learning process.
- Tutorials and remedial classes are arranged by the respective subject teachers.
- HODs and Dean Academics review student performance.
- DELNET, Gale Cengage, Springer e-books and e journals and NPTEL video lectures are made available.
- Well equipped laboratories, classrooms with adequate facilities are available.

Research & Development:

- Research & Development is an integral part of our institute.
- College has research Center in six disciplines, for pursuing Ph.D. approved by the university and Government of Maharashtra.
- Financial assistance is provided to the faculty for attending seminars, training program and faculty development program.
- Financial assistance is provided to the faculty to become members of recognized professional societies and to attend conferences.
- The faculty members as well as students are encouraged for research work.
- College has university approved M.E. /Ph.D. guides.
- Other research activities of the departments include presentation and publication of research papers in seminars, conferences and journals and to take different project works.
- Faculty members are motivated to undertake funded research projects and consultancy work.
- Innovative projects developed by students are appreciated.

Human resource management

- Arranges programs for communication skill development.
- Employment engagement activities.
- Displaying birthday wishes on display board
- Arranges different activities on MGM's Foundation Day celebration.
- Prepares performance management system.
- Prepares disciplinary action process.
- Arranges felicitation of retired faculty.
- Prepares various employee retention schemes like recommending financial assistance to attend seminars, workshops and academic conferences.

Community engagement:

College plays a major role in community engagement services:

NSS

NSS unit of the College organizes various activities as follows:

- Blood Donation Camp.
- No Vehicle Day for Pollution Awareness and its effects.
- "Eco Innovation" Intercollegiate poster / chart /Model Competition on Science Day.
- Various contributions are made for natural disasters
- Tree Plantation.
- National Safety Day.
- Fire fighting Demonstration.
- Aids Awareness, Aids Day.

- Projects Based on Social Welfare.
- Presentations & Seminars on various Social issues.
- Implementation of Drainage line system in Golatgaon & Chinchala Village during camp.
- Marathwada Mukti Sangram Din Celebration.

Entrepreneurship Development Cell (EDP):

EDP cell of the College conducts following activities:

- Conducts Entrepreneurship Development workshops and Guest Lectures.
- Creates Awareness about Entrepreneurship and government schemes among students.
- Promotes self-employment by organizing activities like Business Idea Presentation that motivates the budding entrepreneurs from the college.

Industry interaction: Industry interaction is the integral part of the technical education and the institute conducts various activities to enhance industry interaction .

- Industrial tours and visits are organized to expose the students to industrial culture.
- Guest lectures, workshops, seminars & training programs are organized where experts from industries are invited to interact with the students.
- Suggestions in curriculum design are invited from industry experts.
- Expert from industries are invited to work as adjunct faculties.
- Students are encouraged to develop industry sponsored projects. Four projects were sanctioned under JNEC-GIZ(German Consortium).
- The In-plant training is arranged as per curricular requirements.
- Collaboration with various industries has been established for skill enhancement.

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?

Principal, HODs, and Faculty Members, has developed a system for collecting feedback from various stakeholders of the institute as under:

- **Alumni Feedback.** Institute takes feedback from alumni and suggestions are considered.
- **Parents Feedback.** Institute conducts parent teacher meet every year and institute takes feedback from parents.
- **Faculty Feedback.** Institute has provision for feedback from faculty for academic, administrative & infrastructural development.
- **Exit poll.** Feedback is taken from the students who are leaving the college at the end of final year.

- **Student Feedback.** Feedback from students is taken into consideration regarding student-centric activities and necessary actions are taken for improvement.

Management can review academic activities through ERP system.

The collected feedbacks are analyzed by the HOD & Departmental faculty coordinator. Based on feedback suggestions received, corrective measures are taken.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

Institute has well-defined decentralized administration structure. The faculty members are encouraged and involved in planning and implementation of various institutional processes. Dean Academics monitors academic progress of the institute. Dean Administration ensures quality in administration. Dean R&D ensures inculcating and reinforcing the spirit of research in the faculty and students. MR (ISO) monitors processes ensuring quality in all processes through implementation of ISO procedures and EMS audits. Training and Placement officer plans and executes skill development programs to enhance employability of students. Time to time meetings are conducted by IQAC for improvement in effectiveness and efficiency of institutional processes.

Faculty members are encouraged to participate in

- Faculty development programs
- Industrial visits
- Industrial training
- Various conferences and seminars in the area of specialization

Faculty members are also encouraged to pursue higher studies through study leave, extension of laboratory, internet and library facilities.

Financial assistance is provided for faculty members to attend conference, workshop, training program, to become member of professional society. The impressed amount is given to HOD, which is to be spent at its liberty for the department.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

Resolutions made by the management council for 2015-16

- To establish research Center for the department of Electronics and Telecommunication Engineering and Computer Science Engineering (in progress)
- To encourage students and faculty to carry out Innovative Projects leading to patents and follow up the patents already filed
- To pursue the preparation and submission of suitable project proposals to UGC with the grant of 2(f)/12(B) status to the institution.
- To increase the number of peer reviewed Journal publications.
- To organize at least one International/ National Conference.

Status of implementation of resolution

- Proposal submitted for research center to university and approval is awaited.
- One patent is registered and five are in progress.
- Five funded projects have been received in 2011-15 from UGC, AICTE and other funding agencies to the tune of 77.15 lakhs.
- Faculty have published research papers in peer reviewed Journals Refer 3.
- Three International conferences in CSE/IT, ECT & MECH proposed in 2017.

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?

Yes. A committee headed by Prof.F.I. Shaikh has been appointed for submission of Autonomy proposal which is in progress.

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?

The college has following committees that ensure the grievances / complaints are promptly attended to and resolved effectively:

1. Grievances Redressal Committee
2. Internal Complaint Committee
3. Anti-ragging Committee
4. Anti-ragging Squad
5. SC/ST Committee

The college has Grievances Redressal Committee to look into the grievances of teaching and non-teaching staff and students as shown in table 6.2.

Grievance Redressal Committee

Table : 6.2 Grievance Redressal Committee

Name	Designation	Address	Contact no	Email-id
Dr. P. S. Adwani	Principal	Government Engineering College, Station Road, Aurangabad	9812345678	principalgeca@yahoo.co.in
Dr. H. H. Shinde	Vice Principal & Dean Students, JNEC, Aurangabad	JNEC, Aurangabad	9657715342	harirangshinde@gmail.com

Name	Designation	Address	Contact no	Email-id
Dr. U. B. Shinde	Principal CSMSS	CSMSS Chh. Shahu College of Engineering, Aurangabad	9422201795	drshindeulhas@gmail.com
Dr. R. R. Deshmukh	HOD, Dept of CS&IT.	Dept. of Computer Science, Dr. BAM University, Aurangabad	9423147466	ratnadeep_deshmukh@yahoo.co.in
Dr. Anjali Bhalchandra	HOD, Electronics and Telecommunication Dept.	Government Engineering College, Station Road, Aurangabad	9422203439	asbhalchandra@gmail.com
Dr. W. K. Sarwade	-	Dr. BAM University	9423780549	walmik-sarwade@hotmail.com

Procedure in Redressal of Grievances:

- (1) Each Technical institution shall establish a registry, headed by an employee of the institute of appropriate rank as the Ombudsman may decide where an aggrieved student or person may make an applicant seeking redressal of grievance.
- (2) The address of the registry so established shall be published widely including on the notice board and prospectus and placed on the website of the institution.
- (3) On receipt of an application by the registry, the employee-in-charge shall inform the Ombudsman and shall immediately provide a copy to the institution for furnishing its reply within seven days.
- (4) The Ombudsman shall fix a date for hearing the complaint which shall be communicated to the institute and the aggrieved person either in writing or electronically, as may be feasible.
- (5) An aggrieved person may appear either in person or represented by such person as may be authorized to present his case.
- (6) The Ombudsman shall be guided by principles of natural justice while hearing the grievance.
- (7) The Ombudsman shall ensure disposal of every application within one month of receipt for speedy redress of grievance.

(8) The Technical institution shall be expected to co-operate with the Ombudsman in redress of grievances and failure to do so may be reported by the Ombudsman to AICTE.

(9) On the conclusion of proceedings, the Ombudsman shall pass such order, with reasons for such order, as may be deemed fit to redress the grievance and provide such relief as may be desirable to the affected party at issue.

(10) Every order under clause (9), under the signature of the Ombudsman, shall be provided to the aggrieved person and the institution and shall be placed on the website of the Technical institution.

(11) The Technical institution shall comply with the order of the Ombudsman.

(12) Any order of the Ombudsman not complied with by the institution shall be reported to the AICTE for appropriate action as deemed fit by the Council.

(13) A complaint shall be filed by the aggrieved student, his / her parent or with a special permission from the ombudsman, by any other person.

(14) In case of any false/frivolous complaint, the ombudsman may order appropriate action against the complainant.

(15) The principles and procedures outlined above shall apply to the working of the Grievance Redressal Committee in the Technical Institute except

(a) in case of lack of unanimity, the Grievance Committee shall take decisions by majority;

(b) the Grievance Committee shall communicate its decisions within ten days of receipt of complaint.

There is no such case filed in this committee.

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?

There were only few court cases filed against Institute which were of routine nature related with refund of fees, caste validity, etc. One case has been reported in the year 2014. Committee was formed on College level comprising Dr. H. H. Shinde, Chairman, Dr. M. S. Joshi and Prof. C. M. Deshpande as members.

Action Taken: Committee submitted a report and the college suspended those two students involved in the activity for the academic year 2014-15.

There are no other major court cases before any court.

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,

Teaching –learning process:

Institution has a mechanism for taking and analyzing student feedback on teaching – learning process.

Feedback is taken from the student at midterm and end term of every semester and in prescribed forms. Feedback is analyzed by Head of the department and discussed with Principal and Dean Academics who takes immediate action to resolve the issues.

Based on the students feedback Faculty members are given suggestions to improve the quality of their teaching.

Infrastructure:

Institution has a mechanism to collect, analyze and take corrective measures regarding feedback of infrastructure facilities

Exit Poll:

Feedback is taken from the students who are leaving the college at the end of final year.

Also many suggestion boxes are made available to students and faculty members to give suggestions and complaints regarding the Institute.

The feedback responses are used in such a way to ensure quality improvement in terms of teaching, curriculum review and infrastructure. This gives an opportunity to the teacher to explore new modes and methods.

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 institution makes conscious sustained efforts for enhancing professional skills amongst its teaching and non teaching staff.

The institution has set the norms for professional development of faculty members and non-teaching staff and supports them for career advancement through different initiatives. They can-

- Pursue Higher Studies and research programs leading to award of Doctoral Degree (Ph.D)
- Attend FDP in their field of interest.
- Mission 10 X
- To attend and present research papers in National/International conferences.
- Publish research papers in recognized journals.
- Attend skill enhancement activities like seminars/ guest lecture/ Faculty Development Programs.
- Undertake consultancy projects in liaison with industry.
- Apply for funds through research projects from various agencies.
- Explore avenues for better interaction with entrepreneurs, academicians & industry leaders.
- Different provision and facilities like financial assistance, on duty leave, study leave, travel grants etc. are provided to the faculty.
- Undergo training programs organized in collaboration with industries, premier institutes of national & international repute such as: Wipro, IITs, Indo-US Consortium.

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 institution is committed to excellence and this forms the core of all its initiatives. The college has identified the importance of faculty empowerment strategy for the pursuit of excellence.

It follows the following strategies:

- Faculty Development Programs (FDP).
 - Faculty Training: The institution has established Regional Center of NITTTR, Bhopal.
 - Faculty Induction Programs:
 - Provision of study leave for higher studies.
 - Sponsorship for participation and presentation in various conferences and seminars.
 - Provision of sabbatical leave for employees doing post doctoral research.
 - Swagata initiative under Indo-European Union for pursuing advanced research programs at European Universities such as Ghent University, Belgium.
 - Industrial training.
 - Industrial visits by Faculty Members.
 - For innovative research project seed money is given to faculty members.
- Refer criteria 3.2.2

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.

- Faculty performance is evaluated by HOD on the basis of Self Appraisal Form submitted by each faculty at end of every academic year.
- The mechanism being applied for the performance appraisal of the faculty includes the evaluation, assessment and judgments on the basis of their performance in shouldering their assigned duties and responsibilities in the areas of academic, co-curricular, extra-curricular, administrative affairs, institutional development, research work and social service.
- The performance is also evaluated on the basis of feedback sought from the students twice in semester.
- The feedback form has a well defined set of questions that help the students to evaluate the teaching capacity based on lecture understanding and define how far the teacher has succeeded in reaching out to the students. These details are accessible to faculty so as to help them judge their performance.
- Teachers are confidentially informed to improve their teaching as per student's feedback.

6.3.4 What is the 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 best part of the feedback based appraisal is that each faculty becomes aware of self weaknesses and tries to improve oneself in those areas so that he/she can score better in the next semester.
- The score obtained in the feedback contributes to the decision about faculty appreciation.
- Faculty with low score is personally counseled by the HOD & Principal and guided properly for improvement.
- The management always plays an active role in the performance appraisal of the faculty.
- Personal counseling is made at every stage of teaching.

The management keeps a keen vigil on the working behavior of the members of the teaching as well as the non teaching faculty.

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 welfare schemes are available for teaching and non-teaching staff like

- Concession in tuition fees for the faculty and children of teaching and non-teaching staff.
- Group Insurance.
- Annual salary increment.
- Organizing Health Awareness programs.

- Organization of sports and cultural activities in which all staff can participate.
- EPF facility
- Leave for PG study, post doctoral, Ph.D. programmes.
- On-duty facility to attend training programmes, work assigned by University/ management & Principal.
- Maternity leave was given to six staff.
- Salary advance to staff.
- Free health check up and diagnostic services at MGM hospital. Total 153 staff and students acquired In Patient Department facility and around 6000 staff and students acquired Outpatient Department facility.

Welfare schemes and concessions

1. Faculty deputed / permitted for higher studies
Refer criteria 2.4.4
2. Concession in tuition fees for faculty and children of Teaching and Non teaching staff as shown in table 6.3.

Table : 6.3 Concession in tuition fees

Sr. No.	Concession in tuition fees	2012-13 (Count)	2013-14 (Count)	2014-15 (Count)	2015-16 (Count)	2016-17 (Count)
1	Children	17	27	42	45	29
2	Faculty	09	06	06	Nil	01

3. On duty facility to attend workshop, seminar, conferences and work assigned by university/management and principal as shown in table 6.4.

Table : 6.4 On duty facility

Sr. No	Nature of work	2012-13 (No. of days)	2013-14 (No. of days)	2014-15 (No. of days)	2015-16 (No. of days)	2016-17 (No. of days)
1	Teaching	192	150	529	465	331
2	Non Teaching	146	82	149	153	126

Following are the welfare schemes given by the institute to the teaching and non teaching staff -

- 20% concession in MGM sports and health club.
- 10% concession in all MGM Khadi items.

- 10% concessions in SALT (restaurant) at MGM campus.
- 10% concession in MGM Bakes & Bakes.
- 10% concession in MGM Naturopathy.
- 10% concession in MGM Golf membership fees.

These concessions are available to all teaching and non teaching staff. They do take benefit of these initiatives as per their requirement. Almost all the staff members avail many of these facilities.

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

Various measures taken for retaining eminent faculty:

- Providing academic surroundings for teaching and research.
- Providing special salary packages & incentives for eminent faculty members.
- Creating opportunities for organizing various curricular, co-curricular, extracurricular activities.
- Conducting annual appraisal as per the process.
- Making available a number of faculty welfare schemes.
- Maintaining a good administrative system.
- Providing salary as per AICTE / University norms.
- Encouraging to carry out research work.
- Involving faculty members in decision making for educational activities.
- Permitting faculty members to pursue further education.
- Providing study leave for higher study and industrial training.
- Providing financial assistance to attend conference and training programs.

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?

A plan is prepared at the beginning of every financial year for proper utilization of financial resources. Institute has well defined mechanism to monitor effective and efficient use of available resources.

Management takes care of the collection of tuition fees, salary distribution, tax payment, loan distribution, preparing purchase orders for the laboratory equipment, teaching aids, etc. Every financial transaction is recorded. All procedures and dealings are computerized through software. Quotations are evaluated on the basis of cost and quality and principle of competitive bidding. After comparison, purchase order on the suitable vendor is issued.

The following three types of accounts are operated:

- Receipts & Payment Accounts.
- Income & Expenditure Accounts.
- Balance Sheets.

Each and every transaction is supported by the vouchers and bills. All the collections are deposited directly in the bank and all expenditure on recurring and non-recurring, are incurred through cheques. Internal audit is done periodically. The external audit is done by the Chartered Accountant before the session comes to an end.

For efficient use of the financial resources, the budget is formulated. Account section looks after the following types of payments/expenditures:

- Recurring
- Non recurring

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

External audit is done regularly. Last audit was done in 1st Nov 2016.

The following are the checks made and results therefore are given in the table 6.5.

Table : 6.5 External audit details

Sr.No.	Check	Remarks
1	Maintenance of Books of Accounts	Books required under Bombay Public Trust Act, 1950 & Income Tax Act, 1961 are maintained
2	Cash Verification	Tallied
3	Bank Balances	Reconciled
4	Vouchers	Available
5	Statutory Dues (PT, PF & TDS)	Paid
6	Assets Acquired	Documents checked and found correct
7	Fees Receipts	All fees receipts are properly booked
8	Payments to parties	Proper procedure followed

6.4.3 What are the major sources 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 college is a self financing institute hence major source of funding is the fee paid by the students. The fee (Tuition fee and development fee) is decided by Shikshan Shulka Samiti, Government of Maharashtra. Income from other sources is consultancy, interest on fixed deposits etc. Deficit, if any, is met by donation or by loan from Trust.

The audited income and expenditure statement of academic and administrative activities of last four years are indicated below as shown in table 6.6.

(Income and Expenditure statements for last four years are enclosed)

Table : 6.6 Income and Expenditure

Year	Income (in Rs.)	Expenditure (in Rs.)
2015-16	36,10,81,263.00	338,694,780.00
2014-15	37,18,47,278.00	353,720,951.00
2013-14	37,47,12,116.00	316,489,010.00
2012-13	31,41,01,628.00	285,711,618.00

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (If any).

Institute has secured additional funds in the following ways:

- Consultancy, workshops / STTP / conferences
- Providing venue for conduct of exam such as Bank POs, GATE, IIT JEE, MPSC, UPSC etc.
- Conduct of Faculty Development Program.

Refer criteria 5.1.7

Such additional funds are utilized for the welfare of students at large.

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

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 Institution has well established IQAC Cell as per NAAC guideline. Members of which are carefully chosen so as to achieve goal of this cell i.e. to facilitate institute management for providing higher quality education and aim towards fulfillment of institute's vision.

Structural body of IQAC is as shown in table 6.7.

Table : 6.7 Internal Quality Assurance Cell

Sr. No	Name of the Member	Designation	Category of members as per rules
1	Dr. S.D.Deshmukh	Chairperson	Chairperson
2	Mr. Pratap Borade Mr. B.B. Rajale	Member Member	Management Members
3	Mr. Rahul Dhoot Mr. Sunil Kirdak	Member Member	Nominees from local society
4	Dr. H.H. Shinde Dr. R.R.Deshmukh Dr.D.S.Deshpande	Member Member Member	Senior Administrators

Sr. No	Name of the Member	Designation	Category of members as per rules
5	Dr. Vinita Joshi Dr. Abhay B. Kulkarni Dr. S.C.Tamane Dr. S.B.Shinde Ms. Parminder Kaur Mr. F. I. Shaikh	Member Member Member Member Member Member	Teaching faculty members
6	Dr. Sonal N. Deshmukh	Coordinator	Teacher as coordinator
7	Mr. Suraj Sawandkar Mr. Mohsin Choudhary	Member Member	Student Representatives

The IQAC ensures proper academic planning, execution, monitoring and evaluation. IQAC is responsible for,

- Suggestions of preparation of academic plan and calendar inline with university academic calendar.
- Monitoring of academic plan/activities.
- Making the policies for academic enhancement based on feedback analysis of various stakeholders.
- Designing the research policy and motivating the faculties for quality research.
- Conduct of sensitization program for administration staff.
- Future plans of IQAC.
- Policies for increase in number of MOUs and consultancy services.
- Start of interdisciplinary research and courses.

b) How many decisions of the IQAC have been approved by the management / authorities for implementation and how many of them were actually implemented?

Table : 6.8 IQAC Suggestions and Implementation status

Sr. No.	Suggestions given by IQAC	Implementation Status
1	Proposal for research Center for ECT & CSE	Proposal submitted to university and approval is awaited
2	Organizing International conferences	Three International conferences in CSE/IT, ECT & MECH proposed in 2017
3	Organize extra classes for subjects with less result	Extra classes are arranged for First year engineering, TE ECT and FYMCA.
4	Development of projects for Institute purpose	A group of CSE students developed an application Shouryaa – Girl's safety android app, website WWW.pratapborade.com and ERP project for JNEC by CSE and IT students is in progress.

Every semester meeting of IQAC members is organized.

c) Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

IQAC has two external members in its committee that include two Alumni entrepreneurs. Suggestions given by them are considered by IQAC during the decision making process.

Sunil kirdak is CEO of Kirdak Group of Company at Aurangabad and he allotted a project to students according to need of Industry for the enhancement of the productivity.

Rahul Dhoot is MD of Dhoot Transmission Pvt Ltd. Established in 1999 at Aurangabad and assured to give financial support to needy students.

d) How do students and alumni contribute to the effective functioning of the IQAC?

- Feedback is taken from students on different parameters in every semester, the analysis is done in IQAC which leads to quality improvement in various activities of the institute.
- Alumni give suggestions and feedbacks on various activities of the institute during the Alumni meet as well as interactions with the teachers as and when they come to the campus. Alumni association meetings are also conducted to have discussions with alumni regarding quality improvements.
- Institute has formed an Alumni Entrepreneurs' Club comprising successful alumni entrepreneurs' for providing vital inputs to the IQAC.

e) How does the IQAC communicate and engage staff from different constituents of the institution?

The IQAC communicates and engage staff from different constituents of the institution through formal periodic meetings and social media platforms.

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.

The institution has integrated framework for Quality assurance of the academic and administrative activities.

Institute is ISO 9001:2008 certified and conducts regular Internal, Maintenance and Surveillance audits every year for quality assurance. All administrative and academic activities are carried out according to Quality Management System as stipulated by ISO standards.

Issuing guidelines to the departmental heads and auxiliary staff ensures a better association and correlation between academic and administrative activities for better quality assurance. In order to ensure proper implementation of guidelines the administration is sensitized at regular intervals of time. Feedback is received to

identify the deviation if any and recommended corrective measures to ensure proper implementation of guidelines. The self appraisal mechanism started for teachers, together with the student feedback has been very useful for the Principal to arrive at an overall performance report of the teacher. The feedback on teachers obtained from students has helped to analyze and evaluate the performance of the teachers. These evaluation mechanisms are taken into consideration for teacher's appraisal. Equal importance is given to all NAAC assessment criteria.

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, meetings of various committees are convened from time to time and members are well trained for effective implementation of quality assurance procedures (ISO Auditors' Training). This helps in guiding and training the members to ensure their better contribution towards overall institutional excellence. Teachers are advised to monitor the workflow of the competitive colleges and thereby to improve their inter personnel skills. IQAC organized quality improvement program since establishment and two expert lectures have been conducted.

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. Internal academic review is conducted through following measures:

- Head of the Department conducts meeting regularly to ensure proper delivery of course and its timely completion.
- Each month academic feedbacks are collected to know the percentage of syllabus completed.
- Reports of lecture planned and actual covered by faculty are available on ERP.
- Each department has academic coordinator for conducting the audit of course file regularly.
- Feedback from students is being collected for mid -term and end term.
- Course outcome analysis for each class is taken at the end of the semester.
- In every department following activities are carried out for regular assessment and improvement
 - Monthly student's attendance Record
 - Class Test Marks
 - Regular assessment of lab journals
 - Project Monitoring
 - Organizing various extra & co-curricular activities
 - Teacher Guardian Scheme

Maintenance and surveillance audits are conducted by external certification body of ISO 9001:2008 and EMS. As a part of ISO system procedures outcomes (Non Conformities) of such audits are communicated to respective departments for taking further action.

Special Course file audit of 10 departments were also done in August 2014.

6.5.5 How is the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

The internal quality assurance mechanism is aligned with the ISO procedures. The internal audits are conducted twice in a year. The surveillance audit by certifying body is conducted once in a year.

The institute follows norms and standards of regulatory authorities such as AICTE, Directorate of Technical Education (DTE), state government of Maharashtra and Dr.BAM University Valuable suggestions from stakeholders such as industry persons, Program Advisory Committee (PAC) members, Alumni, Parents, Entrepreneurs are considered.

College has developed IQAC which conducts training programs for staff and students and aligns activities as per guidelines of NAAC.

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?

Following are the institutional mechanisms for continuous review of the teaching learning process.

- Academic calendar plan and compliance
- Course plan and compliance
- Academic feedback regarding status of syllabus completion
- Continuous lab assessment
- Mid term & end term teaching learning process assessment
- Internal exam assessment
- Project monitoring
- Result analysis

Subject allocation is done as per the faculty specializations, willingness and experience. Faculty are requested to submit course plan, course file including personal notes and question bank, tutorial sheets, quizzes etc. before the commencement of the semester and verified by the HOD. Attendance Register is maintained on ERP system by each faculty which contains the students' attendance and performance in class tests and syllabus completion status. This is reviewed monthly by the HOD and the Principal. Teaching learning process reviewed in each semester for improved outcomes in internal & external exams, student's feedback, placements etc. IQAC reviews the above process and takes necessary steps for the improvement of quality of teaching.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

Institution communicates its quality assurance policies, mechanisms and outcomes to internal stakeholders (Students, faculty) through meetings, circulars and notices and to external stakeholders (Parents, Alumni, Industries) through mail, college websites, brochures, calendar, magazines etc., and also by means of interaction with parents, alumni and industries.

Any other relevant information regarding Governance Leadership and Management which the college would like to include.

The institute has received dividends in achievement of better overall performance of its students by introduction of-

- Regular class of Communication Skills.
- Encouragement for internship in industry.
- Practical orientation in the minds of students in laboratory sessions.
- Focused thrust on obedience of Academic discipline like attendance in classes/ class test/ viva- voce etc.
- Disciplined approach in methodical working among faculty members.
- Good working ambience in the Institute.
- IQAC is publishing biannual bulletin about its activities to inform students, parents, teaching and non teaching staff.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES**7.1 Environment Consciousness****7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?**

The institute has conducted environmental audit. Expert Prof. R. R. Deshpande has conducted the audit and submitted his report and accordingly policy have been framed and implemented. The institute is certified for ISO 14001:2004 Environment Management System (EMS). The policy considers the important aspects of environment such as energy, water, waste water management, noise, paper and electronic waste. The institute has formulated an ***Environment Policy*** from the broad framework of the guidelines under the purview of (International Organization of Standardization) ISO 14001:2004. For the EMS audit, all the constituent units have filled a questionnaire and analysis of the data revealed significant awareness among employees and students of the institute and their efforts to improve the environmental conditions on the campus. The environment policy is disseminated on the website of the institute, Principal's cabin, entrance, passages, library and training and placement cell.

The initiatives taken by the institute are described as follows:

Aurangabad city air quality monitoring study for the measurement of PM particulate matter suspended in the air was jointly investigated by Department of Civil Engineering and Department of Mechanical Engineering. Respirable Dust Sampler has been used to perform the above study.

Weather station is installed in the campus to monitor the weather parameters like precipitation, temperature (min and max), evapotranspiration, humidity, wind speed, etc. Android application of the weather station is freely available which shows current data from the weatherlink.com website. In addition, the instrument has a forecasting feature, which predicts the weather upto the next twelve hours.

Department of Civil Engineering is also working for the establishment of Bio-gas facility; gas generated from the same will be utilized for cooking purpose in the campus.

The institute has taken many initiatives to minimize the paper use. The power supply to electronic gadgets, fans, equipment and lights are being used only when required. Under the project of continuous tree plantation saplings are planted on the campus every year.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

- a. Spreading awareness is the first initiative. Awareness is created by displaying appropriate messages/slogans in laboratories, corridors and campus.
- b. Students are made aware about environment consciousness, waste management, recycling of waste through lecture talks by eminent personalities.
- c. Paper consumption is checked by using e-communication and paper is printed on both sides.
- d. Training has been conducted for faculties and students on awareness of EMS and system procedures.
- e. Ecofriendly Ganpati making workshop conducted by NSS on the occasion of Ganesh Chaturthi. Handmade and eco friendly Ganpati idols were sold to faculty and students. The collected money was donated to Mr. Ravi Baptle founder of "SEVALAYA", which is an organization working for HIV infected.



NSS volunteer's working at field



Ecofriendly Ganapati making workshop

f. Energy Conservation:

- The following measures have been taken for energy conservation.
 - Installation of roof top solar photovoltaic grid interactive power systems.
 - 30 kWp PV roof top power system using Crystalline Solar PV by TATA Solar Pvt. Ltd.
 - 10 kWp PV roof top power system using Thin Film Solar PV by Adiurja Pvt. Ltd.
 - 1 MW roof top power system installation is in progress.
- Staff and Students are instructed to switch off the lights, fans and computers when they leave.
- Use of compact fluorescent lamp (CFL) bulbs and tube lights.
- Use of light-emitting diode (LED) monitors in the computer labs.
- Energy conservation related slogans, posters, notices are displayed.
- Solar heaters have been installed in hostels.

- Buildings are constructed in such a manner that sufficient illumination and aeration is available.
- Air conditioners (AC) are used at 22 - 24 degree Celsius.
- Rain Water Harvesting.

The campus encompasses about 6.2 hectares area, the site having topographic slope towards South and South West side. The terrace rainwater is collected in open channels and surface water is collected through catchment chamber and connected to these channels. The open channels lead towards existing slope and water is recharged by means of deep percolation pits having a diameter of 3m and depth of 4.5m, with 150/300mm diameter bore wells upto soft strata level. The percolated water is collected at wells of lowest levels (2 nos.) and the same is stored in 4000 kl store well. The store well is connected with both the wells by horizontal boring. The store water is re-utilized for landscaping, play-fields, and drip irrigation system.

- All taps and water outlets are serviced periodically to prevent wastage of water by leakage.
- Sewage Treatment Plant (STP) is available and has a capacity of 6000 cu.m. per day. Vertical multi-grade filters are designed which are meant to increase flow rates and treat water of turbidity upto 50 NTU. Fine grade of filter sand ensure the trapping of suspended solids efficiently. The sand bed is supported by other graded filter media. The treated water is used for gardening and flushing of toilets.



Sewage Treatment Plant

- Effluent treatment plant (ETP): Effluents generated in various departments viz. Chemical Engineering and Biotechnology department and various departments of the MGM Hospital is received at the ETP site, where after giving primary treatment, it leads towards the sewage treatment plant for advanced treatments.



Effluent Treatment Plant

g. Efforts for Carbon Neutrality:

- Tree plantation campaign has been continuously running in the campus.
- Creating awareness amongst the students and staff by observing no vehicle day.

h. Tree plantation:

- The students planted trees in “Varsha Mangal Mahotasav” on 15th June



Tree Plantation drive on the campus

- Landscaping is continuously done to increase the greenery inside the campus.



Landscaping

i. Hazardous waste management:

Hazardous chemicals are kept safely away from the reach of students. Safety norms in the laboratory are strictly followed. Students are made aware of the hazardous chemicals and safety aspects before utilizing the chemicals. The labs are well ventilated and spacious and equipped with exhausts. 24 hour water supply is available in Biotechnology and Chemistry labs and safety of the students is given top priority in planning a facility. Posters are also displayed in the labs.

j. e -waste management:

A separate unit for e-waste has been established inside the campus. The e-waste generated is collected and stored. The hardware engineers reuse the useful components for maintenance of computers. A museum of the computers is developed by the institute for the students to know the developments in the computers. Apart from this, the electronic and electrical instruments under repair are given to the students during the lab sessions to dismantle and reassemble, which helps application oriented learning. The formulation of policy for disposal of e-waste is currently in progress.

k. Disaster Management:

The institute has established an efficient firefighting system. Above each wing of the institute building a 20,000 litres tank has been installed. Underground water tanks (pump house) with a storage capacity of 2,50,000 litres of water have been constructed. This storage has been developed in order to counter incidents of sudden fire, if any. The network of the system is wide spread. To create awareness of the system a mock drill has been conducted. Fire extinguishers are available in the laboratories (Total 100 nos. out of which 84 ABC type and 16 Carbon Dioxide type), which are maintained and refilled on regular basis.

Informative boards on safety measures are displayed in each of the laboratories and premises.

7.2 Innovations

- **Mentoring Scheme :**

Every class has one faculty appointed as a class teacher, who develops a rapport with the students, maintains necessary records of students, monitors students' attendance, academic performance, participation in co-curricular/extra-curricular /sports activities. Apart from this teacher-guardian scheme is also part of the system. Every student is under the care of teacher guardian. Every teacher guardian is assigned 20 mentees at UG level. Teacher guardian takes care of the problems encountered by the mentees and contacts parents if needed.

- **Student Hobby Clubs:**

Various clubs like music club, photography club, drama club and astronomy clubs are run by the college for the students, and faculties play the role of facilitators. Club activities encourage the overall development of the student through their various activities and augments management concepts.

- **Motivational Activities**

- Curricular and extracurricular achievements of the students are acknowledged.
- Support for attending national/international conferences and presenting research papers to faculty and students.
- Students are guided to participate in debate / conferences / paper writing.
- Faculty is encouraged for pursuing their higher studies.

- **Junior Teacher Mentoring Scheme:**

Initially the junior faculty is asked to give his or her preference if there is a course they would like to teach. After allotment of the subject the faculty is mentored by a senior faculty who guides the faculty how to organize and conduct the lectures in an effective way. The senior faculty member also monitors the course by going through the lecture notes, numerical examples solved in the class and practical exercises prepared/performed by the junior faculty. Workshops on new and innovative teaching methods using smart boards are conducted.

- **Workbooks Developed for First year courses:**

Workbooks supplement the textbook learning. Workbooks have been presently prepared for two subjects' i.e. Engineering Mechanics and Elements of Electrical Engineering of the first year course. The workbooks have been developed by the faculty of the respective departments. In the workbooks thought provoking questions have been framed to cover all the topics in the syllabus. This helps the students in revising and understanding the basic concepts and fundamentals of the subjects. The workbook includes multiple choice questions, short answer type questions, reasoning questions and numerical examples. The workbooks are also used by the faculty members to test whether the students have grasped basic learning objectives and their applications.

- **Extension services:**

National Service Scheme (NSS).

NSS volunteers generally work with villages and voluntary agencies to complete 120 hours of regular activities during an academic year. As per the fundamental principles of National Service Scheme, a volunteer is expected to remain in constant touch with the community. Hence, it is of vital importance that a particular village is selected for implementation of NSS programmes. The NSS volunteer is to live with the members of the community and learn from their experience during his/her tenure in NSS. Following are the activities to be performed by the volunteers.

- Development of Villages
- Contacting Village/Area Leaders
- Survey of the Village/Area
- Identification of Problem(s)
- Completion of Projects
- Evaluation of Project.

In addition to the above the NSS team frequently organizes blood donation camps, awareness programs through “Pathnatya”, Grain donations to the needy, plantation drives, Swacchata Abhiyan etc. Presently two units having 75 students in each unit are working. Dr. Ravindra Deshmukh received the Best NSS Program Officer Award for the year 2015-16. Mr. Akshay Kolte received the Best NSS Cadet Award for year 2015-16.



Dr. Ravindra Deshmukh receiving award of “ Best NSS Coordinator” at the hands of Honorable Vice Chancellor Dr. B.A. Chopade

The institutes’ NSS unit has adopted an HIV infected girl “Sonu” pursuing her Bachelor’s degree in Arts, The unit has taken up the responsibility of her education.



NSS unit with “Sonu”

Student Chapters:

All the departments hold student chapters through which various technical activities are carried out throughout the year. Technical events, seminars and workshops are organized under the purview of the student chapters of Institution of Engineers IE(I), Computer Society of India (CSI), IIE, IEEE.

7.3 Best Practices

Practice 1:

Title of Practice

Enterprise Resource Planning (ERP) for effective implementation of curriculum.

Goals:

- To reduce manual efforts for generation of timely and accurate reports on attendance, results analysis and student portfolios.
- To provide a platform for sharing of classroom notes and presentations.
- To streamline the workflow of administration and academia.
- To ensure compatibility with biometric devices and barcodes.

The context

Expectations for improved performance are always increasing, the institute continues to think more creatively about how the faculty, teaching learning process and technology can work together more efficiently. ERP systems support this view by helping the institute to build and manage faculties, systems and students to interact seamlessly in an environment where efficiency and experiences propel desired outcomes.

Practice

The ERP system addresses all stakeholders of the institute. Following practices address them:

- Administrative
 - The manual processes are reduced and saves significant staff time.
 - It is facilitated by records management, with a single system for all the data needs a single digital record for each student and staff is generated (Biometric and leave records).
- Academic.
 - Give faculty the means to enter and update the course plan, and have personalized access to timely, accurate information.
 - Give faculty the means to enter and analyze the marks of class test and university results.
 - Academic monitoring is facilitated through ERP.

Evidence of success

- The admission process is simplified, the student information is provided at the admission desk and I-Card is issued.
- The student /staff academic records are readily and easily available, with appropriate safeguards (viz. Usernames and passwords).
- Since the commencement of the ERP system regular course monitoring is possible for all the stakeholders.

Problems Encountered and Resources Required

- Available and new resources have been procured (Computers) to facilitate the day to day up gradation of the course plan, attendance and class test marks.

- Induction and training of the ERP system to increase the awareness of the stakeholders.

Best Practice 2:

Title of the Practice: Quality Management System (QMS) ISO 9001:2008

Goal:

Top management decides the objectives of the institution from time to time. These will be measurable and consistent with quality policy and will address the issues related to meeting the requirements of service. These will be reviewed and measured in the management review meeting. The main objectives are:

- To reduce complaint from students by 1% every year. Regarding Hostel, Library, Equipment, Computer, Faculty etc.
- To reduce non-conformities in institute operation by 3% after every academic year.
- To increase quality consciousness at all levels of faculty & staff of the institute by holding meeting with ISO coordinators of each department with MR and DMR once in each semester.
- To provide needful resources to satisfy needs of students & parents. Internet, Extra classes, Library, Expert Lectures.
- To give opportunities for development in the fields other than technical education to produce worthy citizens of the society. By taking camps for NSS, EDP cell, Futuristic manufacturing workshop, Academic & Industry interaction etc.
- To ensure minimum 10% of the total students are placed after completion of the technical education, through campus interviews.

The context

The QMS procedures and instructions are developed for enhancing the academics of the students and staff. An efficient QMS is characterized by awareness, concern and needs of the stakeholders. QMS is committed to improve the academic outcomes by development and training of the students and staff.

Practice:

Audits form a vital part of the QMS approach as they enable the institute to check how far their achievements meet their objectives and show conformity to the standards. Audits ensure that all requirements have been documented within the management system in the appropriate location in terms of defined specific system procedures. Audit also confirms the training, performance processes, monitor and report the extent of compliance with the established procedures.

Evidence of success

As a result of the academic course monitoring process. Course files of the subjects taught are available with the faculty members with the following contents: Time table, course plan and its implementation, attendance, result analysis, question bank, university question papers, lecture notes, etc.

- Records of laboratories are maintained and updated timely. Following records are readily available in the laboratories: capital goods stock register, functional check register, maintenance record and log book.
- The student records are available with the head of the department. Following details are available: Admission status, Attendance, Class test performance, Result analysis. Profile is readily available with an easy access.

Problems Encountered and Resources Required

- Available and new resources have been procured (Computers with internet facility) to facilitate the day to day up-gradation of the course plan, attendance and class test marks.
- Frequent induction and training programs have been organized to have continuous improvement in the established processes.

Best Practice 3

Title of Practice

To invite JNEC Alumni as Chief Guest of annual social gathering “Razzmatazz”.

Goals

- To strengthen the interactions between the students and eminent alumni.
- To create awareness in students for the future positions they can achieve.
- To promote industry-institution interaction.
- To enrich students by true experiences and efforts of alumni, in achieving higher goals.
- To acknowledge achievements of alumni.

The context

In order to effectively motivate the students existing in the current environment, it is beneficial to demonstrate examples of success stories which have emerged from the same environment in the past. This encourages to create a strong alumni bond, which forms the strength of the institution.

Practice

- Eminent alumni are identified through the alumni network.
- Principal, Vice-Principal, Staff advisor for Razzmatazz, Alumni Co-ordinator agree on a list of names.
- Availability is checked and formal invitation is sent to the guest.
- All necessary arrangements and hospitality is taken care by alumni co-ordinator and staff advisor.

Evidence of success

- Alumni Guests extended help for projects, industrial visit, placement etc.
- One of the distinguished alumni announced a support of Rs. 25,00,000/- for the students through CSR initiative.
- Independent interaction between the students & alumni observed through personal / social network.
- Overall informal feedback of students for Razzmatazz main function is observed to be excellent.

Problems encountered & resources

JNEC having several established and distinguished alumni who are suitable to be invited as chief guests. Therefore, every year two alumni are invited in place of one.

Best Practice 4

Title of practice

Active participation in and motivation for Quality Circle and allied concepts

Goals

- To promote industry institute interaction.
- To inculcate Total Quality Management (TQM) concepts in students and staff.
- To develop team spirit and problem solving approach.
- To develop innovative approach.

The context

Quality Circle and allied concepts are used in local industries and other industries in which students may work in future. It is therefore desirable to make them practically acquainted with these concepts; particularly students of Mechanical, Electrical & Chemical Engineering.

Practice

- In association with Quality Circle Forum of India (QCFI) Aurangabad chapter every year at least one convention is organized. About 50-70 teams from industries participate presenting solutions of practical industrial problem.

Students attend respective sessions of the same.

- Interested students & staff are motivated and promoted identifying problems in work area to obtain its solution on it and participate in chapter and National convention.

Evidence of Success

- JNEC received QCFI Canara Bank Award for Best Service Sector Organization-2008.
- Many of the students and staff teams were acknowledged at chapter and national conventions.
- Students were exposed to real life problems through the conventions.

Problems encountered and resources

- Expenses required for obtaining solutions, membership fees and participation fees were allocated appropriately.
- Facilities such seminar halls, PA system, LCD-projector etc. were extended towards convention.

Other Best Practices followed by the institute:

- **Feed back of performance of faculty members from students**
 - In every semester feedback of faculty members is taken from students in the middle of term and at the term end.
 - Format of feedback form is prepared taking into consideration all factors about teaching learning process.
 - Students are encouraged to write their expectations in the form of comments.
 - Systematic calculations based on marks given by students are done to know the area of improvement of the faculty member.
 - Feedback from students is informed to faculty members so that the faculty can make necessary improvements in teaching to meet with students' expectations.

- A team of senior faculty is formed in each department where senior faculty works as mentor to junior faculty and guides the junior faculty.
 - End term feedback is also taken to know completion status of syllabus of the subject
- **Compilation of past examination question papers and making them available to students**
 - After every university examination, question papers are compiled subject wise, course year wise and department wise and sent to respective department and library.
 - Question papers are made available to students and faculty members in the department.
- **English speaking and communication program**
 - Department of languages conducts one month course on communication skills for faculty members during vacation.
 - The course is designed to fulfill the various requirements of communication.
 - The course includes English grammar, different exercises and activities.
 - Successful candidates are awarded the course completion certificate.
- **Academic Inspection**
 - Academic inspection is conducted in every semester. It is mainly about academic details (theory and laboratory sessions.)
 - After the successful completion of theory and laboratory session, faculty members prepare meticulous record.
 - Faculty member also prepares a course file for every subject that he/she is teaching.
 - Course file includes record of various documents including subject notes prepared by faculty, objectives and outcomes of the course,

mapping of the course outcomes, class test question papers, students attendance and performance record, record of practical, content beyond syllabus etc.

- **Promotion of research and consultancy activities**

- Six branches of the institute are registered as recognized Ph.D. research center of Dr. BAMU, Aurangabad.
- The institute promotes the research and consultancy activities among the faculty and students. The institute has taken initiative to start new PG programs.
- The institute provides financial support to the faculty for research related projects, conferences and workshops.
- It is mandatory for every PG student to publish a research paper in refereed research journals/conferences.

- **Periodical Industrial visits**

The departments organize industrial visits related to the curriculum and interest of students on a regular basis. Students visit the industries where they interact with the industry personnel and are made aware of the processes/ functionality of the industry. The purpose behind this is to make the students familiar with the industrial practices. Students are exposed to practical situations and events in industries.

- **Inculcate the culture of technical writing and publication skills**

Writing and publishing research papers are an integral part of the professional life. This will not only help in obtaining knowledge and increasing the number of projects in hand but also it opens the way for best evidence based practice in the engineering profession. The first part of the practice includes, encouraging the faculty to write the scientific papers. Then the written manuscripts are verified by the research and ethical committee. Once the manuscripts are ready, the ways are identified to get it published through various means. The papers are presented in the workshops, conferences and in national and international journals.

- **Faculty enrichment programme**

The institute organizes faculty enrichment programs for promoting teacher quality. This aims at personal and professional development of faculty thereby facilitating their role as educators and mentors.

- **Encourage students to become entrepreneur and self-employed professional.**

Entrepreneur Development Program (EDP) cell is established in the institute. Seminars/workshops are frequently organized for students. Entrepreneurs/Experts working in various fields are invited to motivate the students.

