SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT
RAMDEO TEKDI, KATOL ROAD, NAGPUR
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Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Shri Ramdeobaba College of Engineering and Management (RCOEM), a self-financed autonomous Institute, is established in 1984 promoted by Shri Ramdeobaba Sarvajanik Samiti, a charitable trust which has been involved in community service for over four decades under the visionary leadership of founder chairman Shri Banwarilal Purohit, presently Honourable Governor of Tamil Nadu. Shri Ramdeobaba is 15th century saint from Rajasthan who worked for welfare of the society irrespective of caste and creed and is worshipped by all communities. The Institute is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU), Nagpur and is approved by AICTE, New Delhi and Government of Maharashtra. RCOEM is Hindi Linguistic Minority Institution. The Institute was granted progressive academic autonomy in 2011 by UGC and RTMNU. After re-assessment, the autonomy has been extended up to 2022-2023. The Institute is consistently ranked at National level by NIRF, Outlook, India Today and Competition Success Review Magazines.

The Institute is centrally located in the city of Nagpur and is well connected to local facilities within a comfortable distance of 3 km. In the last few years, the city has registered phenomenal industrial growth leading to gainful employment for the prospective students. The presence of IT-Park, Maha-metro Rail and Maharashtra International Hub at Nagpur (MIHAN) project, Butibori Industrial area have played a vital role in creating world class infrastructure in the city.

The campus is spread over 16.77 acre. The total built-up area is 44,396.9 sq.m. The Institute offers 25 programmes (13 UG and 12 PG) and 06 Ph.D research center. The Institute has a current enrolment of 4624 students, 274 faculty with 135 Ph.D. The Institute has been effectively practicing Outcome Based Education. Curriculum design & development, Pedagogy and Assessment are given highest priority. The quality educational practices supplemented with academic ambience, state of the art infrastructure, pedagogy, research, incubation, training opportunities and entrepreneurship are enabling the Institute to produce graduates who can excel in professional career/higher studies. The Institute maintains high academic quality standards; the certification by the NAAC, NBA (Tier-I Format) and NIRF Ranking is testimony of same.

Vision

Vision: Shri Ramdeobaba College of Engineering and Management envisages the Institute par excellence, providing world class technical and management education.

The Institute management has envisaged the vision of providing quality education so as to develop skilled and competent human resource to serve the nation instilling in them the professional and ethical values. This vision is in view of the young demographic nature of India and the changing global market needs. For realization of the vision, emphasis is laid on creating a stimulating environment that promotes excellence. Promoting student-centered learning, the Institution emphasizes on the Teaching Learning Practices for the improvement of academic performance and holistic development of the students. The employability factor is one of the prime considerations in the design and development of outcome based curriculum. The Institution has a well-laid perspective plan and is executed with the involvement of all the stake holders. The Board of Management ensures that all decisions on the matters such as admission quality, new programmes, infrastructure, teaching learning process and placements are in line with the vision of the Institution.

The source of vision is dynamic leadership of founder chairman Shri Banwarilal Purohit, who is presently Hon. Governor of Tamil Nadu. Shri Banwarilal Purohit represented Nagpur thrice as Member of Parliament and former Governor Assam and Meghalaya. He is mentor of widely circulating daily newspaper in central India "The Hitavada". The Hitavada was started by Shri Gopal Krishna Gokhale mentor of Rashtrapita Mahatma Gandhi in 1911. He is vice-president of Bhartiya Vidya Bhavan. He has more than 40 years of experience in education field and is a driving force of governance.

Academic Advisory Board (AAB) is formed to provide advice on strategic matters and is chaired by Padma Vibhushan Dr. Anil Kakodkar. The members are Padmashri Dr. Nagarajan Vedachalam, distinguished Scientist ISRO and Dr. Mihir Kanti Chaudhuri, Advisor, Education, Assam and former Vice-Chancellor Tezpur University.

Mission

Mission: To impart quality education in the field of Engineering and Management and to foster mutually beneficial relationship with industries to create an intellectually stimulating environment for learning, research and for promoting professional and ethical values.

The following measures are implemented to accomplish the mission:

Curriculum Design: The positive outcomes are achieved by designing the curriculum to meet the changing demands for engineering and management graduates with involvement of all stakeholders. Outcome Based Education (OBE) practice is ensured to attain the Programme Outcomes (POs) in general and Programme Specific Outcomes (PSOs) in particular.

Teaching and Learning Process: The Institute encourages learner centric teaching and learning methods with focus on interactive/participative methods and usage of modern tools.

Research & Development: The Institute promotes research, innovation & entrepreneurship through R&D cell, Centre of Excellence and Incubation center. Several initiatives are institutionalized in promoting research culture in the Institution

Industry-Institute-Interaction: In order to enhance the learning levels of the students, the Institute is immensely encouraging and supporting industry interaction through industry supported courses, co-teaching by industry experts, projects, internship and other activities.

Participative Governance: The Management promotes active involvement of all stakeholders in the institutional development activities.

Quality Assurance: Academic Audits at the department/Institution level are regularly conducted for monitoring the continuous improvement. Internal Quality Assurance Cell (IQAC) has been constituted to monitor/maintain quality in all its processes. Effective student feedback system on faculty and the institutional facilities is in place.

RCOEM is committed to quality assurance initiatives and ISO 9001:2015 certified Institution. The programmes

are accredited by NBA since 2001 and the Institute is accredited by NAAC in 2014 with the highest grade 'A'.

Quality Policy

Shri Ramdeobaba College of Engineering and Management is committed to achieve exemplary standards in Engineering and Management Education.

We aim at continuous improvement of all our processes and will strive to provide an environment conducive to the pursuit of knowledge and overall personality development.

We encourage all to adhere to the highest ethical standards and professional integrity and aim to enhance the satisfaction level of all stakeholders.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- Visionary and Proactive Management

- Transparent Governance

- Transparent admission process

- Most sought after Institute amongst the self-financed institutions in the region

- Transparent administration with adherence to well documented procedures through ISO certification

- Recognition as center for Higher Learning and Research by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

- Accreditation of programmes by NBA since 2001

- Highly qualified and experienced faculty with 135 Ph.D

- Good faculty retention ratio

- Wide network of supportive alumni

- Academic flexibility through Choice Based Credit System (CBCS) across all programmes

- Continuous assessment and transparent evaluation process for students

- Effective implementation of Outcome Based Education (OBE)

- Active involvement of industry experts in co-teaching

- Six months/One year industry internship for students

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- Excellent student placement

Institutional Weakness

- Limited geographical diversity of students due to government regulations

- Lack of faculty diversity and international fellowship

- Over reliance on IT industry for placements

- Faculty/Student exchange programs at national & international level

- Negligible philanthropic grants

Institutional Opportunity

- Emergence of Nagpur as an infrastructural hub together with MIHAN project provides increasing opportunity for placement, consultancy and training

- Establishment of Center of Excellence

- Funded research projects

- Grow into Start-up hub for engineering/management graduates

- Offer professional certificate courses for skill upgradation/development

- Engaging adjunct faculty from industry across all domains

- Creating advance test and development facilities to improve internal revenue generation through testing and consultancy services

- The grant of self-financed university status to the Institute will open up opportunity for

    - Innovation in education from the perspective of Industry 4.0

    - Collaboration with national and international universities for academics and research

    - Starting new Diploma and Certificate courses to cater to local industry and societal needs

    - Participation in the government schemes like RUSA.

- Presence of local premier government institutes, research organisations provide opportunity for collaborative academic, research and development activities

Institutional Challenge

- Sustaining competition from premier Institutes

- Attracting international students

- Keeping pace with global development in pedagogy and research

- Attracting foreign faculty to teach across domains

- Enhancing number of core engineering company placements

- More number of international placements

- Resource augmentation for a growing Institution

- To design and offer academic sandwich and twinning programs with foreign universities

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Curriculum Design and Development

   The curriculum is designed to support the attainment of the Programme Outcomes (POs) and Programme Specific Outcomes (PSO) as defined by NBA, Program Specific Criteria (PSC) of professional bodies, the model curriculum and credit structure as suggested by All India Council for Technical Education (AICTE). Curriculum revision has been carried out for UG programme in the year 2018-19 and for PG programme in 2015-16. Choice Based Credit System (CBCS) is being adopted across all programmes with following features:

- Course curriculum relevant to local, national, regional and global developmental needs with focus on employability, entrepreneurship and skill development

- Well-defined POs, PSOs and Course Outcomes (COs) and its assessment process

- Structured feedback system for necessary changes in the scheme/syllabus

Academic Flexibility

- Open Electives

- Programme Electives

- Provision for degree with Minor and with Honors through additional credits

- Credit transfer through MOOCs

- One semester Internship

Curriculum Enrichment

- Credit courses based on Design Thinking, Entrepreneurship development etc.

- Sanskrit as a scientific traditional language

- Provision for foreign language

- Value based courses on Constitution of India, Yoga, Environmental Science, Professional Ethics etc.

- Skill enhancement through 'Focus Academy for Career Enhancement' (FACE), 'Amazon Web Services' (AWS), 'AutoCAD', Creo training, Entrix etc.

- Additional certifications through MOOCs

- Interactive sessions/workshops by experts from Industry, academia and foreign universities on emerging technologies

- Regular Site/Field/Industry visits

Feedback System

- Feedback from all stakeholders through a comprehensive questionnaire and its review on aregular basis

- Feedback by students as members of Boards of Studies, Internal Quality Assurance Cell, College Development Cell etc

The feedback system helps in

- Design and review of syllabus/scheme

- Introducing additional open / department electives

- Modifying content delivery methods and improving the teaching-learning process

Teaching-learning and Evaluation

Student Enrollment and Profile

- Transparent admission process through online registration
- Good Demand Ratio
- Minority Institution with no reservation for various categories.
- Programme details and fee structure available on website and in the prospectus

Catering to Student Diversity

- Slow and advanced learners are identified on the basis of their performance in internal tests and End Semester Examination (ESE).
- Remedial classes for slow learners
- Minors and Honors scheme for advanced learners

Teaching-Learning Process (TLP)

- ICT based teaching and learning practice is adopted
- Use of Management Information System (MIS) and e-resources are encouraged
- Experiential, participative and problem solving methodologies using contemporary pedagogy tools like case studies, group discussions, field projects etc. is practiced.
- Mentor : Mentee ratio 1:17
- Adherence to academic calendar
- Academic audit for improving the academic quality

Teacher Profile and Quality

- 100% sanctioned posts of faculty are filled
- 135 faculty with Ph.D from premier Institutes
- Teacher student ratio 1:17
- Average teaching experience is 15.37
- Currently 15% of faculty are from other states

Evaluation Process and Reforms

- Transparent and continuous evaluation processwith result declaration within 20 Days
- Grading and assessment of student learning through appropriate level of assignments, exams and grading standards.
- Automated examination system
- The Institute publishes Examination Manual
- Valued answer books are shown to the students and grievances are addressed
- Auto generated and auto pre filled examination forms with admit cards available through students' login in MIS system

Student Performance and Learning Outcomes

- Students performance and learning outcomes are measured through the attainment of COs, POs and PSOs
- Average pass percentage of students of the last assessment year is 91.48

Research, Innovations and Extension

Promotion of Research and Facilities

- Well defined and disseminated research promotion policy
- Provision for seed money of Rs. 2 lakhs for young faculty to pursue their research interests
- Provision for central research facilities: Central Instrumentation Centre, Central Fabrication Centre, various research databases and Plagiarism tool
- The Institute is promoting development of Centre of Excellence, industry supported lab so as to create research opportunities for students, faculty and researchers

Resource Mobilization for Research

- The Institute has received grants for research projects sponsored by the government/non-government agencies worth Rs. 347.42 lakhs during the assessment cycle
- Six departments are recognized as center for higher learning and research by RTMNU
- IPR cell facilitated filing of 44 patent applications and 157 copyrights during assessment cycle

Innovation Ecosystem

- Established Technology Business Incubator (TBI) in 2016
- 337 Trainings/Seminars on IPR /Ideation Workshop conducted during assessment cycle
- 359 awards won by faculty and students
- 14 start-ups incubated by TBI –RCOEM

Research Publications and Awards

- Research Incentives to encourage faculty for research and enrollment in Doctoral Programme. The incentives given to faculty amounts to Rs. 60 lakhs
- Well defined plagiarism policy
- More than 400 research papers in SCI, WOS and SCOPUS indexed journal
- Around 600 books/chapters and papers published in national and international conference proceedings
- 44 patents filed, 17 patents published and 3 patents granted

Consultancy, Extension Activities, Collaboration

- Well defined consultancy policy involving 80% share to faculty
- The revenue generated from consultancy and corporate training is Rs.167.29 lakhs/-
- 94 awards and recognition for extension activities
- 72 extension and outreach programmes conducted in collaboration with industries, NGOs etc
- 32% students participated in extension activities
- 292 collaborative activities for research, faculty exchange and student exchange
- More than one thousand number of linkages are established with industries for internship, on job training, project work, campus connect etc

Infrastructure and Learning Resources

Physical Facilities

- Total built-up area for administrative, instructional and amenities is 44,396.9 sqmt with 63 ICT enabled classrooms
- Air conditioned 06 Seminar halls, 01 Auditorium and 01 Open Air Theatre (OAT)
- 93 laboratories with state of the art equipment
- 52.54 % of average budget allocation for infrastructure augmentation excluding salary
- Nine laboratories are set up with the support of industries like Accenture Pvt. Ltd, Cranes Software, Texas instruments etc
- Indoor / Outdoor sports facilities for table tennis, cricket, volleyball etc
- Nationalized bank facility and ATM on the campus
- 02 Gymnasiums for faculty and students
- Separate hostels for boys and girls with capacity of 434 and 145 respectively
- Campus under CCTV surveillance with 151 CCTVs

Library as a Learning Resource

- Well-furnished and fully automated central library along with 11 departmental libraries with e-books, e-journals and other e-resources
- Number of Books: 20,000 titles and 94,000 volumes
- Easy access to IEEE, ASME, ASCE, EBSCO e-journals, NPTEL video lecture, DELNET inter-library sharing resources and more than 130 print journals
- Central library has 474 rare books, 4404 UG and PG project reports and 2426 online manuscripts & antique books through DELNET
- Average annual expenditure on purchase of books and journals is Rs. 49.23 lakhs/-

IT Infrastructure

- 1983 computers, 17 servers and 76 multi-user application software's
- Student –Computer ratio is 1:3
- Internet speed of 300 mbps, with compression ratio is 1:1
- Wi-Fi enabled campus secured through UTM firewall
- Media center with Lecture Capturing System (LCS)

Maintenance of Campus Infrastructure

- 41.42% of average expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary
- Construction and maintenance department of the Institute takes care of maintaining physical, academic and support facilities
- Out sourcing and AMC services include security, housekeeping, canteen, Mess etc

Student Support and Progression

Student Support

- Students benefitted by scholarships by Government

- 07 capability enhancement and development schemes
- 89% of students are benefited by guidance for competitive examinations and career counseling
- Anti- ragging committee and cell to prevent sexual harassment

Student Progression

- 68 % of students placed through campus drives
- 27 % of students pursue higher studies
- Good number of the appeared students have qualified IELTS/Civil Services/Defense Services examinations/NET/ SET/GATE and State level examination

Student Participation and Activities

- 61 national/international medals won by students during the assessment cycle in sports /cultural/technical events held at different places
- Active student council and representation of students on BOS, Academic Council etc.
- Students participation in 168 sports and cultural activities

Alumni Engagement

- Alumni Association is in existence since 1994 with more than 14,500 registered alumni
- Rs.17/- lakhs as donation received from alumni
- RCOEM Alumni Association chapters at U.S.A, U.K, Singapore, Middle East and in major cities of India including New Delhi, Mumbai, Pune, Bangalore, Jaipur, Hyderabad, Chennai, and Kolkata
- Alumni actively contribute in placements, internships, provide books, counsel students and deliver guest lectures as well.

Governance, Leadership and Management

Institutional Vision and leadership

- Visionary and supportive management.
- Practices decentralization and participative management
- Transparency and accountability
- Generous financial support

Strategy Development and Deployment

- Perspective plan for 2015- 2020 is in vogue
- Meetings of all statutory bodies as per schedule and implementation of the resolutions
- Continuous self-assessment for all departments
- Regular reviews and external audits for quality assurance
- Organogram available on Institute website
- Implementation of e-governance in major areas of administration

Faculty Empowerment Strategies

- Sponsorship for attending national/international conferences
- Seed money for research projects
- Incentives for research paper publication
- 06 months paid leave for pursuing Ph. D
- Welfare measures- Mediclaim, Staff credit co-operative society Ltd, 50% concession for support staff wards studying in the Institute, Maternity leave of 180 days , Employees Provident Fund, Skill development of support staff and Gratuity
- Encouragement for professional development of faculty through online courses, conferences and workshops by providing financial support
- Faculty appraisal system

Financial Management and Resource Mobilization

- Regular internal and external financial audit
- Centralized Purchase
- On-line Purchase orders
- Central store and stock registers

Resource mobilization through:

- Primarily as tuition fees from students.
- Contribution by alumni
- Sponsored projects from Government and other funding agencies

Internal Quality Assurance System

Internal Quality Assurance Cell (IQAC) plays a pivotal role in:

- Creating awareness about quality assurance
- Suggesting improvements in teaching learning strategies
- Formulation of regulations and curriculum mapping for educational assessment
- Regular review of the processes and systems
- Internal /external Academic Audit
- Helping design and update feedback documents
- Regular meetings : 22 in last five years
- Quality initiatives are undertaken for promoting quality culture during the assessment cycle

Institutional Values and Best Practices

Institutional values and social responsibilities

Gender Equity

- 32 no. of gender equity programs organized

- Regular organization of programs related to safety, health, hygiene and financial independence by Women Empowerment Cell

- Safety and security is ensured through 24 x 7 surveillance with 151 CCTV cameras and security services

Environmental consciousness and sustainability

- 53.47% of power requirement is met through renewable energy sources

- 68.25% of lighting requirement are met through LED bulbs

- A 200 KLD MBBR and vermi-composting technique take care of liquid and solid waste generated on the campus

- Disposal of e-waste is done through the services of the authorized agency

- The Institute has received 'Green Army Certificate' from Social Forestry department, Government of Maharashtra and 'One Student One Tree initiative' from AICTE for green initiatives undertaken

- 08 rain water harvesting pits along the storm water drainage system

- Green practices such as bicycles, use of public transport , plastic free campus, moving towards paperless office

- 101 bird species and more than 35 tree species on campus

- Different facilities are available for Divyangjan such as lifts, ramps, wheel chairs etc

- Celebrates national festivals and days of national importance

- Adheres to transparent practices related to financial matters, admissions, academic activities and administration, efficient and effective procedures of administration and management

- Villages adopted through 'Unnat Bharat Abhiyan' (UBA) and 'National Service Scheme' (NSS)

Best Practices

1. One semester Internship: Industry, Start-up, R&D and MSME

2. Financial aid to deserving students

3. Promotion of Massive Open Online Courses (MOOCs)

Institutional Distinctiveness

- Transparent Governance

- Quality Education

- Excellent student support and progression

- Highest number of placement offers in central India

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR
Address	Shri Ramdeobaba College of Engineering and Management Ramdeo Tekdi, Katol Road, Nagpur
City	Nagpur
State	Maharashtra
Pin	440013
Website	www.rknec.edu

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Rajesh S. Pande	0712-2580011	9822224468	0712-2583237	rcoem@rknec.edu
Associate Professor	Pallavi K. Parlewar	0712-2581750	9665446151	0712-	naac@rknec.edu

Status of the Institution	
Institution Status	Private and Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular Day

Recognized Minority institution	
If it is a recognized minroity institution	Yes Minority approvals.pdf
If Yes, Specify minority status	
Religious	
Linguistic	Hindi Minority
Any Other	

Establishment Details	
Date of Establishment, Prior to the Grant of 'Autonomy'	21-06-1984
Date of grant of 'Autonomy' to the College by UGC	26-03-2011

University to which the college is affiliated		
State	**University name**	**Document**
Maharashtra	The Rashtrasant Tukadoji Maharaj Nagpur University	View Document

Details of UGC recognition		
Under Section	**Date**	**View Document**
2f of UGC	10-07-2010	View Document
12B of UGC	10-07-2010	View Document

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	**Recognition/App roval details Inst itution/Departme nt programme**	**Day,Month and year(dd-mm-yyyy)**	**Validity in months**	**Remarks**
AICTE	View Document	10-04-2019	12	

Recognitions	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	No
Is the College recognized for its performance by any other governmental agency?	Yes
If yes, name of the agency	Ministry of Human Resource Development Govt of India
Date of recognition	08-04-2019

Location and Area of Campus				
Campus Type	**Address**	**Location***	**Campus Area in Acres**	**Built up Area in sq.mts.**
Main campus area	Shri Ramdeobaba College of Engineering and Management Ramdeo Tekdi, Katol Road, Nagpur	Urban	16.77	44396.9

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	**Name of Programme/Course**	**Duration in Months**	**Entry Qualification**	**Medium of Instruction**	**Sanctioned Strength**	**No.of Students Admitted**
UG	BE,Electronics Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Electronics Engineering	48	HSC with Physics Chemistry Mathematics	English	120	120
UG	BE,Civil Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Civil Engineering	48	HSC with Physics	English	60	60

			Chemistry Mathematics			
UG	BE,Electrical Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Electronics Design Technology	48	HSC with Physics Chemistry Mathematics	English	30	30
UG	BE,Industrial Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Computer Science And Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Computer Science And Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Information Technology	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Electronics And Communication Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Electronics And Communication Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
UG	BE,Mechanical Engineering	48	HSC with Physics Chemistry Mathematics	English	60	60
PG	Mtech,Electronics Engineering	24	Dergree in Engineering and	English	24	8

			Technology			
PG	Mtech,Civil Engineering	30	Degree in Engineering and Tchnology	English	15	6
PG	Mtech,Civil Engineering	24	Degree in Engineering and Technology	English	18	18
PG	Mtech,Electrical Engineering	24	Degree in Engineering and Technology	English	18	9
PG	Mtech,Industrial Engineering	24	Degree in Engineering and Technology	English	18	6
PG	Mtech,Computer Science And Engineering	24	Degree in Engineering and Technology	English	24	20
PG	Mtech,Mechanical Engineering	24	Degree in Engineering and Technology	English	24	13
PG	MCA,Master Of Computer Application	36	Any Degree with Mathematics as a compulsory course	English	60	60
PG	MCA,Master Of Computer Application	36	Any Degree with Mathematics as a compulsory	English	60	19
PG	MBA,Management Technology	24	Any Bachelors Degree	English	60	60
PG	MBA,Management	24	Any Bachelors	English	60	60

	Technology		Degree			
PG	MBA,Management Technology	60	HSC in Arts Science Commerce	English	60	60
Doctoral (Ph.D)	PhD or DPhil,Electronics Engineering	72	Masters Degree in Engineering and Technology	English	15	7
Doctoral (Ph.D)	PhD or DPhil,Civil Engineering	72	Masters Degree in Engineering and Technology	English	10	1
Doctoral (Ph.D)	PhD or DPhil,Electrical Engineering	72	Masters Degree in Engineering and Technology	English	10	3
Doctoral (Ph.D)	PhD or DPhil,Computer Science And Engineering	72	Masters Degree in Engineering and Technology	English	15	10
Doctoral (Ph.D)	PhD or DPhil,Mechanical Engineering	72	Masters Degree in Engineerin and Technology	English	10	9
Doctoral (Ph.D)	PhD or DPhil,Management Technology	72	Masters Degree in Business Administration	English	20	4

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				**Associate Professor**				**Assistant Professor**			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				21				50				158
Recruited	14	3	0	17	36	11	0	47	87	71	0	158
Yet to Recruit				4				3				0
Sanctioned by the Management/Society or Other Authorized Bodies				0				0				52
Recruited	0	0	0	0	0	0	0	0	25	27	0	52
Yet to Recruit				0				0				0

Non-Teaching Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				127
Recruited	94	33	0	127
Yet to Recruit				0

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Technical Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				90
Recruited	75	15	0	90
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualificatio n	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	14	3	0	27	10	0	42	39	0	135
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	9	1	0	71	58	0	139

Temporary Teachers										
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Part Time Teachers										
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	**Male**	**Female**	**Others**	**Total**
	1	4	0	5

Provide the Following Details of Students Enrolled in the College During the Current Academic Year

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
Doctoral (Ph.D)	Male	1	1	0	0	2
	Female	2	1	0	0	3
	Others	0	0	0	0	0
UG	Male	569	29	4	1	603
	Female	234	10	0	0	244
	Others	0	0	0	0	0
PG	Male	106	7	0	0	113
	Female	128	5	0	0	133
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years

Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	56	56	55	49
	Female	64	71	75	60
	Others	0	0	0	0
ST	Male	4	6	1	1
	Female	1	4	4	1
	Others	0	0	0	0
OBC	Male	531	435	403	317
	Female	411	353	324	299
	Others	0	0	0	0
General	Male	1932	2028	2083	2110
	Female	1149	1237	1257	1307
	Others	0	0	0	0
Others	Male	349	323	356	369
	Female	188	216	226	210
	Others	0	0	0	0
Total		4685	4729	4784	4723

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Civil Engineering	[View Document](#)
Computer Science And Engineering	[View Document](#)
Electrical Engineering	[View Document](#)
Electronics And Communication Engineering	[View Document](#)
Electronics Design Technology	[View Document](#)
Electronics Engineering	[View Document](#)
Industrial Engineering	[View Document](#)
Information Technology	[View Document](#)
Management Technology	[View Document](#)
Master Of Computer Application	[View Document](#)
Mechanical Engineering	[View Document](#)

3. Extended Profile

3.1 Program

Number of programs offered year-wise for last five years

2018-19	2017-18	2016-17	2015-16	2014-15
25	19	19	19	19

File Description	Document
Institutional Data in Prescribed Format	[View Document]

3.2 Students

Number of students year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
4685	4729	4784	4723	4802

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of outgoing / final year students year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1203	1237	1190	1233	1300

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of students appeared in the examination conducted by the Institution, year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
4685	4729	4784	4723	4802

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of revaluation applications year-wise during the last 5 years

2018-19	2017-18	2016-17	2015-16	2014-15
1	1	1	1	1

3.3 Teachers

Number of courses in all programs year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
530	541	538	478	489

File Description	Document
Institutional Data in Prescribed Format	[View Document](#)

Number of full time teachers year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
256	296	292	285	272

File Description	Document
Institutional Data in Prescribed Format	[View Document](#)

Number of sanctioned posts year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
256	296	292	285	272

File Description	Document
Institutional Data in Prescribed Format	[View Document](#)

3.4 Institution

Number of eligible applications received for admissions to all the programs year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
51089	61333	66384	37640	39097

File Description	Document
Institutional Data in Prescribed Format	View Document

Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1	1	1	1	1

File Description	Document
Institutional Data in Prescribed Format	View Document

Total number of classrooms and seminar halls

Response: 69

Total number of computers in the campus for academic purpose

Response: 1579

Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
948.62	866.43	940.03	915.03	1001.03

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4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed /adopted have relevance to the local/ national / regional/global developmental needs with learning objectives including program outcomes, program specific outcomes and course outcomes of all the program offered by the Institution

Response:

Statutory bodies develop curricula keeping in view the aspirations of the students coming from various backgrounds, capacities, capabilities and considering local, national, regional and global developmental needs.

The focus of learning experience at the Institute is 'Student Centric'. The curriculum of each programme is developed in line with the vision & mission of the Institute and the departments. The Programme Outcomes (POs) are framed in accordance with Graduate Attributes prescribed by NBA. The Programme Specific Outcomes (PSOs) are specific to the disciplines taking into account the Programme Specific Criteria (PSC) laid by different professional bodies.

Establishment of Multi-Modal International Cargo Hub and Airport at Nagpur (MIHAN), Metro Rail project and many infrastructure development projects are already in full swing. Giant IT companies like TCS, Tech Mahindra, and Infosys have already started thier operations from Nagpur. There are many small, medium and large scale industries which are either functioning or are in the process of completing their operational bases. Thus, the opportunity for engineering graduates and management professionals in this region is increasing, therefore the relevant curriculum is designed in consultation with industry experts to address the requirements of employability, entrepreneurship and creation of the culture of innovation. Besides this, many courses or parts of the syllabus are taught by experts from industry including TCS, Persistent Systems Ltd., Global Logic India Pvt. Ltd., Infocepts Pvt. Ltd , Ashok Leyland etc.

The Institute has recently reframed the scheme and syllabus of all UG programmes as per the Model Curriculum and Guidelines given by AICTE, New Delhi and is implemeted from 2018-19. Also the CBCS is implemeted for PG programmes from 2016-17.

The learning is made more relevant through:

1. One semester industry internship.
2. Adoption of Choice Based Credit System (CBCS).
3. Open Electives, Credit Transfer, MOOCs.
4. Enrichment of entrepreneurship education through courses on Design Thinking and Entrepreneurship Development.
5. Development of bilingual abilities through languages like German and Sanskrit.
6. Introduction of courses like electric vehicles, Internet of Thing (IOT), Artificial Intelligence (AI), cloud computing, supply chain management, environment protection etc.

To keep pace with the ongoing changes in the industry requirements and technological developments, the

frequent changes in the curriculum are required. This is ensured through the contributions of senior technologists from reputed industries, academic peers from IITs, NITs & research organizations and our illustrious alumni who are nominated on the academic bodies like 'Board of Studies' and 'Academic Council'. The Institute has adopted skill/ability oriented 'Outcome Based Education' system. This has ensured more emphasis on hands-on practices, field projects, innovation and industry exposure which is the need of the hour to address local, regional, national as well as global requirements.

Feedback and inputs received through formal and informal ways from all the stakeholders of the Institution are analysed. Faculty presentations on the need, objectives and outcome of the proposed curriculum / courses are conducted. The curriculum thus prepared with input from all stakeholders is discussed and resolved in the BOS meetings and then submitted to Academic Council for approval.

File Description	Document
Any additional information	[View Document](#)

1.1.2 Percentage of programs where syllabus revision was carried out during the last five years

Response: 100

1.1.2.1 How many programs were revised out of total number of programs offered during the last five years

Response: 25

1.1.2.2 Number of all programs offered by the institution during the last five years

Response: 25

File Description	Document
Minutes of relevant Academic Council/BOS meeting	[View Document](#)
Details of program syllabus revision in last 5 years	[View Document](#)

1.1.3 Average percentage of courses having focus on Employability/ Entrepreneurship/ Skill development during the last five years

Response: 95.5

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
505	515	516	456	468

File Description	Document
Program/ Curriculum/ Syllabus of the courses	[View Document](#)
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	[View Document](#)
Average percentage of courses having focus on employability/ entrepreneurship	[View Document](#)

1.2 Academic Flexibility

1.2.1 Percentage of new Courses introduced out of the total number of courses across all Programs offered during last five years

Response: 80.75

1.2.1.1 How many new courses are introduced within the last five years

Response: 428

1.2.1.2 Number of courses offered by the institution across all programs during the last five years

Response: 530

File Description	Document
Minutes of relevant Academic Council/BOS meetings	[View Document](#)
Institutional data in prescribed format	[View Document](#)

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented

Response: 100

1.2.2.1 Number of programmes in which CBCS/ Elective course system implemented.

Response: 25

File Description	Document
Minutes of relevant Academic Council/BOS meetings	[View Document](#)
Institutional data in prescribed format	[View Document](#)

1.3 Curriculum Enrichment

1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Response:

RCOEM recognises the significance of gender sensitivity & equality, environmental conservation, inculcation of human values and professional ethics amongst the students and hence following steps are undertaken:

1. Gender Issues

'Constitution of India' has been introduced as a compulsory course in first year B.E to enable them to learn and practice the concepts of gender equality and social equality.

The students are oriented to perform their fundamental duties and made aware of the fundamental rights as enshrined in the constitution. Concepts like industrial democracy, responsive and responsible bureaucracy, peaceful coexistence, value of cooperation and sharing of resources for the positive and egalitarian transformation of Indian society form a part of the course curriculum.

2. Environment and Sustainability issues

With the objective of sensitizing the students about environmental issues, the course on 'Environmental Studies' is taught in the second year for all branches.

Students are made aware of multidisciplinary nature of Environmental Studies, natural resources, renewable and non-renewable resources, ecosystems, biodiversity and its conservation, environmental pollution, social issues and human population.

Realising the significance of environment conservation, the Institute has formed an environmental club, '**Ramdeobaba College Engineers for Environment Forum (REEF)'** to make students and faculty aware about importance and ways of environment protection.

Through summer internship programme students are encouraged for **Swachh Bharat internship** and are awarded incentives as per Institute norms.

3. Human Values and Professional Ethics

Development of social skills among students is a part of the curriculum. Courses on 'Social Science', 'Psychology for Professional Growth', 'Employability skills for Engineers', 'Organizational Behaviour and Development', 'Ethics in IT', 'Contract Works Account and Management', 'Essence of Indian Traditional knowledge', 'Rural Technology', 'Rural Marketing', 'Engineering for Agriculture' are introduced in the curriculum. Human values and professional ethics form a core component of curriculum design. As a part of 'Technical Communication' course, students are made to understand the significance of ethics in technical writing.

Mini project is a part of curriculum in pre-final year and major project in final year which help the students

to develop their problem solving skills, technical communication skills, inter personal skills and understanding professional ethics.

With the objective of fostering positive human values, gender sensitisation amongst the students and to facilitate their holistic development, several co-curricular and extra-curricular activities are organised through department student societies, student professional societies, hobby clubs, literary club, drama club and dance club etc. The experience of working in teams to organise various events provides the students a practical experience to understand and practice professional ethics that are sure to play a crucial role in their later life as engineers and managers.

National Social Service (NSS) volunteers are encouraged to go for rural camps and create awareness about health, hygiene, education and personal development. Further, students are sensitized about different societal issues prevailing in the country through organisation of visits to nearby charitable organizations / NGOs and providing them necessary services.

File Description	Document
Any additional information	[View Document](#)

1.3.2 Number of value-added courses imparting transferable and life skills offered during the last five years

Response: 138

1.3.2.1 Number of value-added courses are added within the last five years

Response: 138

File Description	Document
List of value added courses	[View Document](#)
Brochure or any other document relating to value added courses	[View Document](#)
Any additional information	[View Document](#)

1.3.3 Average percentage of students enrolled in the courses under 1.3.2 above

Response: 58.13

1.3.3.1 Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
4611	3067	2119	1997	1958

File Description	Document
Any additional information	[View Document](#)

1.3.4 Percentage of students undertaking field projects / internships

Response: 54.28

1.3.4.1 Number of students undertaking field projects or internships

Response: 2543

File Description	Document
List of programs and number of students undertaking field projects / internships	[View Document](#)
Any additional information	[View Document](#)

1.4 Feedback System

1.4.1 Structured feedback received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni 5) Parents for design and review of syllabus Semester wise /year-wise
A. Any 4 of above

B. Any 3 of above

C. Any 2 of above

D. Any 1 of above

Response: A. Any 4 of above

File Description	Document
Any additional information	[View Document](#)
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management	[View Document](#)
URL for stakeholder feedback report	[View Document](#)

1.4.2 Feedback processes of the institution may be classified as follows:
A. Feedback collected, analysed and action taken and feedback available on website

B. Feedback collected, analysed and action has been taken

C. Feedback collected and analysed

D. Feedback collected

Response: A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
Any additional information	View Document
URL for feedback report	View Document
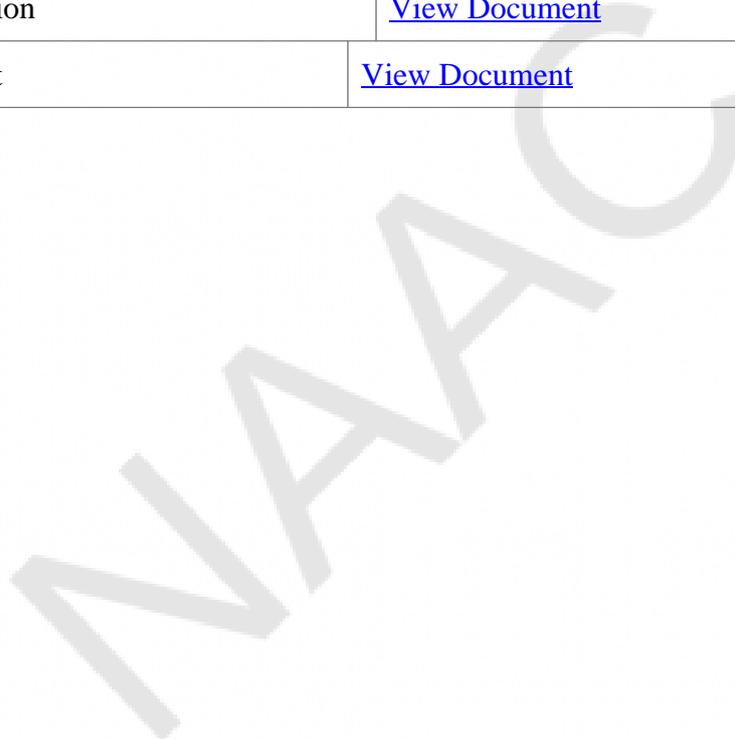
Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average percentage of students from other States and Countries during the last five years

Response: 7.07

2.1.1.1 Number of students from other states and countries year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
257	289	348	386	398

File Description	Document
List of students (other states and countries)	[View Document](#)
Institutional data in prescribed format	[View Document](#)

2.1.2 Demand Ratio(Average of last five years)

Response: 40.85

2.1.2.1 Number of seats available year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1251	1251	1251	1251	1251

File Description	Document
Demand Ratio (Average of Last five years)	[View Document](#)
Any additional information	[View Document](#)

2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

Response: 0

2.1.3.1 Number of actual students admitted from the reserved categories year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

File Description	Document
Average percentage of seats filled against seats reserved	[View Document](#)
Any additional information	[View Document](#)

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners

Response:

The Institute assesses the learning levels of the admitted students through a structured orientation programme which creates awareness about the expected specific attributes. The annual information brochure is provided to all admitted students at the beginning of the academic session which highlights the information about the administrative heads, committees, different departments and its facilities, curriculum and extension activities.

The Institute recognizes the need to adapt to the different learning levels of students and has introduced many policies to give students personalised learning experience. Each class in every program has a heterogeneous population of students and therefore, as learners, their requirements are also different. They are classified as fast, average and slow learners. The planning of lectures, its execution and performance assessment is carried out keeping in view the requirements of average learners. Special care is taken for fast and slow learners in the form of certain provisions in the regulations.

Provisions for Fast Learners:

1. One Semester Internship in Industry/ R&D Laboratories/Renowned Institutions:

This scheme of one semester internship is available for VIII semester UG engineering students who have secured all credits up to seventh semester.

2. One Semester, RCOEM Technology Business Incubation (TBI) Start-up Scheme:

RCOEM TBI Foundation Start-up scheme is available to UG students of VIII semester. In order to be eligible for this scheme, a student should have undergone various training sessions/programs organized by RCOEM TBI Foundation and should continually present/show progress through predefined time bound activities prior to the commencement of final semester.

3. Two Semester Internship in Industry/ R&D Laboratories/Renowned Institutions:

This scheme is available for PG engineering students of third semester who have secured all credits offered up to II semester.

4. Credit Transfer Scheme for completion of one semester in other Institutions:

II year UG engineering students, having earned all the credits offered up to III semester and having secured minimum CGPA of 8 are eligible to apply under this scheme.

5. Incentives for R&D/Incubation/ On-line Courses completed simultaneously with curriculum:

Incentive marks and grade points are awarded to the students for accomplishments in R&D/ Start-up related activities or for completing the MOOCs from NPTEL/Coursera.

6. Capability Linked Opportunities for Fast Learners:

Apart from the minimum credit requirements of 160 for the award of the undergraduate engineering degree, this scheme provides opportunities for supplementing the learning experience by crediting additional courses, in parent /diverse discipline. These additional 20 credits would earn the students, credentials like Honors /Minor. Honors scheme aims for vertical knowledge growth of a student in parent branch which may have research orientation while Minor scheme aims at additional knowledge in any other branch for enhancement of employability.

Provisions for Slow Learners:

1. Remedial class/difficulty solving sessions after each test
2. Provision of Make-up Examination
3. Provision for improvement of Grade/CGPA while undertaking a programme
4. Remedial class/difficulty solving sessions before Make-up Examination
5. Provision to Forgo the Continuous Assessment Marks
6. Provision for improvement of Grade/CGPA after completion of programme
7. Provision to drop the course

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

2.2.2 Student - Full time teacher ratio

Response: 18.3

File Description	Document
Any additional information	[View Document](#)

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0.36

2.2.3.1 Number of differently abled students on rolls

Response: 17

File Description	Document
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)

2.3 Teaching- Learning Process

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Response:

Various departments of the Institute have adopted experiential, participative and problem solving methodologies to be in consonance with contemporary pedagogical practices. Experiential learning gives the student an opportunity to integrate and assimilate theoretical knowledge so that they can empower themselves for real working experiences. Following methods are used by the faculty:

Pedagogical Practices	Teaching Methodology
Class Room Learning	1. Chalk and Talk method 2. PPTs/Multimedia
Experiential / Field Learning	1. Practical learning 2. Industrial visits 3. Internships 4. Training programs 5. Case Studies 6. Guest lectures 7.Students participation in various competitions
Problem solving Learning	1. Tutorial 2. Assignments 3. Quizzes and case studies

	4. Research work
Participative Learning	1. Role Play & Team Work
	2. Project
	3. Group Discussions
	4. Students presentation
	5. MOOC

Effectively designed open ended experiments are adopted. These experiments challenge the student's critical thinking, analysis and design capabilities. The students are also trained on virtual labs and modern simulation tools to enrich their experiential learning.

Flipped classroom technique is used in few courses where students are given the related literature for self-study and are later asked to discuss their difficulties in the classroom and effectively solve the given problem with the guidance of the course teacher. Participation of the students in this learning process makes it efficient and more effective.

The problem solving abilities of the students are also enhanced through conduction of tutorials. Use of Google classroom has ensured that students take an active part in the teaching-learning process.

Independent learning is encouraged through assignments, seminars and self-study components. Learning resources in the form of recorded lectures of faculty and course material is available on the digital learning repository accessible through intranet. Students are allowed to take individual assignments and seminars.

The students' managerial, management, financial and inter personal communication skills, leadership qualities, organizational abilities are enhanced while organizing and participating in extracurricular activities. Students actively engage themselves in technical associations, professional societies, clubs and chapters. Collaborative and experiential learning takes place for the students while shouldering these responsibilities.

Use of technology (MOOCs) for enhancing the learnability coefficient of the students is encouraged and incentives are awarded to the students. Also provision for credit transfer through MOOCs exists in the curriculum for open elective courses.

To facilitate teaching and learning, various participative methodologies such as group discussion, role play, presentation, peer assessment are practiced by various departments.

Participative learning is encouraged through paper presentations, participation in technical events, undertaking industrial and in house projects. Six months internship gives the students real work experience in various industries leading to experiential learning. Industry visits are regularly conducted.

Students are encouraged to participate in National level technical competitions like BAJA(ATV), ARM design Challenge, Robocon, Smart India Hackathon, TCS code vita etc.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

Response: 0

2.3.2.1 Number of teachers using ICT

File Description	Document
List of teachers (using ICT for teaching)	[View Document](#)
Any additional information	[View Document](#)
Provide link for webpage describing the " LMS/ Academic management system"	[View Document](#)

2.3.3 Ratio of students to mentor for academic and stress related issues

Response: 16.97

2.3.3.1 Number of mentors

Response: 276

File Description	Document
Any additional information	[View Document](#)

2.3.4 Preparation and adherence to Academic Calendar and Teaching plans by the institution

Response:

In order to ensure effectiveness, efficiency and uniformity in the conduction of various academic and assessment procedures and processes, the Institute has followed the practice of preparing the academic calendar thus ensuring uniformity in the functioning of the semester scheme for all academic programmes. This also provides good academic flexibility to the stakeholders, particularly to the students and the faculty members. The calendar includes important academic activities to assist the students and the faculty. A separate academic calendar is prepared for first year and higher semesters.

RCOEM follows semester system where each semester broadly includes activities related to teaching, examination, declaration of results and vacations. The process of preparation of academic calendar is outlined below:

Academic Calendar is prepared by Dean Academics before the beginning of each semester in consultation with Controller of Examination (COE), Heads of Departments (HODs), Dean Student Representative Council (SRC) and Dean Admission.

The COE submits probable duration and sequence of activities for conducting examinations.

HODs submit department specific requirements, if any. Dean SRC submits number, duration and probable dates for sports and other extra-curricular activities planned for the students.

Dean Admission submits probable schedule for admission in first semester of all UG, PG programs.

Considering all these submissions, the prepared academic calendar is subsequently approved by the Academic Council. This academic calendar is made available to all stakeholders and is uploaded on website.

The academic calendar follows a specific ISO format stating version, date of release, year and programs for which it is applicable. Some of the major activities included in the calendar are:

- Display of class time tables
- Commencement of classes
- Deadlines for assessments
- Parent teacher meet
- Students' online feedback
- Display of detention list
- Last teaching day
- Examination related activities
- Conduction of remedial classes and probable date of make-up examination
- Winter Term
- Probable date of declaration of result

In addition to it, each department prepares its own academic calendar inline with the Institute academic calendar including department specific activities such as schedule for continuous assessment and branch specific students' activities etc.

All departments adhere to the academic calendar. Every course teacher prepares the teaching plan before the beginning of each academic session taking into account the teaching days available in the academic calendar. Dean Academics monitors the conduction of various activities mentioned in the academic calendar. To ensure adherence of these activities, Dean Academics seeks reports from departments such as attendance, class time table, test time table, alumni meet report, parent teacher meet report etc. at regular intervals.

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

Response: 103.18

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	[View Document](#)
List of the faculty members authenticated by the Head of HEI	[View Document](#)
Any additional information	[View Document](#)

2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

Response: 34.54

2.4.2.1 Number of full time teachers with Ph.D. year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
135	109	93	77	66

File Description	Document
List of number of full time teachers with PhD and number of full time teachers for 5 years	[View Document](#)
Any additional information	[View Document](#)

2.4.3 Teaching experience per full time teacher in number of years

Response: 9.23

2.4.3.1 Total experience of full-time teachers

Response: 2362

File Description	Document
Any additional information	[View Document](#)

2.4.4 Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years

Response: 13.2

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
10	14	7	4	2

File Description	Document
Institutional data in prescribed format	<u>View Document</u>
e-copies of award letters (scanned or soft copy)	<u>View Document</u>
Any additional information	<u>View Document</u>

2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years

Response: 16.67

2.4.5.1 Number of full time teachers from other states year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
51	51	50	43	38

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	<u>View Document</u>
Any additional information	<u>View Document</u>

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results during the last five years

Response: 19.4

2.5.1.1 Number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
11	10	14	30	32

File Description	Document
List of programs and date of last semester and date of declaration of result	View Document
Any additional information	View Document

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

Response: 0.3

2.5.2.1 Number of complaints/grievances about evaluation year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
7	12	22	8	23

File Description	Document
Any additional information	View Document

2.5.3 Average percentage of applications for revaluation leading to change in marks during the last five years

Response: 0

2.5.3.1 Number of applications for revaluation leading to change in marks year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

2.5.4 Positive impact of reforms on the examination procedures and processes including IT integration and continuous internal assessment on the examination management system

Response:

Controller of Examination Constitution

The Controller of Examination Cell was constituted by the Institute in 2011 after grant of autonomous status and is headed by Controller of Examination. The Principal is the Chief Controller- Examinations. The team consists of Deputy Controllers and supporting staff. Following subcommittees are constituted as

per UGC norms:

- Examination Committee
- Unfair means Committee

The exam manual is published every year and is available to all stakeholders on the Institute website. The Institute has a transparent evaluation process and is communicated to the stakeholders through website, notice boards etc.

Examination reforms

Since grant of autonomy in 2011, the Institution has made the following changes in teaching learning pedagogy and assessment practices.

1. **Adaptation of Outcome Based Education (OBE) Framework –** OBE, a performance based approach has emerged as a major reform model in the evaluation. Attention is being given for correlating examination questions/ assessment tools to the programme outcomes.
2. **Evaluation of Higher-order Abilities and Professional Skills**– The Institution has adopted revised Bloom's Taxonomy for the evaluation system for continuous evaluation and end semester examinations.
3. **Continuous Evaluation and Credit Grading System:** The Institute has adopted continuous evaluation system for evaluation of student performance. Open book, computer based examination etc. are included to assess analytical abilities amongst the students. The Institute has implemented relative grading system with CGPA for all the programmes.
4. **Digitization of examination system:** All examination related processes including examination forms, hall tickets, exam fee payment, appointment of examiners, paper setters, moderators, gradation system etc. are carried out online through MIS. All the examination records are digitized from session 2011-12.
5. **Decentralization of examination process:** The post examination process for the M.Tech programmes has been decentralized at the department level.
6. **Adherence to Academic Calendar: A**cademic calendar is displayed on the Institute website and there is a strict adherence to the dates of evaluation and examinations.
7. **Revaluation and Result Declaration:** The system of collation of marks, grade calculation, printing of grade- sheets, transcripts, provisional degree and related documents are all system controlled. The result is processed online and is available at student login.

Positive impact of examination reforms:

Examination Reform	Positive Impact	
Adaptation of Outcome Based Education Framework	Question paper is thoroughly scrutinized to ensure its quality, mappin COs and use of BLOOMS taxonomy.	
Continuous Evaluation and Credit Grading System	The assessment process gives enough scope to the students to impr their performance and analyse their progress on a time to time basis	

Integration of IT	This has resulted in an extensive improvement in the efficiency transparency in the examination system.
Centralized conduct of End Semester Examinations	This has led to optimal utilization of physical as well as manpo resources, increased vigilance and smooth conduct of the examination
Decentralization of post examination process for all M.Tech programmes	Facilitates timely conduction of post exam processes and early re declaration.

File Description	Document
Link for Additional Information	[View Document](#)

2.5.5 Status of automation of Examination division along with approved Examination Manual

A. 100% automation of entire division & implementation of Examination Management System (EMS)

B. Only student registration, Hall ticket issue & Result Processing

C. Only student registration and result processing

D. Only result processing

Response: A. 100% automation of entire division & implementation of Examination Management System (EMS)

File Description	Document
Current manual of examination automation system and Annual reports of examination including the present status of automation	[View Document](#)
Current Manual of examination automation system	[View Document](#)
Any additional information	[View Document](#)
Annual reports of examination including the present status of automation	[View Document](#)

2.6 Student Performance and Learning Outcomes

2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students

Response:

The Institution has clearly stated Programme Outcomes (PO), Program Specific Outcomes (PSO) and Course Outcomes (CO) for all the programmes. The curriculum structure and syllabi for all the programmes are developed in a structured manner through a well defined process which involves participation of stakeholders like faculty, students, alumni, parents and industry. A general process of defining POs, PSOs, and COs for a particular programme involves:

- Formulation of Programme Educational Objectives (PEO).
- Formulation of POs in consonance with the programme educational objectives and as laid down by NBA.
- Formulation of PSOs outlining the competencies meeting Programme Specific Criteria (PSC) as laid down by professional bodies.
- The course outcomes are further mapped to programme outcomes which are aligned with the Blooms taxonomy levels.

The Institute has elaborate mechanism to effectively disseminate the information about POs, PSOs and COs amongst faculty and students. POs and PSOs of all the undergraduate programmes and POs of all the postgraduate programmes are available and disseminated as under:

- Clearly displayed on Institute website.
- Printed in the copy of syllabi which is given to all the students seeking admission to the first year of every programme.
- Prominently displayed in the office of Head of the Department and other important locations of every department for the general awareness amongst faculty and students.
- The departments follow the practice of discussing POs and PSOs in parent teacher meet and employers meet.
- Course teachers discuss the COs with the students at the beginning of each course. This practice helps the faculty members and students to systematically proceed through the teaching and learning process of the concerned course with an aim to attain course outcomes.
- POs and PSOs are displayed as a screensaver on desktops and laptops in the concerned departments. This is an effective way of regularly reminding the faculty that they are expected to channelize and direct their efforts towards the attainment of these POs and PSOs.
- All the faculty members prepare a course file for each semester that lists the POs, PSOs and COs.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

Response:

The Institution ensures effective curriculum delivery, based on best practices of pedagogy, evaluation and assessment; to attain the POs as well as PSOs

Programme Assessment and Quality Improvement committee (PAQIC) sets the target for POs and PSOs in the beginning of the academic year. At the beginning of every semester course coordinators sets the target for each CO attainment. The attainment of COs is reviewed at the end of each semester by the course teachers and is further presented in the PAQIC meetings held every semester. At the end of each academic session, the PAQIC meetings are held to understand the degree of PO and PSO attainment for the graduating batch of students and suggest relevant measures for the next academic year

Assignments, class discussions, mid semester tests, online quiz, end semester examinations etc. are all focused on measuring the course outcomes and the questions are based on critical thinking and analysis. Both direct and indirect methods of assessment are used to ensure attainment of POs.

The direct assessment tools include:

- Assignments
- Laboratory-Performance
- Student-Project
- Internal-Test-Examinations
- End-Semester-Examinations

The indirect assessment tools include

- Course-End-Survey
- Exit-Feedback
- Alumni-Survey
- Employer-Survey
- Co-curricular-Activities
- Extracurricular-Activities

Course Outcome Attainment for theory/laboratory Courses

Using Direct tools: The questions given in the tests /end semester exams are mapped to the framed COs which in turn are already mapped with the POs with a mapping level. The same process is used for Quizzes, Assignments and Laboratory work etc. Then based on the different assessment tools used, course coordinator prepares the excel sheet of the marks obtained by each student. They decide the satisfaction level for attainment of each question attempted by student based on the difficulty level of the question.

The CO attainment is calculated as:

(Number of students scoring marks equal to or greater than satisfaction level)/(Total No.of Students appeared in exam or total no.of students who attempted question)

Indirect tools: Course-End-Survey

Every course coordinator prepares course end survey questionnaire to seek the student's opinion about the abilities developed at the end of the course. Course coordinator decides the satisfaction level for each

question in the survey form and accordingly decides the attainment level of each course outcome by indirect method.

CO Attainment by Indirect Method=(No. of Students giving satisfactory and above response)/(Total No. of students responded to that question)

The overall CO attainment is the weighted average of direct and indirect attainment and the ratio used is either 70%-30% or 80%-20% respectively.

PO and PSO attainment: Direct assessment tools:

Step 1: Relationship between POs / PSOs and COs is established on four levels (Strong, Medium, Weak and No relation)

Step 2: Avg. CO attainment calculations are done as per the mapping level in step1

Step 3: Calculation of PO attainment

PO attainment Score=(??product of average CO attainment and rational weights?)/(??Weights for PO?)

- Indirect assessment tools :

PO / PSO attainment by indirect method is calculated as:

(Sum of PO,PSO attainment(%)by all indirect methods contributing to PO/PSO)/(Total Number of methods contributing to PO,PSO)

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.6.3 Average pass percentage of Students

Response: 91.48

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 1203

2.6.3.2 Total number of final year students who appeared for the examination conducted by the institution

Response: 1315

File Description	Document
List of programs and number of students passed and appeared in the final year examination	View Document
Link for annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response: 3.83

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution has a well defined policy for promotion of research and the same is uploaded on the institutional website

Response: Yes

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	[View Document](#)
Any additional information	[View Document](#)
URL of Policy document on promotion of research uploaded on website	[View Document](#)

3.1.2 The institution provides seed money to its teachers for research (average per year)

Response: 2.08

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years(INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
10.40	0	0	0	0

File Description	Document
Minutes of the relevant bodies of the Institution	[View Document](#)
List of teachers receiving grant and details of grant received	[View Document](#)
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	[View Document](#)
Any additional information	[View Document](#)

3.1.3 Number of teachers awarded international fellowship for advanced studies/ research during the last five years

Response: 0

3.1.3.1 The number of teachers awarded international fellowship for advanced studies / research year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

File Description	Document
List of teachers and their international fellowship details	[View Document](#)

3.1.4 Institution has the following facilities

1. **Central Instrumentation Centre**
2. **Animal House/Green House / Museum**
3. **Central Fabrication facility**
4. **Media laboratory/Business Lab/Studios**
5. **Research / Statistical Databases**

A. Any four facilities exist

B. Three of the facilities exist

C. Two of the facilities exist

D. One of the facilities exist

Response: C. Two of the facilities exist

File Description	Document
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)

3.2 Resource Mobilization for Research

3.2.1 Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments,Chairs in the institution during the last five years (INR in Lakhs)

Response: 347.42

3.2.1.1 Total Grants for research projects sponsored by the non-government sources such as industry,

corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years(INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
92.5317	63.099	70.3314	111.374	10.08

File Description	Document
List of project and grant details	[View Document]()
e-copies of the grant award letters for research projects sponsored by non-government	[View Document]()
Any additional information	[View Document]()

3.2.2 Number of research centres recognised by University and National/ International Bodies

Response: 6

3.2.2.1 **Number of research centres recognised by University and National/ International Bodies**

Response: 06

File Description	Document
Names of research centres	[View Document]()
Any additional information	[View Document]()

3.2.3 Percentage of teachers recognised as research guides

Response: 14.51

3.2.3.1 **Number of teachers recognised as research guides**

Response: 28

3.2.3.2 Number of full time teachers worked in the institution during the last 5 years

Response: 193

File Description	Document
Details of teachers recognized as research guide	[View Document]()
Any additional information	[View Document]()

3.2.4 Number of research projects per teacher funded, by government and non-government agencies, during the last five year

Response: 1.04

3.2.4.1 Number of research projects funded by government and non-government agencies during the last five years

Response: 40

File Description	Document
Supporting document from Funding Agency	[View Document](#)
Any additional information	[View Document](#)
link to funding agency website	[View Document](#)

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

Response:

The Institute is committed to address the needs of the region and local industries and promotes involvement of student and faculty in finding innovative solutions for Micro, Small and Medium Enterprises (MSMEs). Presently more than 55 MSMEs in association with RGSTC-TIFAC, GoI and GIZ, German Federal Ministry for Economic Cooperation and Development (BMZ) have been benefitted.

The Institute is selected as a Host Institute for implementing Ministry of MSME, GoI schemes:

1. **MSME HI/BI Scheme**: Received recognition as business incubator on 20/05/2016; 2 startups received funding approval of Rs. 6.756 Lakhs.
2. **ASPIRE:** This scheme aims in promoting innovation, rural industry & entrepreneurship. Received funding approval of Rs. 39.25 Lakhs for equipment.

The Institute is committed to develop a framework for sustainable business ecosystem to promote innovation and nurture entrepreneurship through following initiatives:

- Establishment of "RCOEM Technology Business Incubators Foundation", a section 8 company in Dec 2016
- A state of the art infrastructure of 8500 sq.ft for incubation activities consisting of makers lab, business offices, co-working space, conference and networking rooms
- Active involvement of MIDC Industrial Association, National Entrepreneurship Network, Tata technologies, TCS, MCED our MOU partners in development of startup ecosystem
- The Institute emphasizes on providing the entrepreneurial education, through year around conduction of Entrepreneurship Development Programs, Design Thinking, Ideation, Pitch Your Idea, Business Plan Competitions, Transpreneur, Change Makers etc. More than 20 programs are

organized every year

- To foster creativity and innovative thinking, the curriculum provides opportunity for students to take up courses on Creativity and Innovation, Innovation and Entrepreneurship taught by Entrepreneurs and Industry Mentors.
- Provision to offer six months RCOEM TBI Foundation startup internship scheme from the year 2018-19. This opportunity is utilized by six students and presently has helped 01 start-up in acceleration phase and 02 business establishments
- Nodal center for grand finale of Smart India Hackathon' 2019, 2018 and 2017; Startup India Yatra 2019
- The Institute is incubating presently in total 12 ideas and 07 start-ups have entered in the commercialization phase. More than 15 startup ideas are selected for pre-incubation
- Through RCOEM TBI Foundation, necessary support for new venture creation, product development, technology commercialization, networking and value added support services are provided. The Institute has provided a seed funding support of Rs. 14.5 Lakhs to our incubates
- The Institute encourages technology development and transfer amongst faculty and students by providing seed funding for proof of concept
- Establishment of "Center for Invention, Innovation, Incubation & Training (CIIIT)" with Tata Technologies. The estimated cost is Rs. 21.50 Cr and the MoU is signed on 23rd October 2019.
- The Institute is establishing centre's of excellence in the areas of Human Excellence, Microsystems, Energy and Data analytics

To meet skill upgradation needs of industry professionals with the frequent paradigm shift in technology, the Institute facilitates knowledge transfer through organisation of management development programmes. Prominent industries benefitted are Hindalco, Mahindra and Mahindra, Ordnance Factory Ambajhari, WCL ,MOIL etc .

File Description	Document
link for additional information	View Document

3.3.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry - Academia Innovative practices during the last five years

Response: 337

3.3.2.1 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry- Academia Innovative practices year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
69	92	79	56	41

File Description	Document
Report of the event	[View Document](#)
List of workshops/seminars during the last 5 years	[View Document](#)
Any additional information	[View Document](#)

3.3.3 Number of awards for innovation won by institution/ teachers/ research scholars/students during the last five years

Response: 0

3.3.3.1 Total number of awards for innovation won by institution/teachers/research scholars/students year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	00	0	0

File Description	Document
List of innovation and award details	[View Document](#)
e- copies of award letters	[View Document](#)

3.3.4 Number of start-ups incubated on campus during the last five years

Response: 14

3.3.4.1 Total number of start-ups incubated on campus year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
10	2	2	0	0

File Description	Document
List of startups details like name of startup, nature, year of commencement etc	[View Document](#)
e- sanction order of the Institution for the start ups on campus	[View Document](#)
Contact details of the promoters for information	[View Document](#)

3.4 Research Publications and Awards

3.4.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research

Response: Yes

File Description	Document
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)

3.4.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

Response: No

File Description	Document
e- copies of the letters of awards	[View Document](#)

3.4.3 Number of Patents published/awarded during the last five years

Response: 15

3.4.3.1 Total number of Patents published/awarded year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1	8	5	0	1

File Description	Document
List of patents and year it was awarded	[View Document](#)
Any additional information	[View Document](#)

3.4.4 Number of Ph.D.s awarded per teacher during the last five years

Response: 0.21

3.4.4.1 How many Ph.Ds are awarded within last 5 years

Response: 12

3.4.4.2 Total number of teachers recognised as guides during the last 5 years

Response: 58

File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
Any additional information	View Document
URL to the research page on HEI web site	View Document

3.4.5 Number of research papers per teacher in the Journals notified on UGC website during the last five years

Response: 1.19

3.4.5.1 Number of research papers in the Journals notified on UGC website during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
184	35	39	33	43

File Description	Document
List of research papers by title, author, department, name and year of publication	View Document
Any additional information	View Document

3.4.6 Number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings per teacher during the last five years

Response: 0.66

3.4.6.1 Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
12	52	42	46	33

File Description	Document
List books and chapters in edited volumes / books published	View Document
Any additional information	View Document

3.4.7 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Response: 1.15

3.4.8 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution

Response: 10

3.5 Consultancy

3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and the individual

Response: Yes

File Description	Document
Soft copy of the Consultancy Policy	View Document
Minutes of the Governing Council/ Syndicate/Board of Management related to Consultancy policy	View Document
Any additional information	View Document
URL of the consultancy policy document	View Document

3.5.2 Revenue generated from consultancy during the last five years

Response: 154.45

3.5.2.1 Total amount generated from consultancy year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
28.56489	76.46064	44.66571	0.86000	3.90201

File Description	Document
List of consultants and revenue generated by them	View Document
Audited statements of accounts indicating the revenue generated through consultancy	View Document
Any additional information	View Document

3.5.3 Revenue generated from corporate training by the institution during the last five years

Response: 12.85

3.5.3.1 Total amount generated from corporate training by the institution year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
3.73236	2.67084	0.989	4.88263	0.5705

File Description	Document
List of teacher consultants and revenue generated by them	View Document
Audited statements of account indicating the revenue generated through training	View Document
Any additional information	View Document

3.6 Extension Activities

3.6.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years

Response:

The Institute promotes following community service initiatives:

1. **Orientation program**: Orientation program is conducted for the first year students to sensitize them to social issues and motivate them to enroll for NSS, REEF, Student Forums/Hobby Clubs etc. for their holistic development. Participation of students in programs organized by various cells and bodies ensure their involvement in extension and outreach activities.
2. **Swachh Bharat Internship Program**: The students participate in Swachh Bharat Internship Program and the incentives are awarded to the students as per Institute norms. Around 25 students participated in this internship program since 2018-19.
3. **Awareness Rallies:** Students and faculty participate in various rallies like 'Rally for River',

Women Safety, Traffic Awareness, Organ Donation Campaign, 'NIRBHAYA BETI- BACHAO ABHIYAN', voting awareness etc. organized by different organizations.

4. **Visits to NGOs and Charitable Trust:** Students visit NGOs/ Charitable Institutions like 'Manorama Orphanage','Prem-Dan', Deaf and Dumb school, 'Gyanmandir platform school' etc. to understand the societal issues and support the inmates.

5. **Unnat Bharat Abhiyaan:** The Institute has adopted 06 villages under this scheme through which it aims to contribute towards economic and social betterment of these village communities.

6. **Awareness Programs:** Every year, a week long community based program 'PRERNA' is organized in which students, faculty and staff participate voluntarily. Various activities such as blood donation, health check-up, cleanliness drive, women empowerment, paper presentation and quizzes on social themes etc. are organized. Junoon is an annual event organized to showcase the talent of especially abled children. Tree plantation and environment awareness programs are also conducted through department student societies and Institute level students' forum REEF.

7. **Blood Donation Camps**: More than 10 blood donation camps have been organized in the last 5 years. On an average, 200 students and faculty have donated blood to 'Hedgewar Blood Bank'.

8. **Safety:** Programs for traffic rule awareness and first aid are conducted within the campus. Mock drills to create awareness among staff and students related to use of fire extinguisher cylinders and fire hydrant systems are also conducted every year.

9. **Spiritual Health Program:** The students and faculty contribute to various programs for spiritual wellness like 'ANNAKOOT' and 'RAM–KATHA' organized by the Institute within the campus for students, staff and neighborhood community leading to spiritual upliftment and purposeful life.

10. **Voluntary Services:** The students and faculty are engaged in neighborhood community service by supporting the needy citizens by donating stationary, old garments and other items as per their requirements. They are also engaged in teaching the under privileged children.

11. **Admission Counseling:** The Alumni Association of Institution regularly organizes admission counseling program in the Institute for the aspiring students in an around Nagpur region.

The students have received numerous awards in recognition of its contribution towards social responsibility and community development activities which include 'WIPRO Earthian 2014 Award', 'Best National Service Scheme Volunteer' award by RTMNU, Nagpur, 'Champion of speak for India' 2016 and 2017 etc. The Institution received the 'Harit Puruskar' by Govt. of Maharashtra during session 2018-19 for green campus initiatives undertaken. The Institute has also started conducting green audit quarterly since 2019-2020.

File Description	Document
link for additional information	[View Document](#)

3.6.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

Response: 94

3.6.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
24	19	19	9	23

File Description	Document
Number of awards for extension activities in last 5 years	[View Document](#)
e-copy of the award letters	[View Document](#)

3.6.3 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., during the last five years

Response: 72

3.6.3.1 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
12	16	18	14	12

File Description	Document
Reports of the event organized	[View Document](#)
Number of extension and outreach programs conducted with industry,community etc for the last five years	[View Document](#)

3.6.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

Response: 32.46

3.6.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1914	1457	1799	1573	947

File Description	Document
Report of the event	
Average percentage of students participating in extension activities with Government or NGO etc	

3.7 Collaboration

3.7.1 Number of Collaborative activities for research, faculty exchange, student exchange per year

Response: 58.4

3.7.1.1 Total number of Collaborative activities for research, faculty exchange, student exchange year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
120	46	58	38	30

File Description	Document
Number of Collaborative activities for research, faculty etc	
Copies of collaboration	

3.7.2 Number of linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the last five years

Response: 1206

3.7.2.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
186	319	282	221	198

File Description	Document
e-copies of linkage related Document	View Document
Details of linkages with institutions/industries for internship	View Document

3.7.3 Number of functional MoUs with institutions of National/ International importance, Other Institutions, Industries, Corporate houses etc., during the last five years (only functional MoUs with ongoing activities to be considered)

Response: 200

3.7.3.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years (only functional MoUs with ongoing activities to be considered)

2018-19	2017-18	2016-17	2015-16	2014-15
55	47	45	28	25

File Description	Document
e-copies of the MoUs with institution/ industry/ corporate house	View Document
Details of functional MoUs with institutions of national, international importance,other universities etc during the last five years	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc

Response:

RCOEM campus is spread over 16.77 acres of land. The Institute has adequate infrastructure with ICT enabled classrooms which promote a healthy teaching learning environment. The description of the teaching learning facilities is as under:

Sr. No.	Type	Actual Room Area in Sq. m.	Expected Area As per AICTE in Sq. m.
1	Administrative area	2584	700
2	Amenities area	2213.16	740
3	Instructional area and Common facility	19148	11073
4	Total area	23945.16	12513
Engineering and Technology			
1	Classroom/Tutorialroom	3526	2244
2	Additional Workshop/Labs	609	200
3	Class Rooms-PG	482	297
4	Laboratories	6828	4554
5	Workshops	410	400
6	Drawing Hall	427	264
7	Seminar Hall	1442	132
Management			
1	Classroom/Tutorialroom	794	297
2	Computer Laboratory	249	66
3	Seminar Hall	484	132
Computer Application (MCA)			
1	Classroom/Tutorialroom	255	231
2	Computer Laboratory	160	132
3	Seminar Hall	156	132

The Institute has built up-to-date facilities to enable better content delivery in classrooms which include amongst others, the provision of LCD projector, internet connectivity in every classroom and laboratory which is as per the curriculum requirements and above norms of statutory/regulatory bodies like UGC / AICTE. There are 8 academic blocks consisting of 63 classrooms, 6 seminar halls, 93 laboratories and air conditioned auditoriums about 44396.9 Sqmt. The campus is Wi-Fi enabled with a bandwidth of 300 Mbps. The Institute has a total number of 1983 computers which is above prescribed AICTE norm.

The Institute has state of the art laboratories with computing and research facilities such as Mechatronics,

Fluid Mechanics and Fluid Power, Refrigeration and Air Conditioning laboratory, CAD/CAE, PCB, Electronic workshop, High Voltage, Geotechnical laboratory etc. The Department of Computer Science and Engineering has developed a state of the art laboratory "RCOEM Accenture Innovation Centre" in collaboration with Accenture Services Pvt. Ltd . Mass Communication Studios (Media centre), Language laboratory also form a part of modern teaching facilities available in the Institute.

The Central library is computerised and its OPAC can be electronically accessed. There are more than 20,000 titles, more than 94,000 volumes on wide range of subjects of Engineering and Management. The library includes an integrated Knowledge Resource Centre that is stocked with large number of books, references, periodicals, National and International e-journals, CD-ROMs, leading newspaper, standard reports, e-books covering all aspects of academics and research. Students and faculty have access to various online databases, Journals, Audio/Video, research material including IEEE Xplore, ASME e-journal, ASCE e-journals, EBSCO database, NPTEL videos, SCOPUS, DELNET etc. The Institute has a central library, department libraries, Incubation center, Center of Excellence etc.

The Institute has separate hostels for boys and girls within the campus with a total intake capacity of 579. The Institute houses a spacious canteen with quality food to cater to the dietary needs of students and faculty. Stationery and photocopy requirements are taken care of by the on-campus store.

A robust MIS system in the Institute takes care of students' feedback, attendance, assessments, admissions, finance etc.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

4.1.2 The institution has adequate facilities for sports, games (indoor, outdoor),gymnasium, yoga centre etc., and cultural activities

Response:

The Institute has a department of Physical Education and Sports that offers opportunities for overall development of students through physical education and sports activities. Yoga and Sports are incorporated as a part of the curriculum. The Institute has a certified Yoga teacher.

The Institute provides adequate facilities for the conduction of indoor games. There is a separate gymnasium for boys and girls in the hostel. Both men and women teams of the Institute have brought laurels in various intercollegiate and All India University Tournaments. Realizing the significance of sports in the life of a student, the Institute has established a separate sports complex at Dorli, Katol road, Nagpur with an area of 43 Acres which includes facilities for outdoor sports including Cricket, Football, Athletics etc. The details of the sports and recreational facilities are as under:

Sports (Indoor/Outdoor)

Indoor/Outdoor	Name of Game	Area / Specification (Sq. Mt.)	Equipment/Facilities
Indoor	Table tennis, Chess, Carom	152	TT- Tables, Chess and Carom boards
	Gymnasium (boys)	302	Tread Mill, Elliptical Trainer, Peddlers et
	Gymnasium (girls)	37	Tread Mill, Elliptical Trainer, Peddlers et
Outdoor	Volleyball	1,056	Volleyball court
	Basketball	1042	Basketball court (In Campus)
		1185	Basketball court (Sports Complex)
	Cricket	1250	Practice Pitches
		24, 762	Three Turf Pitches and ground international standard
	Football	1,560	Five a Side Ground
		9,360	Standard football ground
	Athletic Track	19,357	Standard 400 meter track (8 lane) (Sp Complex)

Yoga Centre Facility

Sr. No.	Facility	Specification (Area in Sq.mt)
1	Yoga Centre	302.66

Cultural Facility

Sr. No.	Facility	Specification (Area in Sq.mt)
1	Lawn with Stage	4500
2	Auditorium	437.43
3	Open Air Theatre(OAT)	192sq.m

The Institute continuously motivates students to participate in various sports activities both at inter and intra-collegiate level throughout the year. More than 30% of the total students participate in various sports events. With an objective to promote excellence in sports, the Institute, for last three years is conducting intercollegiate event 'UDGHOSH' for football, chess and basketball. Annual Sports day is conducted for faculty and students.

In the event organized by SJAN (Sports Journalists Association of Nagpur), the Institute was awarded as the best Institute for the promotion of sports at the university level.

Cultural Activities

Students' Representative Council (SRC) organize wide range of activities through various student societies/ clubs such as drama club, dance club, literary club etc. It gives the students a chance to showcase their talent at Institute, state and national levels. The Institute organizes annual social gathering 'Pratishruti' which includes conduction of intercollegiate cultural events. The student societies also organize cultural events during the installation function every year.

The Institute provides financial and non- financial incentives to the students who achieve excellence in sports. The incentive scheme is for the students participating in sports and other extracurricular activities based on the following parameters.

- Participation in Intercollegiate activities / NSS regular volunteers / NSS
- Securing III/II/I Place in University, Sport-NSS Joint Secretary, Sports-NSS Secretary
- West Zone/National Level Participation (Sports/NSS/NCC)
- Completion of Swachcha Bharat Summer Internships(Allowed once per year)

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 69

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	[View Document](#)
Any additional information	[View Document](#)
Link for additional information which is optional	[View Document](#)

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

Response: 52.54

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
993	775	800	1000	852

File Description	Document
Audited utilization statements	[View Document](#)
Any additional information	[View Document](#)

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS)

Response:

The Central Library of the Institute was established in 1984 and is housed in a spacious area spanning over 1340.33 sq.m. with a seating capacity of 174 users. It has a comprehensive collection of resource material useful for academics and research. All the functions of the library are automated and the details are as under:

Sr. No.	Particulars	Details
1	Name of ILMS Software	JUNO CAMPUS
2	Nature of automation	Fully
3	Version	Deployed version is GEMS_52208 JUNO CAMPUS-5.4.2(Android App)
4	Year of Automation	Since 2001 all the library activities were automated on the System for Library

		Information and Management (SLIM). From 2014 onwards, it has been upgraded on MIS software – JUNO CAMPUS

The Library uses MIS as the Library Management Software (LMS) which is a full featured integrated automation system. It is deployed on cloud server. The Library module includes management of books/journals/DVDs/magazines, membership, catalogue, Online Public Access Control (OPAC), Book Bank, issue –return transactions, fine, reports and other library functions. Some of the other features are as follows:

1. Configuration of Members
2. Bar-coded issue- return
3. Keywords for easy search.
4. Accession Register Management
5. Stock Verification.
6. Purchase Order Management
7. Reading Hall Attendance

The library has adequate number of workstations to facilitate searching/ accessing Web OPAC (Online Public access catalogue). Every Information about library is updated on the library webpage. It has excellent ICT infrastructure with internet speed of 300 Mbps for fast and seamless access to internet. The library practices open access system to its resources. It is fully air-conditioned and under CCTV surveillance with proper fire fighting equipment.

The library has voluminous collection of more than 20,000 titles and 94,000 volumes of resources like books, handbooks, abstracts, standards, dictionaries, encyclopedias, project reports and biographical sources etc. on wide range of subjects including Engineering, Management, Social Sciences and Languages by Indian and foreign authors.

Digital section comprises of 20 dedicated computer terminals to access online resources. The faculty and students take advantage of the available resources in the form of e-books, e-journals and other e-resources such as audio visual lectures, online databases etc.

The Institute provides access to IEEE, ASME, ASCE, EBSCO e-journals, Science Direct, Springer nature collection, Scopus database, EBSCO e-book collection, NPTEL video lecture, DELNET inter-library sharing resources. Besides, library also subscribes more than 130 print journals. Newspaper section provides more than 12 local and national newspapers to promote the habit of reading among students.

The lending Policy in the Library includes 4 books for UG students, 6 books for PG students & 20 books for faculty/research students. The Library is open from 8.00 am to 8.00 pm from Monday to Friday and on Saturday the timings are from 8.00 am to 5.00 pm.

Other facilities include downloading for project reports and question papers, display of the new arrivals of books and journals, separate reference and journal section, separate reading areas for UG, PG students and the faculty. Additionally department library facility is also available for the students to facilitate access of e-learning resources.

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resource for library enrichment

Response:

The library is enriched with learning resources and the details are as under:

Sr. No.	Particulars / Description	Quantity (no.s)
1	Rare Books	474
2	Ph.D. Thesis	65
3	Project Reports	1876 (UG) 2528 (PG)
4	Online manuscripts & Antique books through DELNET	2426
Total Collection of rare books, manuscripts, special reports or any other knowledge resource		**7369**

The highest priced book in the library is worth Rs.21, 603.00 entitled "Smart sensors and MEMS: Intelligent sensing devices and Microsystems for Industrial Application". In the last five years library has added more than 2863 titles and 12,667 volumes to its stock with an investment of Rs.67, 26,158.00.

The Library collection has books titled like "The 7 habits of Highly Effective People" by Stephen R Covey & "Rich dad Poor dad' by Robert Kiyosaki and Sharon Lechter which adds as good reading material under motivational books. The Spiritual corner in the library has many titles like Indian Spiritual Masters and Management Principles by Dr. Monika Seth & Dr. Vinod Asudani, Celebrating Silence by Shri Shri Ravi Shankar which gives spiritual insight and act as a guiding force in building their lives.

The library subscribes to more than 130 print journals. Besides, library also subscribes to more than 7,000 e-journals under ASME, ASCE, EBSCO, IEEE, SCOPUS, EBSCO e-books, ELSEIVER –SCIENCE DIRECT and SPRINGER NATURE COLLECTION. In the field of e-journals IEEE is the highest priced worth Rs. 29,41,200.00 subscribed by the library.

These journals deal with contemporary trends of research in the field of Computer Science and Application, Electronics, Telecommunication, Mechanical Engineering, Electrical Engineering, Design & Technology, Industrial and Production Engineering, Civil Engineering, Management & Humanities. The library subscribes to more than 6000 e-book titles from EBSCO core engineering collection and e-book titles from DELNET.

The Institute promotes the use of open access learning resources and ensures the necessary links for the users that include National Digital Library, Shodhganga, e-shodhsindhu, e-pgpathshala etc. are available

on the library webpage.

To supplement the teaching learning process, the necessary links of massive open online courses are available on the Library webpage including Swayam, NPTEL, Edx, Coursera etc.

Dissertations of students who have completed their Ph.D. from the Institute are available in the library. Project reports of UG and PG students are available in hard and soft copy for reference. At present, the library has more than 1876 UG and 2528 PG project reports.

The Institute subscribes to DELNET which gives access to more than 1,50,000 e-pages of original ancient Indian Scripts, Indian Rare Manuscripts (200 to 350 Years old), Antique Books which are rare & unavailable.

Well-equipped library of the Institute is thus committed to cater to the needs of students and faculty. The effort is made to continuously enrich library resources so as to make contemporary information and knowledge accessible for the users.

File Description	Document
Any additional information	View Document
link for additional information	View Document

4.2.3 Does the institution have the following

1. e-journals
2. e-ShodhSindhu
3. Shodhganga Membership
4. e-books
5. Databases

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 4 of the above

File Description	Document
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc	[View Document](#)
Any additional information	[View Document](#)

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

Response: 49.23

4.2.4.1 Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
46.33	54.40	61.22	39.04	45.15

File Description	Document
Details of annual expenditure for purchase of books and journals during the last five years	[View Document](#)
Audited statements of accounts	[View Document](#)
Any additional information	[View Document](#)

4.2.5 Availability of remote access to e-resources of the library

Response: Yes

File Description	Document
Any additional information	[View Document](#)

4.2.6 Percentage per day usage of library by teachers and students

Response: 20.24

4.2.6.1 Number of teachers and students using library per day over last one year

Response: 1005

File Description	Document
Any additional information	[View Document](#)

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

In order to keep pace with technological developments to facilitate higher technical, management education and research, the Institute is equipped with state of art smart class rooms, servers, networking equipment and other computing facilities.

The campus is Wi-Fi enabled with Wi-Fi controller, secured through UTM firewall and is hosted through RADIUS server/MAC authentication. The Institute's VLAN network is equipped with high end core switches (D-Link DGS3620-28SC), distribution switches (D-Link DGS 1500-28/1510-28), and access switches in various departments.

College internet gateway is protected with UTM Firewall (Sophos SG450 full guard licence). Internet facility in the college is through dedicated leased line of 1:1 compression ratio. In the year 2014-15, Institute had internet speed of 100 Mbps. In the subsequent years it was increased to 200 Mbps. In order to cater the increasing need of computing facility, in the year 2018-19 it was further increased to 300 Mbps from BSNL and Tata Teleservices. 24X7 uninterrupted high speed internet connectivity is available in the campus, boys hostel and girl's hostel.

All the buildings are connected through fibre optic backbone from central data centre. All the end point systems are protected by Bit-defender end point security antivirus.

The Institute has a total number of 1983 desktops and 80 laptops with a computer student ratio of 1:3 which is above prescribed AICTE norms. The Institute has 950 licensed system software and 76 multi-user application software catering to the departmental technical needs. Realizing the importance of soft skills for technocrats, Department of Humanities houses language laboratory which is equipped with 41 computers, overhead projector and licensed language learning software. The classrooms, seminar halls, conference halls, auditoriums are equipped with LCD Projectors and internet connectivity.

The upgradation of computers, printers and projectors is carried out periodically. Institute annually purchases and/or upgrades/replaces the computing hardware as per the requirement. The details of up gradation are provided in additional information.

The Institute has a dedicated central computer centre with seating capacity of 100. Every department has a computer centre/laboratories to cater to the specific requirements of teaching learning process.

To ensure the effective functioning of all teaching departments and administrative office, more than 210 printers including all-in-one printers have been installed which is almost double the AICTE norm of 5% of total number of computers in the campus. The Institute has a polycom video conference facility (HDX7000) for interactive discussion sessions, placement interviews etc.

Institute is equipped with VoIP technology (IP-PBX server, IP phones, IP surveillance) and biometric attendance system exists for faculty and staff. Institute website is designed and maintained by itself.

Some of the prominent software includes Bentley academic subscription, Mentor Graphics CAD tool, Bloom with DSP Software, MATLAB Software, ETAP Software, Orcad Suite, Keil, Urkund, Simula 8, Blocksim, MDAT (2 Years), Witness, EDU all VSAT PSAT SSAT 5 User license with CD, Oracle 11g, NS2,Rational rose etc.

Facilities for e-content development such as media centre, recording facility and Lecture Capturing System (LCS) has been established.

File Description	Document
Any additional information	View Document
link for additional information	View Document

4.3.2 Student - Computer ratio

Response: 2.97

File Description	Document
Any additional information	View Document

4.3.3 Available bandwidth of internet connection in the Institution (Lease line) ?50 MBPS

35 MBPS - 50 MBPS

20 MBPS - 35 MBPS

5 MBPS - 20 MBPS

Response: ?50 MBPS

File Description	Document
Any additional information	View Document

4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)

Response: Yes

File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	View Document
Any additional information	View Document
Link to photographs	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years

Response: 41.42

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
775.15	697.98	785.33	606.08	569.64

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	View Document
Audited statements of accounts.	View Document
Any additional information	View Document

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Response:

The Administrative Officer and Chief Maintenance Officer of the Institution are responsible for the maintenance of the physical, academic and support facilities. The Institute has an in-house team for undertaking routine electrical, civil, computer, website, MIS maintenance activities. The Institute has outsourced the cleaning of entire campus including all academic and sports facilities to private agency 'Dust Blower' through AMC.

Electrical Maintenance:

The Institute ensures uninterrupted power supply through 320 KVA substation, maintenance of generator set, lighting, power distribution system, solar panel etc. are undertaken as per the requirement. The solar

panels are cleaned after every eight days by the maintenance team. The maintenance of generator set is carried out once in two months through AMC. The electrical maintenance repairing request is done online through MIS. Electrical Maintenance In-charge and their team take care of all such requests for electrical maintenance work.

Civil Maintenance:

Construction Maintenance In-charge and the team look after the civil maintenance. The maintenance and repair of water supply systems, buildings, sewage treatment plant (STP), rain water harvesting structures, etc are carried periodically. STP is operated and maintained by two operators in two shifts by the institute under the guidance of SMS Envicare Ltd.

Workshops:

The workshop in-charge is responsible for the repair, maintenance, upkeep and usage of the workshop. He is assisted by skilled technical persons attached to different sections of the workshop.

- Requisition of repairing of workshop equipment as and when required is raised through Management Information System (MIS) by workshop superintendent and is taken care of through MIS following an established procedure.
- Maintenance of the equipment's is done periodically through MIS.
- Usage of workshop for various purposes is monitored through log books.

Library:

The Librarian manages the working of the central library. Departments have their own libraries which are managed by the department library in-charge

- In the central library the librarian is assisted by assistant librarian, clerical and other support staff.
- A fully automated air-conditioned library and its digital section comprising of 20 dedicated computer terminals is maintained by Computer Network Centre (CNC) Section.
- Separate acquisition and technical processing section ensures effective management of the library.
- The central library operates from 8 am to 8 pm.

Laboratory:

The laboratory in-charge manages the affairs of laboratories along with the technical / laboratory assistant.

- Yearly stock verification is done by the administrative officer and equipment / instruments are identified for repair / write-off purpose along with laboratory incharge. All repairs/ maintenance of the laboratories are monitored by the laboratory in-charge and minor repairs are carried out lab assistant themselves.
- All the laboratories have their respective time-tables and practical are conducted as per the batch timings. A few laboratories are also utilized on Sundays and holidays for industry offered electives.
- The log books are maintained by the lab assistant to monitor the usage of the lab.
- The advance and expensive equipment are maintained through the AMC

Sports:

The Head of Physical education department manages the sports section of the Institute along with the assistant professors and support staff.

- Various sports facilities are regularly used for university / State/ National level competitions and regular practice sessions
- Dedicated staff maintains open play ground and boys' and girls' gymnasiums.
- The students utilize all the sports facilities and are supported by trainers.

Computers section:

The overall management of computer facilities on the campus are managed by central networking and computing (CNC) department.

- The central computer laboratory and departmental computer laboratories have their own faculty in-charges.
- The repairing and maintenance of all the computers is done by CNC following standard procedure.
- Smart boards, multimedia projectors, laptops , media centre are managed by CNC department
- Wi-Fi, LAN, switches, etc. are managed by network manager specifically appointed for the purpose.

Classrooms / Other academic facility:

- All classrooms are cleaned daily by the outsourced agency 'Dust Blower' through AMC
- The building supervisor and construction department is responsible for the maintenance of the buildings and physical facilities including washrooms. Weekly reports about the required repairs are prepared and the compliance is carried out accordingly.
- Allocation, utilization and maintenance of other academic infrastructure facilities are managed by Administrative Officer (AO).

The Head of the Department forwards requisitions for repairs through GEMS to the Administrative Officer (AO). The quotations are then invited by AO from the listed/registered agencies. The comparative statement is prepared by department which is then discussed in the steering committee meeting for technical and financial evaluation. The agencies are then called for final negotiations and award of repair /maintenance order.

Similar procedure is adopted for repair and maintenance of common facilities and allied services.

Purchase and maintenance of academic support and sports facilities are managed through Institute MIS-GEMS. Department purchase coordinator and infrastructure maintenance coordinator looks after the purchase and maintenance of the academic support facilities.

Other services such as security, housekeeping, college canteen, Fire extinguishers, air conditioners and water coolers, Water tanks cleaning, Water purifiers etc. are carried out through contractual process.

The table below gives the list of outsourced /Annual Maintenance Contract (AMC) for above mentioned activities:

Sr. No.	Particulars	Name of Agency

1	Security service	Security and Intelligence Services Ltd.
2	Housekeeping service	Dust Blowers facility management Services
3	College canteen service	New Indian Coffee House
4	Nescafe coffee store	Cafe illusion
5	Fire extinguishers maintenance service	Emergency Equipment sales and Services
6	Air conditioners and water coolers maintenance service	M/s Cooling Equipment
7	Water tanks cleaning service	S. B. Auto Cleaning Agency
8	Water purifiers maintenance service	M/s Switch On Services
9	Pest controlling service	Pest Control Pvt. Ltd
10	Substation D G set of 320 kVA	S. S. Power Diesel
11	Garden maintenance service	Shri Ramdeobaba Garden House
12	Stationary store	Needs Stationary store

The feedback for the all the above stated service providers is taken at regular intervals.

File Description	Document
Any additional information	View Document
link for additional information	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

Response: 21.99

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
1507	1110	1028	807	755

File Description	Document
Upload self attested letter with the list of students sanctioned scholarships	[View Document](#)
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	[View Document](#)

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

Response: 0

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

5.1.3 Number of capability enhancement and development schemes –

1. Guidance for competitive examinations
2. Career Counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses

7.Yoga and Meditation

8.Personal Counselling

7 or more of the above

Any 6 of the above

Any 5 of the above

Any 4 of the above

Response: Any 5 of the above

File Description	Document
Details of capability enhancement and development schemes	[View Document](#)
Any additional information	[View Document](#)
Link to Institutional website	[View Document](#)

5.1.4 Average percentage of students benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years

Response: 0

5.1.4.1 Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

File Description	Document
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	[View Document](#)
Any additional information	[View Document](#)

5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years

Response: 1.88

5.1.5.1 Number of students attending VET year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
257	185	0	0	0

File Description	Document
Details of of students benefited by Vocational Education and Training (VET)	View Document
Any additional information	View Document

5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases

Response: Yes

File Description	Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	View Document
Details of student grievances including sexual harassment and ragging cases	View Document
Any additional information	View Document

5.2 Student Progression

5.2.1 Average percentage of placement of outgoing students during the last five years

Response: 68.57

5.2.1.1 Number of outgoing students placed year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
920	886	843	828	738

File Description	Document
Self attested list of students placed	View Document
Details of student placement during the last five years	View Document
Any additional information	View Document

5.2.2 Percentage of student progression to higher education (previous graduating batch)

Response: 9.56

5.2.2.1 Number of outgoing students progressing to higher education

Response: 115

File Description	Document
Upload supporting data for student/alumni	View Document
Details of student progression to higher education	View Document
Any additional information	View Document

5.2.3 Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)

Response: 87.09

5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
149	153	121	120	42

5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOEFL/ Civil Services/State government examinations) year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
149	153	121	129	99

File Description	Document
Upload supporting data for the same	[View Document](#)
Number of students qualifying in state/ national/ international level examinations during the last five years	[View Document](#)

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) during the last five years

Response: 10

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
3	3	2	2	0

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	[View Document](#)
e-copies of award letters and certificates	[View Document](#)

5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

Response:

The Institute encourages participation of student representatives in various decision making academic and administrative committees and the details are as under:

- **Students' Representative Council (SRC):** The SRC is functioning in accordance with the guidelines led down by the Government of Maharashtra University Act 1994. Dean -SRC along with the student council members, outline and plan the activities throughout the year as per the academic calendar. Students are oriented in various life skills such as Oral and Written Communication, Leadership, Management and Administrative skills through organisation of following programs:

- *Gyanodaya:* It is an induction program organised for the first year students to sensitize them towards exploring their academic interests, inculcate in them the ethos and culture of the Institution and inform them about academic and administrative functioning of the Institute. Also a broader view of different committees, clubs etc. and their activities is presented during the program.
  - *Aaruni*: It is a freshers' event organised specifically for the first year students which includes sports and cultural events to mark the Fresher's day.
  - *Pratishruti:* It is a three day annual cultural event of the Institute and has earned the distinction of being the largest inter collegiate cultural fest in entire central India which is exclusively organized and administered by the students under the guidance of the faculty.
- **Student representation on Academic bodies**:
  - **Internal Quality Assurance Cell (IQAC)**: Two undergraduate students and one post graduate student are nominated on IQAC .They participate in the decisions regarding the quality initiatives of the institute.
  - **Board of Studies (BOS)**: One student representative from each programme is nominated on respective BOS to incorporate their inputs in the process of design and development of curricula, teaching learning practices etc.
  - **Unfair means Committee**: This committee has one student member nominated by SRC.

- **Student representation on Administrative committees:**
  - **College Development Committee (CDC)**: The Cultural Secretary of the SRC is member of CDC.
  - **Mess Committee**: The mess of the Institute runs with the active participation of the student representatives from all years. Students' mess In-charge decides the menu in consultation with other student members of the committee. The quality and hygiene of the canteen is monitored by student representatives along with the other nominated faculty members.
  - **Women Empowerment Cell (WEC)**: One girl student representative is nominated on WEC.
  - **Anti ragging committee**: Two students representative (one girl and one boy) are nominated on Anti ragging committee.
  - **Internal Complaint Committee (ICC)**: One student each from undergraduate, postgraduate and Ph.D. programme nominated as members of ICC.
  - **Equal Opportunity Cell**: Secretary Student council is nominated as the member of this cell.
- **Student representation on department/professional societies/Training & Placement:** Every department forms students' society and these students are actively involved in organising different co-curricular and extracurricular activities leading to their overall personality development. Students are also encouraged to form professional society student's forum like IEEE, CSI etc. so as to promote professional networking and development. Students T&P team are actively involved in the process of conduction of all activities related to placements.

File Description	Document
Any additional information	[View Document](#)
Link for Aditional Information	[View Document](#)

5.3.3 Average number of sports and cultural activities / competitions organised at the institution level per year

Response: 2

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
2	2	2	2	2

File Description	Document
Report of the event	[View Document](#)
Number of sports and cultural activities / competitions organised per year	[View Document](#)
Any additional information	[View Document](#)

5.4 Alumni Engagement

5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years

Response:

The RCOEM Alumni Association was established in the year 1995 with an aim to build an actively engaged alumni network which connects with alumni through a diverse set of events and services. The association is registered under section 8(1) of the companies act, 2013. The Alumni Network ensures alumni participation in various institutional initiatives in the form of mentoring the students, conducting workshops and guest lectures, providing placement and internship opportunity to the students. The proceeds of the association corpus are being used to provide financial assistance to economically weak students since 2011-12**.**

RCOEM Alumni Association is spread across the globe having its chapters in U.S.A, U.K, Singapore, Middle East and in major cities of India including New Delhi, Mumbai, Pune, Bangalore, Jaipur, Hyderabad, Chennai, and Kolkata. At present, more than 14,500 members are registered with alumni association (website 'www.rknecalumni.org'). Mr.Tushar Marghade, an entrepreneur, is the President of Alumni Association.

The association plays an active role in building a cohesive collaboration between the Institute, its alumni and other eminent educational Institutes in areas such as education, research, training, industry relations, innovation, infrastructure development, global reach & collaborations and outreach. It has been active in

ensuring that its esteemed alumni continue to be a part of the institutional ecosystem through the following activities:

- Participation in curriculum development and effective content delivery by being a member of Board of Studies (BOS).
- Providing opportunities for placement, internships, site and industry visits. The entrepreneur alumni of the Institute in collaboration with Technology Business Incubation center (TBI), mentor and guide the budding entrepreneurs.
- Providing sponsored scholarships (Rs.16,50,000/-) and donations (Rs.50,000/-) in the last five years towards student welfare.
- Organization and delivery of guest lectures on emerging topics and technologies, career guidance and awareness regarding higher education in India and abroad.
- Conduction of counselling session for parents who wish to admit their wards to engineering programmes.
- Providing quality inputs for overall development of the Institute through IQAC (Internal Quality Assurance Cell), College Development Committee (CDC).
- Mentoring and guiding the students for their academic and career development.

The Institute observes annual Alumni Day 'Conclave' to reinforce the connection with its alumni. The departments also organize alumni meet to foster relationship between present students and alumni. The Institute has started the tradition of inviting distinguished alumni as chief guest on the occasion of annual social gathering. Annual Alumni Newsletter 'Reminiscence' is published to highlight the contributions and activities of Alumni in various fields.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

5.4.2 Alumni contribution during the last five years(INR in Lakhs)
? 15 Lakhs

10Lakhs - 15 Lakhs

5 Lakhs - 10 Lakhs

2 Lakhs - 5 Lakhs

Response: <2 Lakhs

File Description	Document
Any additional information	View Document
Alumni association audited statements	View Document

5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

Response: 37

5.4.3.1 Number of Alumni Association /Chapters meetings held year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
11	9	12	2	3

File Description	Document
Report of the event	View Document
Number of Alumni Association / Chapters meetings conducted during the last five years	View Document
Any additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the institution

Response:

Shri Ramdeobaba College of Engineering and Management (RCOEM) was founded in 1984 by Shri Ramdeobaba Sarvajanik Samiti, a registered charitable trust established in 1967 which has been involved in community service for over five decades. The Institute was granted progressive academic autonomy in 2011 and the proposal for Self-Financed University has been submitted which is likely to be operational from the session 2020-21.

The governance of the Institute is reflective of transparent, supportive, responsive leadership which practices participative management and collective decision making in line with the vision and mission of the Institute. To strengthen the academic practices, innovation in governance is always encouraged.

The Vision and Mission of the Institute are:

Vision

Shri Ramdeobaba College of Engineering and Management envisages the institute par excellence, providing world class technical and management education.

Mission

To impart quality education in the field of Engineering and Management and to foster mutually beneficial relationship with industries to create an intellectually stimulating environment for learning, research and for promoting professional and ethical values.

As a quality policy, the Institute aims at continuous improvement of all processes and strives to provide an environment conducive to the pursuit of knowledge and overall personality development of the students in tune with the vision of the Institute. The Institute adheres to the highest ethical standards and professional integrity and aims to enhance the satisfaction level of all stakeholders. The Academic Advisory Board of the Institute chaired by Padma Vibhushan Dr. Anil Kakodkar guides the Institution towards achieving its mission .

The proactive and supportive management ensures participation of faculty, students and staff at various levels in the governance and management of the Institute and provides requisite infrastructure facilities for effective teaching learning on the campus. Motivation, encouragement, guidance, collaboration and recognition of excellence are the hallmark of governance of the Institution.

The collective decision making is achieved through well-defined processes and an organisational structure consistent with Statutes and Ordinances of the RTM Nagpur University, Nagpur and Ordinances framed under the UGC guidelines for autonomous Institutes. The Institute has various bodies and cells for

governance and effective implementation, thus ensuring quality and continuous improvement at the Institute level. Through the development of the perspective plan and setting up of targets, responsibilities and review mechanisms, the Head of the Institute steers the Institution towards fulfilment of its vision, mission and objectives thereby leading the faculty and staff towards excellence.

The Institute believes in active participation of all faculty in the decision making bodies such as Board of Management, Academic Council, Board of Studies, College Development Committee, Staff Selection Committee, IQAC and other statutory bodies and committees. Finance Committee of the Institute comprising of a management executive member, finance officer and a teacher representative prepares the Institutional budget. For smooth functioning of the Institute, senior faculty members chair administrative positions as Dean and Incharge for functional areas such as Academics, Examination, Admission, R & D, Training and Placement, Student Representative Council, Industry Institution Interaction and Technology Business Incubation Centre.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.1.2 The institution practices decentralization and participative management

Response:

The institute practices decentralisation and participative management to ensure effective administration involving all the stakeholders in decision making process. Below given are sample cases.

1. Recognition as Self-Financed University

Since the establishment of the Institute in 1984, it has grown to become the most sought after private engineering Institute in central India. In 2011, the Institute was granted autonomy by UGC and RTM Nagpur University, Nagpur. Taking into consideration the successful implementation of autonomy for eight years and on the advice of the academic advisory board members, the Institute envisioned to become the self-financed university in central India. This was proposed in the IQAC meeting held on October 12, 2017 and with active support and participation from the members of IQAC which include management, teachers, local society, employer, industry, alumni, student and parent, it was unanimously resolved to recommend the same to the Board of Management (BOM). Subsequently, BOM approved the proposal on October 20, 2017. The proposal for Self-Financed University has been submitted which is likely to be operational from the session 2020-21.

2. Process of Curriculum and Programme Review

Curriculum is periodically reviewed to meet the current industry trends and change in technology in the Board of Studies (BOS) with active participation of faculty, subject experts, students and other stakeholders. Each department has constituted Programme Assessment and Quality Improvement Committee (PAQIC) that proposes modification in curriculum to BOS. After due deliberation, in the BOS

meetings , the recommendationsare further discussed in Academic Council which includes department heads, deans, industry representative, alumni and University representatives as its members. Thus the recommendations from every stake holder gets due consideration in the framing of the curriculum.

3. Participation in Financial Decision Making

The head of the department (HOD) in consultation with the faculty members proposes annual budget covering various heads of expenses including purchase of lab equipments, consumables, research and development etc. The proposed budget is discussed with the Principal and is then approved by the Finance committee with faculty as one of its member. Based on the provisions in the budget, the departments are empowered to make minor purchases. The major purchases are referred to the Steering Committee. The Steering Committee in its weekly meetings, reviews the recommendations of the departments in consultation with the HOD. After due deliberation, purchases are initiated. Similarly purchases/incentives/scholarships are proposed by various deans and functional heads from time to time. The process for the approval and disbursement of fund follows the above mentioned procedure. Thus financial decisions involve collective decision making.

4. Continuous Assessment and Gradation: The mode of continuous assessment, calculation and moderation of grades that are assigned to the students is decided by the respective course teacher in consultation with the HOD.

5. Decentralisation of M.Tech. Examination: For effective conduct of examination and speedy declaration of results, all M.Tech. Programme post examination processes are decentralised and answer sheets are evaluated at the department level.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.2 Strategy Development and Deployment

6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

Response:

The perspective plan of the Institute is published on Institute website which is prepared based on six different themes in line with the vision of the Institute involving all the stakeholders. With reference to the effective implementation of the perspective plan in general and theme No. 5 in specific whose objective is to promote global knowledge exposure and culture of Creativity, Innovation and Entrepreneurship amongst students and faculty, following are the deployment details:

Tangible actions towards ecosystem creation:

- Implementation of the RGSTC-TIFAC-MSME scheme for providing technical support to the

MSMEs by leveraging the capabilities of students and faculty of the Institution since the academic year 2015-16.

- Establishment of a 'section 8' company incorporated in Dec 2016.

- Establishment of "Center for Invention, Innovation, Incubation & Training (CIIIT)" with Tata Technologies .The estimated cost is Rs. 21.50 Crores .

- Implementation of "Innovation Promotion in Micro, Small and Medium-sized Enterprises (MSMEs)" program in association with GIZ

- Provision of seed funding of Rs. 14.5 Lakhs to the incubates in 2018-19.
- Provision to offer one semester RCOEM TBI Foundation Startup / Research / Industry Internship to the final year students.

- Provision in curriculum for students to undertake courses on Creativity and Innovation, Innovation and Entrepreneurship taught by Entrepreneurs and Industry Mentors. Involvement of industry experts is sought in co teaching and guiding projects.

- Promotion of research culture through augmenting state of art research facilities, seed funding provision, financial and legal assistance for IPRs, Ph.D fee reimbursement for faculty, financial incentives for publications etc .

Outcomes:

1)   70 projects providing innovative and unconventional solutions to more than 55 MSMEs are implemented. Involvement of students and faculty in these projects resulted in 07 IPRs, 07 publications and 01 startup on Modern Building Blocks Manufacturing.

2) Selection as a Host Institute for implementing Ministry of MSME, GoI schemes

- MSME HI/BI Scheme: Received recognition as business incubator on 20/05/2016; startups received funding approval of Rs. 6.756 Lakhs.
- ASPIRE : Received funding approval of Rs. 39.25 Lakhs out of which Rs.31.23 lakhs has been received.

3) 12 startups in incubation phase, four startups utilizedseed funding support of Rs. 11 Lakhs in2018-19.

4) Considerable rise in entrepreneurs with more than 50 alumni involved in different business setups.

5) Around 500 students have undertaken one semester internship at various industries since 2017-18 and 269 students were offered placement after successful completion of internship.

6) Significant rise in research and development activities leading to more than 450 quality publications and research grants amounting to Rs.319.86 lakhs

7) Significant growth in IPR leading to 25 patent publications and 32 patents filing.

8) Substantial growth in consultancy and training services amounting to Rs.167.29 lakhsand industry institute interaction activities.

9) 09 MOU's with foreign universities and 54 MOUs with industries.

10) 10 international and national conferences organised in association with foreign universities and industry partners to provide comprehensive knowledge and share experiences amongst academic and industry fraternity.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document
Strategic Plan and deployment documents on the website	View Document

6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism

Response:

The roles and responsibilities of various bodies/committees are distinct in order to ensure accountability and support collective decision making which are as follows:

Areas	Name of Bodies/Officials/Committees	Functions/ Role
Planning, Implementation and Review	Board of Management (BoM)	Provides strategic guidance for fulfilment of objectives of autonomy, approval of new programmes on recommendations of academic council, annual budget, recruitment etc.
	Principal	Responsible for Overall administration, providing continuous thrust for institutional development.
	Finance Committee	Provides recommendations to BoM related to finance, budgets and audits.

	Steering Committee	Responsible for construction, maintenance and procurements
	Staff Selection Committee	Responsible for recruitment of faculty and supporting staff
	Dean-Second Shift	Responsible for administration and monitoring of second shift programmes.
	Deans	Responsible for providing the guidelines and commands in the areas of strategic importance viz R&D, Admissions, Industry Institute Interaction, Students welfare, Training & Placement
Administration and Finance	Registrar	Responsible for providing administrative support and financial administration for smooth functioning of the Institution
	Finance Officer	
	Administrative Officer	
	Hostel Wardens	Hostel Administration.
Academic Development Implementation and Evaluation	Academic Council	Making the academic ordinances & regulations, Review and approval of proposals submitted by BOS, considers other matters of academic interests.
	Controller of Examinations	Ensures smooth conduction of examinations, evaluation, results and analysis. Recommends exam reforms
	Head of the Departments	Ensures effective curriculum development/ delivery, promotes Research & Development and department administration, function as Chairman Board of Studies.
	Board of Studies (BOS)	Responsible for preparing scheme/ up-to-date syllabi as per the feedback of stakeholders; coordinate research, teaching and other academic activities.
	Programme Assessment and Quality Improvement Committee (PAQIC)	Monitors the effectiveness of the curriculum delivery and interact closely with the faculty for efficacy of course delivery, assessment methods and

		programme outcomes.
Quality Maintenance and Sustenance	IQAC	Responsible for planning, guiding, monitoring and recommending Quality Assurance and Quality Enhancement activities of the Institution; interface with Academic Advisory Board. Coordinating all the activities related to participation in institutional ranking and accreditation by national bodies viz NIRF, NAAC & NBA.
Library	Librarian	Overall library management, online and offline journals.
Committees as per UGC/ AICTE/ Govt /University /Institution Guidelines	- Grievance Redressal Committee - Examination Committee - Admission Committee - Library Committee - Woman Empowerment Cell - Internal Complaints Comittee - Anti-Ragging Committee - Academic Performance Evaluation Committee - Equal Opportunity Cell - Students Welfare and Counselling Cell - Centre for Positive Emotional Health - Institutional Academic	Implementing recommendations of UGC/ AICTE/ Govt /University /Institution Guidelines in relevant subject areas.

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	Integrity Panel
	• Research Advisory Committee
	• Supervisor Allocation Committee
	• Central Disciplinary Committee

Service Rules, Promotion Policies are as per UGC / State Government norms. In addition, the Institute has adopted the service conditions as per Ordinance 24 of RTMNU for faculty and Maharashtra Civil Services rules for supporting staff. The faculty and supporting staff are extended with the revised UGC scales (Seventh Pay Commission with admissible DA).

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document
Link to Organogram of the Institution webpage	View Document

6.2.3 Implementation of e-governance in areas of operation

    1. **Planning and Development**
    2. **Administration**
    3. **Finance and Accounts**
    4. **Student Admission and Support**
    5. **Examination**

All 5 of the above

Any 4 of the above

Any 3 of the above

Any 2 of the above

Response: Any 4 of the above

File Description	Document
Screen shots of user interfaces	[View Document](#)
ERP Document	[View Document](#)
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	[View Document](#)
Any additional information	[View Document](#)

6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

The Institute practices decentralized and participative approach. The various bodies/cells/committees are empowered to take their decisions. These committees meet regularly to consider different agenda and discuss the issues to arrive at concrete resolutions. The sample case establishing the effectiveness and implementation of resolutions is presented below:

Body: Academic Council

Agenda: Proposal for academic reforms

Discussion:

The proposal for providing the flexible curricular structure and capacity linked opportunity for fast and slow learners, IQAC initiated the proposal for academic reforms on March 25,2015 and presented the different features to be implemented as a part of CBCS system for all programmes. The recommendations of IQAC regarding academic reforms were further discussed in the Academic Council meeting on April 25, 2015. After due deliberations, it was resolved to revise the curriculum structure in a phased manner starting from the PG programmes and the BOS were instructed to prepare the same. The recommendations of BOS regarding new PG curriculum structure were then forwarded to Academic Council for approval. The proposed curriculum included the opportunity for students to undertake open and group electives, provision for dropping of a course for slow learners and one year industry internship. The Academic Council after due discussions resolved to implement the proposed curriculum by BOS for PG programme from session 2016-17 in its meeting held on April 25, 2016. The recommendations of Academic Council were subsequently approved in the BOM meeting on June 2, 2016.

Also it was further resolved to revise the existing UG curriculum in order to adopt the CBCS to give ample opportunity for the student by offering electives from discipline and cross disciplines, provision for internship to understand the industry culture and develop a problem solving approach to meet the challenges in future. To implement the above recommendations and enhance the skills and employability prospects, feedback from stakeholders were taken during BOS meetings and AICTE model curriculum guidelines were referred to frame scheme and syllabus for the UG programmes. The proposals forwarded by BOS were discussed in the Academic Council meeting held on July 14, 2018 and it was resolved to

implement the CBCS for all UG programmes from academic session 2018-19 with 160 credit curriculum structure. The resolution of Academic Council was approved in BOM meeting on September 1, 2018.

Apart from the minimum credit requirements of 160 for the award of UG degree, it was discussed to provide opportunities for supplementing the learning experience by crediting additional courses, in parent as well as in diverse disciplines. These additional 20 credits would earn the students, credential i.e. Degree/ Certificate with Honors /Minor.

The Academic Council recommended for further necessary actions.

Action Taken:

- Proposal sent to University for the schemes:
  1. Undergraduate Degree in Engineering with Honors   2. Minor Specialization
- Scheme of Honors / Minor is prepared and subsequently approved by respective BOS and in Academic Council meeting on May 15, 2019 to be implemented from 2019-20.
- Proposal for implementation of Honors/Minor scheme was approved in BOM meeting on May 28, 2019.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

The Institution has effective welfare measures for teaching and supporting staff. The management takes positive and constructive cognisance of suggestions made by RCOEM Teachers Welfare Association and Shri Ramdeobaba Kamla Nehru Engineering Institute Shikshketar Karmachari Sanghatana from time to time. Some of the significant welfare measures are listed below:

1. **Mediclaim** The Institution provides free Mediclaim amounting to Rs.1.5 Lakh for teaching, support staff and their families since 2006. If any employee desires an increase in the insured sum, additional premium can be paid by the employee.

2. **Gratuity**: Institute has signed an agreement with LIC with an objective of providing Gratuity to all regular teaching and support staff with effect from the date of regular appointment of employees, to the maximum limit of Rs.20 lakh as per gratuity law.

3. **SRKNEC staff credit co-operative society Ltd.:** It was established in the year 1992. In November 2010 the society has started the benefits of term insurance for all the regular employees. At present the

society provides the term insurance of Rs. 10 lakh to every employee. Premium for Rs.5 lakhs is contributed by society while the premium for remaining Rs.5 lakhs is paid by employee.

4. Incentive for support staff: 50% concession for support staff wards studying in Institute: In the meeting of Local Managing Committee of the Institute held on 15th June 2009, it was resolved to provide 50% concession in fees for first year to children of Class IV employees. All wards of class IV employees who have been admitted have availed of this concession.

5. Maternity Leave: Maternity leave of 180 days on full pay is granted to permanent lady teachers and supporting staff. Such leave is not granted for more than thrice during the entire service.

6. Study Leave: The faculty members are allowed to pursue Part-Time Ph. D at RCOEM or at an Institute of National Repute like IITs/IIITs/NITs. The faculty members pursuing Part-Time Ph. D are eligible for three months full paid study leave or six months half pay study leave for Ph. D work.

7. Employees Provident Fund: In view the future safety of employees, the Institute contributes specific amount towards PF of an employee as per PF rules.

8. Skill development of support staff: The Institution organizes skill development programmes in area such as programming, technical, communication, financial literacy, self-defence for women etc.

7th Pay commission recommendations are implemented. Faculty and supporting staff are granted 08 casual leaves and 20 days half pay medical leaves. Total 60 days of summer, Diwali and winter vacation is also granted for faculty and supporting staff. Apart from the above the provision for career advancement scheme, financial incentives for research publications, Ph.D fees reimbursement, Registration fees and travel allowance for faculty attending conferences and workshops is also in place. Welfare measures for supporting staff also include earned leave encashment. Other amenities on campus include bank, canteen, ATM, separate parking for staff, sports, gymnasium etc.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years

Response: 20.93

6.3.2.1 Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
106	62	45	41	34

File Description	Document
Details of teachers provided with financial support to attend conferences,workshops etc during the last five years	View Document
Any additional information	View Document

6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years

Response: 8.4

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
10	12	7	7	6

File Description	Document
Reports of Academic Staff College or similar centers	View Document
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	View Document
Any additional information	View Document

6.3.4 Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years

Response: 33.05

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
58	169	93	88	62

File Description	Document
IQAC report summary	[View Document](#)
Details of teachers attending professional development programs during the last five years	[View Document](#)
Any additional information	[View Document](#)

6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

Response:

Performance appraisal system encourages the faculty members to make excellent performance in teaching–learning and research. It also helps to align the performance of faculty and support staff with the mission and vision of the Institute. A transparent and objective system of self-appraisal exists in the Institute for the evaluation of performance of teaching and supporting staff based on different parameters of evaluation.

1. Performance appraisal of teaching staff:-

a) Faculty Member appointed in RCOEM is assessed for performance on the basis of API score of PBAS proforma.

b) The PBAS proforma has been evolved as per guidelines stipulated in "UGC Regulations on Minimum Qualifications for Appointment of Teachers in Universities and Measures for the Maintenance of Standards in Higher Education-2010" no. F3-1/2009 dated 30 June, 2010, here after referred as UGC regulations.

c) The API scores as endorsed and verified in the PBAS proforma are the primary means of assessing a faculty member for the purpose of promotion under Career Advancement Scheme (CAS).

d) Following are the parameters on which API score is evaluated:

- Teaching, learning and evaluation related activities which includes fields related to Lectures/Seminars/Practicals/Tutorials/Contact classes taken, Use of Participatory and innovative Teaching-Learning Methodologies, updation of course contents, Course improvement and Examination related work.
- Co-curricular, extension, professional development related activities include extension and Co-curricular & field based activities, contribution to corporate life and management of the Institution and professional development related activities
- Research, publications and academic contributions include publications in peer reviewed journals, conferences, research guidance , invited lectures ,consultancy and participation in faculty development programs. The weightages assigned to these categories are: 100:75:300. These are called Academic Performance Indices (API). Based on the data collected, API scores are calculated for each of the three categories.

e) At the end of each academic year, the data pertaining to the above categories are collected from each faculty member in the prescribed proforma. The PBAS proforma filled by a faculty member is checked and

verified by the Head of the Department.

f) Recommendations are prepared on the basis of grading derived from the API score and the evaluation by Head of the Department and Principal.

g) The PBAS committee constituted by the Principal verifies the filled in PBAS proforma and recommends the faculty for promotion under Career Advancement Scheme (CAS).

2. Performance appraisal of supporting staff:-

Supporting staff member appointed in RCOEM is assessed for performance based on the score in the Annual Performance Assessment Report. The various parameters on which the support staff members are assessed include work output, personal attributes, integrity, team work, inter personal skill, functional competency etc.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

The Institute has adopted transparent policy with regards to external and internal financial audit. The internal audits are carried out monthly. The verification is carried out on the following areas and the report is submitted to the Principal and Management.

- Cash vouchers
- Bank Vouchers
- Ledger
- Payroll
- Trail Balance
- Payroll
- Journal Vouchers

The compliance report based on the observations of the internal auditor if any, is submitted to the Steering committee. The details of the auditing agency are as given below:

Internal Financial Audit

Financial Year	Agency	Frequency	
2014-15	In house faculty	Quarterly	

2015-16			
2016-17			
2017-18	M/s Nandgaokar and Co. and M/s Jain, Nandgokar and	Quarterly	
2018-19	Shah & Co.	Monthly	

External audit is also regularly carried out on yearly basis. Compliance on observations, if any, made in the audit reports are promptly carried out by Finance Officer and are communicated to the Management, for subsequent submission to statutory auditor. The details of the auditing agency are as given below:

External Financial Audit

Financial Year	Agency	Frequency	
2014-15	M/s K.P. Sahasrabudhe, Paranjpe and Co.	Yearly	
2015-16			
2016-17			
2017-18	M/s S. D. Paranjpe and Co.	Yearly	

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III) (INR in Lakhs)

Response: 0

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year-wise during the last five years (INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

File Description	Document
Details of Funds / Grants received from non-government bodies during the last five years	[View Document](#)

6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Response:

RCOEM is a self-financed autonomous Institute which does not receive any financial grants from Central, State government or any statutory body. The most important source of financial mobilization is annual tuition fees collected from the students.

Additional funding is obtained by encouraging faculty to prepare and submit research projects to various funding agency so that the Institute can not only enrich itself in the terms of quality research but can also mobilize some funds for the research and laboratory development. Institute has received research grants to the tune of Rs.319.86/- lakhs in the last five years.

The Institute has a policy of sharing the revenue generated through consultancy assignments with the faculty members which in turn also improves the content delivery apart from the generation of funds. In the last five years, Institute has been successful to mobilize Rs. 167.29/- lakhs from this exercise.

The Institute has a well-defined mechanism to monitor effective and efficient utilization of available financial resources for the development of the academic processes and infrastructure development. Institutional budget is prepared by Principal every year and approved by the Finance Committee taking into consideration the recurring and non-recurring expenditures. The Institute adheres to utilization of budget approved for academic and administrative expenses and follows the following process:

* The administrative and academic heads submits the budget for the financial year after discussion from all the faculty members of the department to the Principal.
* After approval of budget from the Principal as per the recommendations of the Finance Committee, the purchase process is initiated by the departments, accordingly the quotations are called and after the negotiations in the steering committee meetings, purchase order is placed.
* The faculty members ensure that suitable equipments with correct specifications are purchased.
* The payments are released after delivery of the respective items are done as per the terms and conditions mentioned in Purchase order.
* All transactions have transparency through bills and vouchers.
* The entire process of the procurement of the material is monitored by the Steering committee at Institute level
* Financial audit is conducted by chartered accountant for every financial year to verify the compliance.

Also the Institute is committed to make optimal utilization of financial resources by promoting augmentation of physical infrastructure, academic and research excellence and enhancement of human and technical services. The Institute operates in two shifts, thereby ensuring optimum utilization of infrastructure. Laboratories are used for various mini projects, research projects, technical competitions, social activities etc. apart from the regular practical workload. Library, gymnasium, auditorium, seminar hall, etc. are open to the students beyond the regular working hours of the Institute.

The Institute promotes quality research by spending a good volume of funds on research and development activities. The Institute sponsors registration fees and travel expenses for faculty attending National & International Workshops and Conferences. Faculty members are also given financial incentives for paper publications and for publishing IPRs too. Provision for Ph.D fees reimbursement for faculty also exists.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

Response:

IQAC has played a crucial role in institutionalizing a number of strategies and processes that have resulted in strengthening and streamlining teaching learning process, evaluation process and administrative activities. The two examples are as stated below:

1. Students' feedback through MIS (GEMS):

IQAC has institutionalized students' online feedback process in MIS from year 2014-15. It has prepared a questionnaire that obtains feedback from students on three major sets of parameters including teaching learning process, facilities and infrastructure of the department and the Institute on a five point scale. The system also provides an option for descriptive feedback from the students. Feedback is taken twice in a semester. The eligibility for a student to give feedback is overall 60% attendance. Following is the process followed:

- The feedback is configured in MIS as per the slots (dates) mentioned in academic calendar.
- The students' give the feedback through their login id. Once a student submits the feedback, it is freezed.
- The Head of the department critically analyzes the feedback of every faculty member and department facilities.
- One to one discussion with faculty is held after the mid and end semester feedback. The corrective measures are suggested and monitored wherever necessary.
- Action taken report is prepared by Head of the department and then it is discussed with the Principal in the presence of Member Secretary, IQAC, Head of the department and concerned faculty. Such discussions help to evolve necessary corrective measures that can help the faculty to improve their performance.

2. Academic Planning and Monitoring

Academic planning and monitoring helps to improve the effectiveness of teaching learning process. IQAC monitors overall academic activities leading to continuous improvement in learning experience, placement and overall ambience of the Institute.

The process of academic planning and monitoring is carried out through a systematic procedure as below:

1. Preparation of Institute Academic calendar
2. Preparation of Departmental Academic calendar

3. Allocation of courses to faculty
4. Preparation of Time Tables including class wise and faculty wise
5. Preparation of teaching plan and laboratory plan
6. Defining and mapping of course outcomes (COs) with programme outcomes (POs) and programme specific outcomes (PSOs).
7. Preparation of course file
8. Curriculum delivery
9. Academic monitoring of activities by Dean Academics, Head of the Department, Department Academic Coordinator and Course Coordinator for activities related to regular conduction of classes, attendance monitoring, syllabus coverage, continuous assessment schedule and monitoring, slow and fast learner activity monitoring,uploading of attendance and learning materials on MIS and communication to parents through sms and emails.
10. Reviews the assessment of teaching learning outcomes through result analysis and the attainment of POs for the graduating batch. The gap analysis is used to improve the learning outcomes for the successive batch.

The above activities ensure expected outcomes in terms of timely conduction of academic activities, maintenance of records and improvements in results and placements.

In addition to the above activities, academic monitoring is undertaken through periodic internal and external audits.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms

Response:

IQAC has ensured that the quality and effectiveness of teaching learning process is reviewed periodically through Academic and Administrative Audits. These reviews enable the Institute to introduce the reforms from time to time to keep pace with the changing requirements of the professional world.

Curricula for different programmes is designed and developed by Board of Studies in consultation with eminent academicians and industry experts. After the approval from Academic Council they are put to practice. The academic calendar reflects the schedule from the commencement of classes in the beginning of every semester till declaration of results. Assessment and review of COs, POs and PSOs and their attainment is done in Programme Assessment and Quality Improvement Committee (PAQIC) meetings at Department level. PAQIC is responsible for monitoring the effectiveness of the curriculum and interacts closely with the faculty for efficacy of course delivery, assessment methods and student outcomes. Also enrichment of curriculum is done based on the feedback given by the stakeholders. The attainment of POs, PSOs and corrective measures undertaken for further improvement is reviewed in IQAC.

Two examples of institutional reviews and implementation of teaching learning reforms facilitated by the IQAC which are implemented as per the observations of the academic audits carried out annually are as under:

1. Industry participation in teaching learning process:

Teaching learning experience in the Institute is enriched with active participation from industry. With the objective of ensuring industry exposure to learners, the association of industry has been sought at different levels and in different domains to impart quality to teaching learning process.

(a) Design and Development of Curricula: Representatives of industry are nominated on Academic Council and Board of Studies. Industry experts give suggestions in the design and development of curriculum as per the latest trends and industry requirements.

(b) Co-teaching by industry experts: Experts from the industry are invited to deliver sessions based on curriculum to enhance the content delivery related to the practical aspects of the courses and create awareness about the industry practices. Experts from industries like Barclays, Deutsche bank, Qualcomm, Xilinx, Infocepts Technologies Pvt. Ltd., Global Logic, Mahindra and Mahindra and others have been associated for co-teaching.

(c) Industry offered courses: Experts from the industry have been associated for design and delivery of complete courses which include Design thinking, Foundations of Business Intelligence, and Mobile Technology offered by industries like TCS, Global Logic Ltd. and Infocepts, Pvt. Ltd.

(d) Industry offered projects: Industries offer projects to the third year and final year students. These projects cover the contemporary problems faced by the industry and the technological advancements. These projects are jointly conducted and evaluated by the industry experts along with the faculty.

(e) Internships in Industry: The Institute offers internships as a part of curriculum in different industries to provide exposure to industry practices and prevalent technologies to the students.

This reform makes it possible for learners to be familiar with contemporary trends of industry that prepares them to face challenges of their professional career in an efficient way. Interaction with industry experts significantly augments the knowledge and competency of faculty as well. This reform reinforces Institute Industry interaction qualitatively thus helping in the attainment of POs. Industry participation helps the students in their placements also.

2. Provision for fast and slow learners:

To cater to the needs of fast and slow learners, IQAC has institutionalized the following provisions:

    (a)Fast learners

1. Provision for one/two semester Internship in Industry/R&D Laboratories/Renowned Institutes for fast learners: Students are required to earn all the credits upto semester II for M.Tech. and Semester IV for MCA programme to be eligible for this provision. Summer term is conducted for such students to complete their academic requirements. After successful completion of summer term, they can go for one year internship. Similarly, one semester internship provision exists for final

year students falling under the category of fast learners of undergraduate programmes.

2. Provision for Honors and Minors: The Honors scheme for fast learners, aims for vertical knowledge growth in the students' own discipline, while Minor scheme aims for acquiring additional knowledge in any other discipline for enrichment and enhanced prospects of employability. **(b)Slow learners**

- Provision for improvement of Grade/CGPA while undertaking a Programme for all students having CGPA below 6.0.
- Provision for improvement of Grade/CGPA after completion of Programme for all students.
- Provision to drop a course for post graduate students with a maximum CGPA of 6.5 or less with an option to drop maximum one compulsory course offered in semester II. The student needs to take up this course in semester IV.
- Remedial classes for slow learners are conducted after every continuous assessment and end semester examination.
- Provision to change an elective course in case a student is unable to clear the same inspite of repeated attempts.

This reform helps in leveraging the capabilities of fast learners and improving the academic performance of slow learners.

File Description	Document
Any additional information	[View Document]
Link for Additional Information	[View Document]

6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

Response: 17.2

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
28	26	16	11	5

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	[View Document]
Any additional information	[View Document]
IQAC link	[View Document]

6.5.4 Quality assurance initiatives of the institution include

1. Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
2. Academic Administrative Audit (AAA) and initiation of follow up action
3. Participation in NIRF
4. ISO Certification
5. NBA or any other quality audit

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 4 of the above

File Description	Document
e-copies of the accreditations and certifications	View Document
Details of Quality assurance initiatives of the institution	View Document
Any additional information	View Document
Annual reports of Institution	View Document

6.5.5 Incremental improvements made during the preceding five years *(in case of first cycle)* **Post accreditation quality initiatives** *(second and subsequent cycles)*

Response:

Post Accreditation Quality initiatives

The Institute was awarded 'A' Grade by NAAC in year 2014. Since then, a number of quality initiatives and actions on the observations given by NAAC have been successfully implemented with the active involvement of IQAC. Some of the prominent Academic and Administrative quality initiatives are as under:

1. Encouragement for faculty and students to undertake research:

Major Initiatives for fostering research:

Faculty

- RCOEM Researcher and Young Researcher Award
- Incentives for research publications and Patents
- Financial and legal support for filing patents
- Seed money for research
- Reimbursement of Ph.D fees and study leave
- Reimbursement of Registration fees and travel expenses for paper presentation in Conferences in India & Abroad and STTP, FDP, Workshop etc

Students

- Financial support and incentive grade points for research publication and patent
- Legal support for filing patents
- Provision for six months research internship
- Research scholarships
- Funding for participation in design contests such as Robocon, ARM design challenge, Hackathon etc.
- National Doctoral Fellowship scheme of AICTE
- Central fabrication facilities to undertake interdisciplinary/multidisciplinary projects and research work.

2. Enhancing funding for Research and Extension activities:

To strengthen the research culture, faculty members were oriented in core areas of research. The efforts undertaken have resulted in the grants received through a number of projects which led to infrastructure augmentation and positive impact on the research ecosystem. The grants received from various funding agencies are:

- DST, GoI for FIST– Level 0
- RGSTC – TIFAC – MSME Internship Scheme

- Ministry of MSME, GoI for MSME-HI/BI and ASPIRE

- Ministry of Communication and IT, Deity, New Delhi, GoI for Visvesvaraya Ph.D. scheme
- GIZ under German Federal Ministry for Economic Cooperation and Development (BMZ) for innovation promotion in MSMEs.
- Center for invention, innovation, incubation and training (CIIT) from Tata Technologies
- Laboratory support under university education programme from BMW, Texas Instruments, ARM, Dassault System,Ansys, Mathworks etc.
- AICTE/CSIR for organising FDP/STTP/Workshops/Conferences etc.
- Financial support from corporates and industries like MOIL, WCL, IIIE, CII etc.

3. Enhancing sports facilities:

The Institute offers opportunities for overall development of students through physical education and sports activities. Yoga and Sports are incorporated as a part of the curriculum. Following are the additional facilities created:

- Development of sports complex at Dorli , spanning over 43 acres.
- International Standard ground for football , cricket, basketball , athletics etc.
- Cricket nets for practise

- Volley ball court
- Table Tennis
- Augmentation of gymnasium facilities which include tread mills, paddler etc.

4. Mechanisms for providing innovation and entrepreneurship opportunities:

- Establishment of "RCOEM Technology Business Incubators Foundation"
- Establishment of state of the art infrastructure of 3000 Sq.ft for incubation activities
- Provision of courses on Creativity and Innovation, Entrepreneurship and internship in association with Industry Mentors.
- Providing infrastructure, seed funding , networking and value added services to startups
- Selection as a host Institute for implementing Ministry of MSME, GoIschemes.
- The Institute is incubating 12 ideas and 05 start-ups have entered in commercialization phase. More than 25 startup ideas are selected for pre-incubation.

5. Perspective Plan and strategies for implementation:

Perspective Plan 2015-2019 is prepared and deployed. Strategies for implementation are developed.

E-governance:

The Institute uses JUNO CAMPUS, a MIS system for e-governance which is a full featured integrated end to end automation system.The entire system has been developed in such a way that it handles the complete academic cycle of a student, from the point of his entry till exit from the Institute. The different modules include Admission, Academic, Examination, Administrative etc.

7. Promotion of green initiatives:

Various measures towards developing a green campus following environment-friendly practices and education to promote the same are initiated. Green audits are conducted. The environment club of the Institute, REEF creates awareness about the ill effects on the environmentwithin the campus and amongst the society at large. The Institute has received Green Army certificate from Chief Conservator of Forest, Social Forestry Department, Government of Maharashtra and a certificate of appreciation for 'One Student One Tree' initiative by AICTE for green initiatives undertaken. Following initiatives have been undertaken:

- Use of renewable energy sources
- Use of LEDs for power needs
- Effective recycling of waste
- Rain water harvesting
- Bicycle in campus
- Paperless office
- Plastic ban on campus

8. e-learning initiatives:

In order to strengthen the learning experience of the students, the Institute promotes the use of e- learning resources through the following initiatives:

- Provision for credit transfer through MOOC's course against open elective.
- Provision of incentive grade points for MOOC's course
- Establishment of SWAYAM-NPTEL local chapter. Ranking in top 100 NPTEL local chapter during July-December 2019 examination run.
- Adoption of ICT in classroom teaching.
- Library hour to strengthen the use of ICT techniques.
- Use of Virtual Laboratories.
- Media centre for video lecture recording
- Language Laboratory for enhancing language skills
- Access to IEEE, ASME, ASCE, EBSCO e-journals, NPTEL video lecture, DELNET inter-library sharing resources.

9. Upgradation of Library facilities:

The Central Library of the Institute is air conditioned, fully automated and is furnished with the state of art facilities which includes digital library, comprehensive collection of resources in the form of e-books, e-journals and other e-resources such as audio visual lectures, online databases etc. The total area of the library spans over 1340.33sq.m. with a seating capacity of 174 users and is under CCTV surveillance.

Apart from the above, the incremental initiatives taken since 2014 are as given below:

1. Adoption of effective internal and external quality enhancement mechanism through annual internal, external audits and accreditations since 2003.

2. Institute is an ISO 9001:2015 certified and forty five faculty are certified auditors. Four internal audits per session followed by an external audit is conducted every nine months.

3. To enhance the quality of teaching learning process, a robust OBE system is incorporated.

4. CBCS has been implemented in all PG and UG programmes. The scheme and curriculum of UG programmes is designed based on AICTE Model curriculum.

5. Academic Advisory Board is constituted which comprises of prominent academicians and scientists.

6. MoUs with Foreign Universities / Academic Institutions / Industry

File Description	Document
Link for Additional Information	[View Document](#)

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

Response: 7

7.1.1.1 Number of gender equity promotion programs organized by the institution year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
2	2	2	0	1

File Description	Document
Report of the event	View Document
List of gender equity promotion programs organized by the institution	View Document
Any additional information	View Document

7.1.2 Institution shows gender sensitivity in providing facilities such as
a) Safety and Security
b) Counselling
c) Common Room

Response:

Safety & Security

The Institute ensures the safety and security of all students and employees. The campus is under the surveillance of 151 CCTV cameras installed at strategic locations. Security is provided to the entire campus so that women employees and girl students feel safe. The Institution has deployed 33 security guards and 3 supervisors under the leadership of the lady officer of the rank of former Assistant Commissioner of Police. The Institute has signed an agreement with Ex. Servicemen's Multipurpose Services (India) Pvt. Ltd., Nagpur from July 1, 2014 to Nov. 30, 2016 to undertake security measures. From Dec .1, 2016 onwards, the Institute has security contract with M/S Security and Intelligent Services (India) Limited (SIS). Besides, the Institute has also deployed 7 personnel to boost the in-house security.

All the classrooms, corridors and seminar halls on the campus are well illuminated. Separate hostels exist for boys and girls with resident warden along with faculty warden to look after the welfare of the inmates.

Transportation is available for any medical emergency. All emergency numbers and the numbers of

important administrators are displayed at various strategic locations within the campus. The Institute has MOU with five hospitals namely ALEXIS Multispeciality, CIIMS, Shantimohan, CARE and Prestige Nursing Home to provide medical help to the students and faculty. Also all students are covered under personal accident insurance for a sum of Rs. 1 lakh.

'Internal Complaint Committee for Gender Sensitization' is constituted for redressal of complaints regarding sexual harassment of women at the workplace. Students have the liberty to reach out to any member of the committee at any time. The Anti-Ragging and Vigilance Committee ensures ragging free, secured campus for all, especially the girl students. The disciplinary committee ensures regular visits to the hostels, classrooms, common rooms and canteen to check the prevalence of any prohibited activities.

Counselling:

As a part of the student mentor scheme, faculty members mentor students in small groups. In such supervised counselling, girls find themselves in a congenial environment to discuss academic and other matters with the mentor to avert any undesirable consequences.

To create financial awareness amongst women, workshops on financial planning and awareness for women employees are organized. Realizing the importance of health and hygiene, women empowerment cell regularly organizes workshops, seminars, and talks by experts on health issues. They include activities such as bone density check-up camp, breast cancer awareness and general health check-up etc. The counselling committee of the Institute also has adequate representation from the female fraternity.

Common Room & Other Facilities:

For the convenience of female students, the Institute has provided the facilities of common rooms in every building. Rest rooms are also available for the girl students in MBA department. Sanitary Napkin vending machines are installed in the campus for the convenience of the girl students and female faculty. The Institute has a separate well-equipped gymnasium for boys and girls.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.3 Percentage of annual power requirement of the Institution met by the renewable energy sources

Response: 53.47

7.1.3.1 Annual power requirement met by renewable energy sources (in KWH)

Response: 354906

7.1.3.2 Total annual power requirement (in KWH)

Response: 663748

File Description	Document
Details of power requirement of the Institution met by renewable energy sources	[View Document](#)
Any additional information	[View Document](#)

7.1.4 Percentage of annual lighting power requirements met through LED bulbs

Response: 68.25

7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)
Response: 172449

7.1.4.2 Annual lighting power requirement (in KWH)
Response: 252680

File Description	Document
Details of lighting power requirements met through LED bulbs	[View Document](#)
Any additional information	[View Document](#)

7.1.5 Waste Management steps including:
- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

Response:

The Institute has proper management systems for Solid, Liquid and E-waste disposal and is carried out on regular basis.

1) Solid waste Management

The solid waste management system of the Institute is in place. It consists of the collection, transportation, treatment, disposal of waste and the use of the value-added product generated through the waste treatment. Vermicompost is produced on the campus using the horticulture waste. All the dry leaves are collected in a specially designed pit measuring 12'x 3'x2'. Every three months, around 20 kg of vermicompost is produced which is utilized as fertilizer. It benefits the environment by reducing the need for chemical fertilizers and decreasing the amount of waste going to landfills.

2) Liquid waste Management

Realizing the importance of water conservation due to increasing per capita demand and continually decreasing availability of water, the Institute has developed a liquid waste management system dedicated to the collection, transportation, recycling, reclamation, and disposal of wastewater. A 200 KLD advanced waste treatment plant, Moving Bed Biological Reactor (MBBR), is constructed. The MBBR is efficient, effective, compact and easy to operate. The liquid waste generated in the campus is supplied to the MBBR unit which gets filtered through a series of filter beds and the clear water is obtained. The treated water is then chlorinated and used for gardening, toilet flushing, and other such purposes. The sludge is also used in gardening as a good manure. The advantage of this unit over conventional waste water treatment technique is that it is efficient in monsoon months also.

3) e-waste Management

The Institute realizes the importance of e-waste management that leads to decreasing the demand for mining heavy metals and reducing the green house gas emission in manufacturing virgin metal.The Institute has adopted an effective way of disposing of e-waste. Bins are provided in the laboratories of each department to collect the e-waste.The collected material is disposed for recycling through authorized vendors.The Institute takes the services of Government of Maharashtra approved e-collectors and e-recyclers for the effective management of e-waste. "M/s. Suritex Private Ltd. Works" have been providing services for the same. The waste management process being employed at the Institute helps in reducing the ill effects on the environment and human health.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Rainwater harvesting structures and utilization in the campus:

The scarcity of water is a global phenomenon all over the world. With continuously increasing population and thereby reducing per capita availability of water is leading to a shift from adequate to scare status with respect to water availability. Considering the extent of campus area and topography, every effort is made to use water judiciously. The water use efficiency is increased using appropriate gadgets installed in the sanitary blocks and using sprinkler irrigation practices for gardening. Realizing the value of water as a significant resource and looking at the need for conserving water, the Institute has initiated measures for rainwater harvesting. Considering the topography of the campus, the Institute has constructed eight pits measuring 4'x4'x6' each along the storm water drains. All the pits have filters so that the collected rainwater is filtered before it percolates into the ground. It is an effort to increase the overall groundwater level. The Construction and Maintenance department of the Institute regularly carries out the maintenance of all the pits for their effective functioning. The three bore wells and one open well available in the campus has shown positive impact of this rain water harvesting measures with almost dry wells providing

some yield. The water conserved through these measures is normally used for gardening and similar uses.

File Description	Document
Any additional information	**View Document**
Link for Additional Information	**View Document**

7.1.7 Green Practices
- **Students, staff using**
a) **Bicycles**
b) **Public Transport**
c) **Pedestrian friendly roads**
- **Plastic-free campus**
- **Paperless office**
- **Green landscaping with trees and plants**

Response:

The Institute has initiated various measures towards developing a green campus following environment-friendly practices and education to promote green campus. The Institute is centrally located and well connected by public transport network and has pedestrian-friendly roads within the campus. There are bicycles for staff and students to commute on the campus. Students are encouraged to use bicycles. The Institute encourages its staff members and students to carpool.

The environment club of the Institute, Shri Ramdeobaba College Engineers for Environement Forum (REEF) creates awareness about the ill effects on the environment not only within the campus but also amongst the society at large. It makes the students realize the importance of environment conservation. Global Tiger Day, Wildlife Week, Earth Hour, are some of the environment events celebrated each year in order to spread awareness among the public in general and school children in particular. The students have spread awareness about ill effects of POP Ganesh idols and helped NMC in correct disposal of POP idols during Ganesh Visarjan in the lakes of Nagpur. Incorrect disposal affects the plan and bird life supported by these lakes. They have also removed nylon Manja after Makar Sanskranti each year from 50 hectares of Raj Bhavan, Nagpur premises which is a biodiversity hot spot or lungs of Nagpur. Students have also taken initiative to encourage car-pooling among faculty members during Earth Hour. Many faculty members came forward and did car-pooling. Some have taken this up as part of their routine

As a part of the green initiative, the Institute has moved towards a paperless office. All kinds of internal communications and profile management are done in the Management Information System (MIS). The Institute has reduced the usage of paper drastically because of streamlined usage of MIS.

The Institute canteen is a plastic-free zone, where environment-friendly cutlery is used. The Institute houses as many as 101 bird species which was counted by students through sampling by dividing the green cover of the Institute into seven patches. More than 35 trees species are available in the campus which is counted through the census undertaken by students. The green cover makes the Institute campus a pleasant place to study. The Institute takes special care to maintain the landscaping & maintenance of gardens and

trees on the campus. In addition each department has planted one tree as a symbolic gesture to environment conservation. REEF students have set up bird baths to take care of the water needs of birds during summer.

The Institute has also taken significant steps towards using renewable energy sources, the use of LEDs for power needs, effective recycling of waste to implement green campus initiatives.

The Institute has been awarded Green Army certificate by the Chief Conservator of Forest, Social Forestry Department, Govt. of Maharashtra and a certificate of appreciation for 'One Student One Tree' initiative by AICTE.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

Response: 0

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

File Description	Document
Green audit report	View Document
Details of expenditure on green initiatives and waste management during the last five years	View Document
Any additional information	View Document

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

   1. **Physical facilities**
   2. **Provision for lift**
   3. **Ramp / Rails**
   4. **Braille Software/facilities**
   5. **Rest Rooms**
   6. **Scribes for examination**

7. Special skill development for differently abled students

8. Any other similar facility (Specify)

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: B. At least 6 of the above

File Description	Document
Resources available in the institution for Divyangjan	[View Document](#)
Any additional information	[View Document](#)
link to photos and videos of facilities for Divyangjan	[View Document](#)

7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

Response: 0

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	00	0

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	[View Document](#)
Any additional information	[View Document](#)

7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Response: 0

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	00	0	0

File Description	Document
Report of the event	[View Document](#)
Any additional information	[View Document](#)

7.1.12
Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff

Response: Yes

File Description	Document
Any additional information	[View Document](#)
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	[View Document](#)

7.1.13 Display of core values in the institution and on its website

Response: No

File Description	Document
Any additional information	[View Document](#)
Provide URL of website that displays core values	[View Document](#)

7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations

Response: Yes

File Description	Document
Details of activities organized to increase consciousness about national identities and symbols	View Document
Any additional information	View Document

7.1.15 The institution offers a course on Human Values and professional ethics

Response: Yes

File Description	Document
Any additional information	View Document
Provide link to Courses on Human Values and professional ethics on Institutional website	View Document

7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Response: No

File Description	Document
Any additional information	View Document
Provide URL of supporting documents to prove institution functions as per professional code	View Document

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 22

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years

2018-19	2017-18	2016-17	2015-16	2014-15
5	4	4	4	5

File Description	Document
List of activities conducted for promotion of universal values	View Document
Any additional information	View Document

7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

Response:

The Institute celebrates the national festivals and birth/death anniversaries of great Indian personalities. The following are such events:

- **Independence day**
- **Republic day**
- **Teachers day**
- **Engineers day**
- **National science day**
- **National Youth Day**
- **National Sports Day**
- **Digvijay Din**
- **Constitution day**

In the last five years, the Institute has organized following programs to commemorate the anniversaries of great personalities and national festivals.

- To inculcate the spirit of patriotism and nationalism, the Institute celebrates national festivals (Independence Day and Republic day) every year with enthusiasm. Patriotic songs, dance performances, and drama are also presented on these occasions.
- Birth anniversary of Sir Visvesvaraya which is observed as Engineers' Day is celebrated enthusiastically on 15th September every year. The Institute is actively involved in the organization of Engineers' Day along with the professional bodies like the Institution of Engineers' and Engineers' forum.
- The Institute enthusiastically celebrates Teachers' day every year on September 5, commemorating the birth anniversary of Dr. S. Radhakrishnan. International yoga day is celebrated every year on June 21 by the Institute.
- Birth anniversary of Swami Vivekananda which is observed as National Youth Day is celebrated on January 12 every year.
- To promote the habit of reading among students, the reading day is observed on 15 October to commemorate the birth anniversary of Dr. APJ Abdul Kalam.
- A seminar on 'Modern Engineering Aspects and Administrative Management in Shivajian Way' (Rajmudra3.0) is organized regularly to familiarise students with the administrative methods of Shivaji who is considered as the father of Indian Navy.
- 11th September 2018 was observed as 'Digvijay Din' to commemorate the 125th year of the occasion when Swami Vivekananda had delivered his speech in the 'World Conference on Religions' on 11 September 1893 at Chicago, USA. On this day, teachers and students read out the

famous speech of Swamiji.

- August 29 (birth anniversary of Major Dhyanchand) which is observed as 'National Sports Day' is celebrated in the Institute.
- The Constitution day is celebrated on November 26 in the Institute to create awareness about the values of constitutional democracy among students.

7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

Response:

The Institute adheres to transparent practices in its financial, academic, administrative and auxiliary functions. The administration is overseen by the Board of Management.

1.Financial functions: Financial transparent practices are the hallmark of our Institute. The monthly salary of teaching and non-teaching staff is directly credited in the respective bank account of the employee on the first of every month. The salary slip of employee is available in MIS. All other non-salary expenditures, capital, and recurring expenditure are made through RTGS/ NEFT or by cheque.

The Institute accepts fees from the students at entry level by demand draft only, payable in the name of the Institute. No cash transactions are allowed for fee payment. For subsequent years, fees are accepted online through MIS. The fee is collected strictly as approved by fee regulating authority (FRA), Government of Maharashtra.

The Institute has a well laid out process for allocation and utilization of budget for every financial year.

2. Academic functions:

The Institute maintains transparency in all academic matters. At the department level, the faculty members are actively involved in the decision making process. The faculty has the flexibility of choosing the courses and selecting the mode of classroom delivery for teaching different courses in a semester. Programmes offered, curricula and regulations are uploaded on the website. Academic calendar, teaching plan, timetables are displayed on notice boards prior to the beginning of each semester. MIS based maintenance of student academic records enable transparency in the teaching learning and evaluation process to the students. The students can also peruse the copy of exam answer scripts and the grievences are adressed. Inclusion of student members in committees like Board of Studies, CDC and IQAC promotes transparency in the decision making process.

3. **Administrative:**

The registrar office is responsible to ensure transparency in administrative functioning such as recruitment of teaching and non-teaching staff, keeping records and admission details of students. Transparency is followed in faculty recruitment. Advertisement is published in one national and two local newspapers and is also available on the Institute website. The selection committee is constituted strictly as per norms

prescribed by statutory bodies to select the candidates based on merit. The selection for support staff also follows a transparent process

Service rules are as per UGC/ State Government norms and are available on the Institution website. The Institute promotes participative management where the faculty and the students are members of various committees of the Institution and take part in decision making. Grievance redressal committee and Internal Compliant Committee are in place.

4. **Auxiliary functions:**

Admissions are done transparently based on the approved intake of all academic programmes by AICTE and the admission policy is as per the State Government norms. The applications for admissions for management quota are invited online and the process is conducted strictly in a transparent manner as per the merit list of DTE, Govt. of Maharashtra. The entire admission process is displayed live in the campus wherein the parents can view the position of the available vacancy.

7.2 Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:

1. **One semester internship : Industry, Start-up, R&D and MSME**

- **Objective of the Practice:** To impart quality education in the field of Engineering and Management and to give exposure to industry practices thereby increasing the employability of the students, one-semester internship is offered to students in the following domains:

- Internship in core/IT/allied industries.
- Internship at RCOEM Technology Business Incubators Foundation (RCOEM-TBI) under the mentorship of faculty and industry personnel to foster creativity, promote innovation and nurture entrepreneurship.
- Internship for research projects to familiarise students with contemporary research trends.
- Internship at Micro Small and Medium Enterprises (MSMEs) to leverage the capability of students and faculty to providean effective solution to the industrial problems.
- To ameliorate the employability prospects, imparting appropriate skills for the demanding job market is essential which necessitates changes in the curriculum. Hence one-semester internship opportunity for under graduate students and one semester / year internship opportunity for post graduate students is provided with industry, research projects under faculty, RCOEM-TBI Foundation and MSME.
- Almost all the major industries offering higher packages do not directly hire. Students need to supplement their knowledge, and through these internships, the students acquire necessary skills and bring new perspectives to problem solving eventually leading to hiring by the same industry. Also curriculum revision can be made based on feedback from Industry/ students.
- Research project internship enables the learners to adapt research culture by identifying problems, experimentation and thereby drawing conclusions.

- RCOEM TBI Foundation provides an opportunityfor the students to work on their business/start-up ideas,thus helping them in preparing the business plan, networking, identifying funding agencies for technology commercialization.
- Internship with MSME provides an opportunity to identify the industry problems and provide feasible solutions by leveraging student capabilities under the mentorship of faculty.

- **Internship at Industry**
- The Institute aggressively promotes and provides six month internship opportunities to the students in the industries across India.
- The industries offering internships selects the students on the basis of written test, GD and PI. The students undergo Aptitude and Soft Skill training through series of online tests from various agencies like AMCAT, CO-cubes, and FNAT etc. which ensures continuous improvement in the skills of students thus leading to increased selections for internships.
- Selected students are required to complete their summer/winter term and work dedicatedly in the respective industry on the specified problem statement. Many interns are offered jobs after completion of internship.

Internshipat MSME and GIZ

- The Institute has been selected for the implementation of theRajiv Gandhi Science and Technology Commission (RGSTC) -Technology Information, Forecasting And Assessment Council (TIFAC) MSME Internship Schemeof Government of India.In the first stage, the selected students are deployed for two months during their summer vacation toidentify the problem of MSME.
- During the second phase the students work towards creating a credible work plan for developing an appropriate low cost and easily adaptable, time-bound solution in consultation with faculty and industry mentor.The Technical Screening Committee approves the proposals for funding.
- The Institute has also been selected as a Host Institute to offer internship to students under 'Student Inno Project' supported by German Corporation for International Cooperation (GIZ).

R&D Internship at RCOEM

- RCOEM Research Internship is designed to provide educational and professional research experience and this opportunity is available for specific research projects.
- The faculty working as Principal Investigators (PI) briefs about proposed research to the potential interns.The selected interns are required to work full time on the project for six months under the supervision of PI.

Internship at RCOEM -TBI Foundation

- Internship at RCOEM Technology Business Incubators Foundation provides opportunity to students to work on business/start up ideas.
- This sows the seeds ofinnovation, entrepreneurship and helps students in product/technology development, preparing business plan, networking and identifying funding agencies for technology commercialization.

- **Evidence of Success**

- This practice helps in developing learner centric environment to attain programme outcomes and

achieve graduate attributes.

• The experiential learning enhances team spirit, learning capabilities and soft skills and makes them socially responsible.
• Students' proactive involvement in research projects and internship leads to patents, publications, start-ups and also enhances success rate of placements**.**

Below given details are indicative of the effectiveness of the above mentioned practice.

Industry Internship Scheme (implemented since 2014-15):

Year	Number of students for industry Internships	Number of students placed in same industry	Number of student pla industries
2018-19	507	279	193
2017-18	261	93	120
2016-17	155	41	86
2015-16	88	29	24
2014-15	47	28	19

Through RCOEM TBI Foundation internship scheme (implemented since 2018-19):

Year	Number of student for RCOEM TBI Foundation Internship	Number of successful start-ups
2018-19	07	01

Through RGSTC-TIFAC MSME internship scheme (implemented since 2015-16):

Year	Number of students for MSME Internship	Number of projects undertaken	Number of Industries accepted the solution	Number of Publications	Number o patents file
2018-19	9	05	02	-	02
2017-18	12	06	03	02	03
2016-17	10	05	03	01	02
2015-16	10	05	03	04	01

Through GIZ-MSME internship scheme (implemented since 2018-19):

Year	Number of students for GIZ-MSME Internship	No. of projects undertaken
2018-19	04	02

The GIZ and RGSTC-TIFAC MSME Internship scheme has provided opportunity for hands-on-training at industries and were benefitted from the creative ideas of the students and faculty.In more than 20 cases, solutionswere adopted by the industry to resolve their problems.

• **Problems Encountered & Resources Required**

The slow pace of industrialization, absence of Original Equipment Manufacturers (OEMs), agriculture and

service-based economy of Vidarbha region makes it challenging for the Institute to secure internship for all students.Following are the challenges in general faced and the resources required:

- Identification of industries to provide opportunity to large number of students with different learning ability and career goals.
- Providing opportunity to large number of students with stipend
- Identifying students with entrepreneurial mind set and their sustainability
- Identification of motivated students for research
- Uniform assessment ofindustry electives and project by the industry mentor

- **Notes**

RGSTC-TIFAC MSME is a unique scheme for "Leveraging the capabilities of students and staff for the development of MSME". RCOEM is selected for this scheme. The scheme is monitored by Dr. Anil Kakodkar, Chairman RGSTC. Students identify the problem statements and propose solution in close coordination with industry. The solution is provided to 57 industries out of which more than 20 solutions are implemented presently. Similar scheme is extended with GIZ.

The success of the scheme motivated us to form a section 8 company RCOEM TBI Foundation, which is incubating some of the ideas.

2. **Title of the Practice: Financial Aid to the deserving students.**

- **Objectives of the Practice**

It has been observed from the profile of the students admitted to the Institute that there are many students from weak economic background. Also, the need was felt to recognize top academic performers in the Institute.

The objectives of the practice are:

- To support the economically weak students for continuation of their studies.
- To provide scholarships to academically bright students and those excelling in extracurricular activities
- To provide assistance to the students during emergencies and eventualities
- To inculcate competitiveness amongst students
- To foster a sense of social responsibility amongst beneficiaries.

- **The Context**

It was noted that many students are from financially weaker backgrounds and find it difficult to afford the cost of higher education. Many of them do not qualify for Government schemes and financial assistance too. In order to facilitate their aspirations, the Institute has taken initiative to establish the Students' Welfare Fund. Faculty and alumni were requested to contribute for the cause. It started with one day salary

donation from faculty and subsequently the contributions poured in from alumni as well.

Also as apart of Institutional social responsibility, emergency financial aid is provided for the students under exigencies.

RCOEM believes that excellence must be recognized and promoted irrespective of the economic background. After due deliberations held in IQAC, Academic Council and BoM meetings, it was decided to award merit scholarships to motivate the students to put their best efforts towards the achievements in academics, co-curricular activities leading to overall personality development irrespective of their economic background.

- **The Practice:**

Financial Assistance:

- Due to the ever-increasing financial burden of professional education, the Institute felt the need to provide financial aid to ease the burden for needy students to enable them to complete their professional studies. Students' Welfare Committee was established in the year 2010 to provide partial financial assistance to admitted financially weak students. During the induction program, students are made aware of the existence of this committee and the information is displayed on all the notice boards. The committee receives applications, verifies the financial condition of candidate and then approves the disbursement of financial assistance. This assistance is provided either for tuition fee top-up, hostel fee, mess fee, examination fee or in case of emergencies and exigencies. Besides, the committee also provides necessary guidance to the students who can avail the education loan to complete their studies.

- The financial assistance is provided out of corpus fund that is maintained in the bank account "SRKNEC Students' Welfare Fund (SWF)" in UCO Bank. Originally, the corpus came into existence with a contribution in the form of 1-day salary from faculty to the tune of Rs.2,17,431/- and Rs.50,000 from Mr. Aditya Bhelande, an alumnus of the institute. The alumni association of RCOEM passed a resolution that every student who completes studies from this Institute may contribute Rs.400/- willingly to the corpus.

- It is also observed that the beneficiary students after employment refund the supported amount back to the welfare fund for assistance to the current needy students.

Merit Scholarships

- To inculcate the spirit of competitiveness amongst students, incentives in the form of scholarships are awarded for academic toppers, those excelling in research, sports, cultural activities, and higher studies. 'Best Student of the Year' award is also conferred for best all round performance. For higher classes, the scheme is implemented from session 2018-19 and for the first year, from 2019-20. The number of students benefitted are 1090 and the quantum of merit scholarship for academic performance, research, sports, cultural activities etc. is Rs. 32,11,000/-

- Drawing inspiration from the institution's legacy of pro-poor-student attitude and action, Institute is also paying the tuition fee for the wards of supporting staff.

Evidence of Success:

Few parameters are as below:

- Increased retention
- Enhanced competitiveness
- Enhanced participation in National and International technical competitions/professional body activities
- Improved performance in cultural contests
- Improved performance in sports and competitive examinations

The students supported by SWF, could complete their studies and are placed with companies like L&T tech Services, Varroc, Cognizant technology solutions, Infocepts etc. Had they been not supported, they probably would have discontinued their studies. To quote one of the many success stories, Mr.Pravin Kumar Rao was supported with full fees, later on he pursued his post graduation from VNIT and Ph.D. from IIT Roorkee. He visited Switzerland for his research and is currently working as research associate at IIT Roorkee. These students have developed a sense of social responsibility thereby returning back the received financial assistance for the other needy students admitted in the Institute.

The practice of awarding merit scholarships recognizes high achieving students for academics, extra-curricular and co-curricular activities leading to competitiveness amongst students. Around 297 students were benefited from scholarship scheme.

The review results of the aid indicate that it not only enables the students to acquire higher education but also moulds them to be responsible citizens.

- **Problems Encountered and Resources Required**

- Verification of the financial backwardness of the aspirants.
- To continue the activity of Students' Welfare Fund in true spirit.
- To persuade needy students to continue with their studies.

The institution, true to its legacy of pro-poor-student attitude since its inception has taken a firm resolve to extend all possible financial support to the deserving students and help them to realize their dream of acquiring higher education.

For this, SWF is an initiative of staff and alumni with a firm backing from management. SWF inculcates the ethical values amongst stakeholders. All the stakeholders are committed to make this activity sustainable and operate in true spirit.

A duly constituted committee scrutinizes the applications received from the aspirants for the aid. This committee comprises of:

- Principal, RCOEM
- Student Counsellor

- Professor In-charge, Alumni Association
- Permanent invitees: Two senior faculty members
- Alumni Association Representative

Students agree upon the understanding that after completion of graduation and on gaining employment they would return the said amount to the Institute so that it could be utilized for other needy students. This fosters the spirit of social responsibility amongst students.

3. **Title of the Practice**

Promotion of Massive Open Online Courses (MOOCs)

a. Objectives of the Practice

- To provide opportunity to the students to study the subjects of their choice and to explore new domains of state of the art technology and advance knowledge.
- Virtual simulation of experiments to help in better understanding of the concepts.
- To inculcate the self-learning and lifelong learning abilities amongst students and faculty.

b. The Context

It was noted that lack of awareness is the biggest obstacle for the online educational resources. Also it was realized that the technology must be more efficiently used for educational purpose and the faculty should help promote digital literacy. MOOC is a response to the students who are challenged financially and promotes flexibility. It is also personification of education for modern student

c. **The Practice**

The Institute is pro-actively promoting self-paced online learning through SWAYAM-NPTEL, Virtual Labs, FOSS project and other online platforms, which are initiatives of Ministry of Human Resource Development under the National Mission on Education through ICT. The Institute has been recognized as a SWAYAM-NPTEL Local Chapter and Nodal Centre for Virtual Labs.

- For the smooth conduction of MOOC, coordinators are appointed at Institute/departmental level.
- Faculty/Students use virtual labs for practicing experiments during/after teaching hours.
- Students are awarded credits / incentives / certificates as per the set norms.
- Faculty members are benefited as some of the courses are recognized by AICTE/UGC as equivalent to FDP/Refresher courses.

The practice is unique as it leverages the use of digital technology for education thereby encouraging the young students towards creative use of technology and motivates them self development.

d. **Evidence of Success**

- The Institute has been recognized as:

1. Top 100 NPTEL Local Chapter during Jul-Dec 2019 Examination Run.

2.'BEST NEW SWYAM-NPTEL Local Chapter' outside top 100 during Jul- Dec 2018 NPTEL Exam Run.

- Six Students in Gold and Topper category in Computer Science courses got opportunity to visit IIT Kanpur, September 2019.

- One student completed two weeks Internship at IIT Kharagpur through NPTEL Certification, February 2019
- Details of candidates awarded NPTEL certification:

Examination Run	No of Students	No of Faculty
Jun-Dec 2018	92	27
Jan-Apr 2019	121	42
Jun-Dec 2019	198	64

- In FOSS activities, 5499 students participated in training, 3053 appeared in examination and received certificate.
- Virtual Lab Utilization is 33800 experiments in last four years

e. **Problems Encountered and Resources Required**

- Inculcating the habit of self-learning.
- Difficulty in adapting the online learning environment.
- Development of incentive scheme for promotion of large scale participation.
- Continuous monitoring of student's participation and performance.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

7.3 Institutional Distinctiveness

7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust

Response:

Sustaining Quality Education through Transparent Governance

Shri Ramdeobaba College of Engineering & Management, Nagpur (RCOEM) was established as a self-financing college in 1984 and located in an economically and industrially backward Vidarbha region of Central India. It is run by "Ramdeobaba Sarvajanik Samiti" which has recently been awarded as the Best

Education Society; by RTM Nagpur University in 2018. The 100 member trustees consist of philanthropists, industrialists and mosaic of professionals extending their selfless voluntary services in governance, policy making and core resource management since its inception.

With a humble beginning of 210 intake capacity in four UG branches in 1984, now after 35 years, RCOEM has grown as a prestigious reputed institution in Central India with a total intake of 1251 (UG+PG) and over 4600 students on campus. While maintaining an impressive record of admission; it has got excellent faculty retention, good student progression and inspiring record of campus placements. This sure is the reflection of unwavering trust in the institution, by the society in general and parents/ students in particular. While several self-financing engineering colleges allover India are experiencing the pressure of shortfall in admissions; RCOEM has flourished as a promising and most sought after institution in the region providing Engineering and Management education at affordable fees.

Consistently maintaining a stable growth trajectory by RCOEM, over three decades, is evidently not by coincidence. It is the result of implementation of well-defined governance policies by its visionary management, as well as hard work by a dedicated team of faculty and staff. The most important is the adoption of TRANSPARENCY as a prime governance policy. Institute's distinctive features emanate from this policy adopted since inception and a constant source of inspiration and energy required for achieving its vision.

Transparency is one of the prime tenets of good governance practices. Adoption of Transparency inevitably results in embracing other good practices viz responsiveness, equitability, inclusiveness, efficiency, following rule of law, consensus-oriented decision making and participative management. Since inception, RCOEM has been following Transparency in all its processes viz Admission, Administration, Finance and Students' evaluation & Teaching Learning Process. Adopting transparency has major fallout in the form of achieving trustworthiness in society, confidence for faculty and clarity of educational process for students.

Some initiatives in the priority areas are:

A) Transparency in Admissions:

- Even 21 percent management quota seats (earlier 71%) are filled strictly through merit in open counseling process.

- Merit lists displayed prior to admissions and grievances if any are addressed

- Only fees approved by Fee Regulatory Authority accepted through demand draft.

B) Transparency in Administration:

- To make the students/ faculty aware, all the relevant acts, directions, regulations, ordinances of university/ government authorities uploaded on institution's website.

- Service books regularly updated and signed by faculty and staff.

C) Transparency in Financial management:

- Prompt implementation of Pay Commission and DA hikes.

- All salaries deposited in beneficiary's bank accounts

- Minimal cash transactions

- Purchases through well-defined processes and by an experienced purchase committee.

- Regular financial audits, financial statements made available on institute's website

- Faculty members on financial committee

D) Transparency in students' evaluation and Teaching-Learning Process:

- Complete freedom to faculty in curriculum design and evaluation process

- Well defined mechanism for evaluation related grievances of students.

- All valued answer sheets are made available to students for scrutiny.

- Parents have access to the academic performance of their wards through regular Parent Teacher Meetings.

- Students are members of BoS and other units like anti-ragging committee, internal complaints committee etc.

Adoption of Transparency as an integral part of governance has major outcomes in the form of **improved institutional performance** in the thrust areas of:

- **Excellence in Academics**: Academic excellence provide value-added experience to the students and RCOEM strives to achieve it by designing the curriculum to meet global needs, through innovative teaching-learning methods, inculcation of professional and ethical values, promoting innovative and creative thinking through courses such as Design Thinking, Entrepreneurship Development; health consciousness through courses on Yoga, social awareness through courses on Environmental Science, Indian Traditional Knowledge and industry oriented courses on IoT, PLM to name a few. Industry experts are actively engaged in curriculum development and delivery.

- **Skill enhancement through Experiential Learning**: To promote skill enhancement, all UG students have to take up 6-8 weeks of training in industries/ research organizations. Facility of full semester internship has opened new avenues for placements. RCOEM-TBI Foundation (a section-8 company) promotes culture of innovation and entrepreneurship. GIZ and RGSTC TIFAC- MSME scheme enhances students' interaction with industries. Students are encouraged to participate in various competitions like Hackathons, Robocon and ARM Design Challenge.

- **Exploration of Knowledge through Research**: The institute endeavors to establish synergy between research-based learning and teaching. Research culture is also developed nurtured through research internship to students. It also provided research grants/ financial assistance/ incentives to faculty members and innovative student projects. The institute is promoting development of Center of Excellence with the help of reputed organizations like Tata Technologies, Intellisense, Nvdia, QCFI and Energy Research Centre through in-house support.

- **Promote Development of Professional and Ethical values**: A vibrant culture of co and extra-curricular activities is present on the campus. Students join any of the several societies, clubs, REEF and NSS units and acquire professional skills and imbibe ethical values in the process.

- **Excellent Placements and Internships**: The institute has seen a consistent progression in the number of placements and internships leading to highest number of offers in the region.

- **Social Recognition**: In addition to the strong social perception of RCOEM, it is well-recognized and ranked high by magazines of high repute like India Today, Competition Success Review and Outlook.

- **Intellectual Patronage by Academicians of Repute**: RCOEM's value driven education system has won the patronage of academicians of international repute who provide the intellectual expertise as Members of the RCOEM's Academic Advisory Board. The board has Padmavibhushan Dr Anil Kakodkar, Padmashree Dr Nagarajan Vedachalam and Shanti Swaroop Bhatanagar awardee Dr Mihirkanti Choudhary, Advisor Education Assam, former VC of Tejpur University, Assam.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

5. CONCLUSION

Additional Information :

Other Best Practices:

Best Practices – Administrative

- Transparent system of admission
- Transparent financial management system
- Participatory management practices
- MIS for transparent administration

Best Practices – Academics

- Students encouraged for enrolling in interdisciplinary courses (Open Electives)
- External Academic Audit conducted every year by experts from Institute of Eminence
- Incentives to students for research, co/extra-curricular activities and qualifying GATE exam

Best Practices – Human Resource

- Best Researcher Award for excellence in research
- Best student Award
- Financial incentives for promotion of research culture amongst faculty and students
- Six months paid leave for Ph. D course work
- Recognition of student talent and faculty achievement through Internal Newsletter "Reflection"
- Group life Insurance Scheme for staff and students
- Medical Insurance for staff and students
- Staff credit cooperative society
- Student welfare fund
- Student participation in social activities

Best Practices -Teaching -Learning and Evaluation

- Industry offered electives
- Credit transfer through MOOC courses against open elective
- Co-teaching by Industry personnel
- Student participation in academic and administrative bodies
- Open source tools in lab courses
- Self-learning initiatives through e-resources, assignments, mini projects, virtual labs etc.
- Free in-house workshops for students
- Continuous assessment and transparent evaluation
- End Semester Examination answer books shown to students and grievances addressed
- IT integration in the examination processes

Best Practices -Extension Activities

- ENTRIX: A technical training program organized by the students for the students
- EMPOWER: An exposition of latest technologies in Electrical Engineering through active participation of leading Electrical industries (Acknowledged as innovative practice by NAAC team)
- JUNOON and JASHN: Events to provide platform for specially abled kids to showcase their talents
- PRERNA: An event organized to provide opportunity to serve the weaker section of the society
- REEF: A club to create awareness and sensitivity towards enviorment protection

Concluding Remarks :

The Institute is driven by the philosophy of social service by providing quality education in the field of engineering and management. The management of the Institute has always upheld the practice of transparency and fair play as the ultimate value in academic, administrative and financial functions. Adequate infrastructure, dedicated and well qualified faculty, good placement records, network of supportive alumni, industry interaction at various levels, and intake of quality students backed by visionary management are some of the factors that are sure to take the Institute to the next level of excellence. The Institute is well aware of the opportunities and challenges that beset the path of success. We are sure to overcome the challenges in the areas of quality research, changing demands of industrial world by continuously evaluating and improving our methodologies, processes, procedures and approaches at all levels.

6.ANNEXURE

1.Metrics Level Deviations

Metric ID	Sub Questions and Answers before and after DVV Verification
2.1.3	Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years 2.1.3.1. Number of actual students admitted from the reserved categories year-wise during the last five years Answer before DVV Verification: <table><tr><td>2018-19</td><td>2017-18</td><td>2016-17</td><td>2015-16</td><td>2014-15</td></tr><tr><td>143</td><td>179</td><td>274</td><td>260</td><td>229</td></tr></table> Answer After DVV Verification : <table><tr><td>2018-19</td><td>2017-18</td><td>2016-17</td><td>2015-16</td><td>2014-15</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table> Remark : Seats not reserved for various categories as HEI is linguistic minority institution.
2.3.2	Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. 2.3.2.1. Number of teachers using ICT Answer before DVV Verification : 280 Answer after DVV Verification: 0 Remark : Supporting documents are not relevant to the metric.
2.4.3	Teaching experience per full time teacher in number of years 2.4.3.1. Total experience of full-time teachers Answer before DVV Verification : 4304 years Answer after DVV Verification: 2362 years Remark : Input revised as per DVV suggested value of metric 3.2
2.4.4	Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years 2.4.4.1. Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years Answer before DVV Verification: <table><tr><td>2018-19</td><td>2017-18</td><td>2016-17</td><td>2015-16</td><td>2014-15</td></tr><tr><td>83</td><td>70</td><td>27</td><td>16</td><td>16</td></tr></table>

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
10	14	7	4	2

Remark : Only awards, recognition, fellowships at State, National, International level from Government, recognised bodies are accepted. Best paper, Course completion, attending and organising conferences etc are not considered.

3.1.2	The institution provides seed money to its teachers for research (average per year)

3.1.2.1. The amount of seed money provided by institution to its faculty year-wise during the last five years(INR in Lakhs)

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
13.13	13.88	6.14	7.01	7.42

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
10.40	0	0	0	0

Remark : Audited Income-Expenditure statement highlighting the relevant expenditure as per SOP not provided for all years.

3.1.4	Institution has the following facilities

1. Central Instrumentation Centre

2. Animal House/Green House / Museum

3. Central Fabrication facility

4. Media laboratory/Business Lab/Studios

5. Research / Statistical Databases

Answer before DVV Verification : A. Any four facilities exist
Answer After DVV Verification: C. Two of the facilities exist
Remark : As per verified documents.

3.2.3	Percentage of teachers recognised as research guides

3.2.3.1. **Number of teachers recognised as research guides**

	Answer before DVV Verification : 58 Answer after DVV Verification: 28 3.2.3.2. Number of full time teachers worked in the institution during the last 5 years Answer before DVV Verification : 193 Answer after DVV Verification: 193 Remark : Accepted documents signed by Registrar only.
3.3.3	Number of awards for innovation won by institution/ teachers/ research scholars/students during the last five years 3.3.3.1. Total number of awards for innovation won by institution/teachers/research scholars/students year-wise during the last five years Answer before DVV Verification: *table below* Answer After DVV Verification : *table below* Remark : The document provided in support of this metric is irrelevant to the metric. The certificate provided here are certificate of excellence for competitions and shall not be considered as awards for innovation.
3.4.2	The institution provides incentives to teachers who receive state, national and international recognition/awards Answer before DVV Verification : Yes Answer After DVV Verification: No Remark : It is not evident from the documents provided that the CAS due credits have been given to faculty receiving awards. It is just a mere correlated list the institution provided those teachers receiving awards are in the list of promotion. It is not satisfactory without due consideration of awards in CAS.
3.4.3	Number of Patents published/awarded during the last five years 3.4.3.1. Total number of Patents published/awarded year-wise during the last five years Answer before DVV Verification: *table below* Answer After DVV Verification : *table below*

Answer before DVV Verification (3.3.3.1):

2018-19	2017-18	2016-17	2015-16	2014-15
78	91	91	60	39

Answer After DVV Verification (3.3.3.1):

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	00	0	0

Answer before DVV Verification (3.4.3.1):

2018-19	2017-18	2016-17	2015-16	2014-15
12	2	2	2	1

Answer After DVV Verification (3.4.3.1):

2018-19	2017-18	2016-17	2015-16	2014-15

1	8	5	0	1

Remark : Application awaiting examination cannot be considered as patent granted. Patent filing date should be within the assessment period.

3.4.4	Number of Ph.D.s awarded per teacher during the last five years 3.4.4.1. How many Ph.Ds are awarded within last 5 years Answer before DVV Verification : 69 Answer after DVV Verification: 12 3.4.4.2. Total number of teachers recognised as guides during the last 5 years Answer before DVV Verification : 58 Answer after DVV Verification: 58 Remark : Most of the supporting documents are not authenticated/signed by Competent authority.

3.4.5	Number of research papers per teacher in the Journals notified on UGC website during the last five years

3.4.5.1. Number of research papers in the Journals notified on UGC website during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
200	180	122	122	154

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
184	35	39	33	43

Remark : Only entries with UGC Care link are considered.

3.4.6	Number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings per teacher during the last five years

3.4.6.1. Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
148	134	110	122	84

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15

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| 12 | 52 | 42 | 46 | 33 |

Remark : Only books with ISBN number(not ISSN number) in the data template are considered for this metric. provided supporting documents do not have ISBN numbers.

| 5.1.3 | Number of capability enhancement and development schemes – |

1. Guidance for competitive examinations
2. Career Counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses
7. Yoga and Meditation
8. Personal Counselling

Answer before DVV Verification : 7 or more of the above

Answer After DVV Verification: Any 5 of the above

Remark : No supporting documents provided for bridge course, guidance for competitive exams.

| 5.1.4 | Average percentage of students benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years |

5.1.4.1. Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
4511	4423	4263	4128	3943

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

Remark : The supporting document does not pertain to guidance to competitive exams and career counselling.

| 5.1.5 | Average percentage of students benefited by Vocational Education and Training (VET) during the last five years |

5.1.5.1. Number of students attending VET year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
1674	1200	441	364	364

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
257	185	0	0	0

Remark : Only VET programmes of at least 3 months duration are accepted. Skill India courses are not accepted.

5.2.2	Percentage of student progression to higher education (previous graduating batch)

5.2.2.1. Number of outgoing students progressing to higher education
Answer before DVV Verification : 332
Answer after DVV Verification: 115

Remark : As per provided proof. GATE scorecards, illegible documents and documents not signed by competent authority not accepted. Letters from the students rejecting the placements cannot be considered as higher education

5.2.3	Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)

5.2.3.1. Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
149	153	121	120	99

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
149	153	121	120	42

5.2.3.2. Number of students appearing in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOEFL/ Civil Services/State government examinations) year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
164	163	136	132	111

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
149	153	121	129	99

	Remark : Screenshots of LinkedIn profile cannot be considered. Illegible documents are not accepted. 5.2.3.2 edited as per submitted documents.
5.3.1	Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) during the last five years 5.3.1.1. Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year-wise during the last five years Answer before DVV Verification: Answer After DVV Verification : Remark : Only awards/medals at national/international level are accepted.
5.3.3	Average number of sports and cultural activities / competitions organised at the institution level per year 5.3.3.1. Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years Answer before DVV Verification: Answer After DVV Verification : Remark : As per SOP, only institution level sports and cultural activities are considered.
5.4.2	Alumni contribution during the last five years(INR in Lakhs) Answer before DVV Verification : ? 15 Lakhs Answer After DVV Verification: <2 Lakhs Remark : The supporting document pertain to only student welfare fund and not for college income and expenditure.

5.3.1 Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
12	16	13	14	6

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
3	3	2	2	0

5.3.3 Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
36	37	37	26	32

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
2	2	2	2	2

6.2.3	Implementation of e-governance in areas of operation
	
	    1. Planning and Development
	    2. Administration
	    3. Finance and Accounts
	    4. Student Admission and Support
	    5. Examination
	
	    Answer before DVV Verification : All 5 of the above
	    Answer After DVV Verification: Any 4 of the above
	Remark : There is no supporting document for planning and development.

6.3.2	Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years
	
	  6.3.2.1. Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year-wise during the last five years
	    Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
168	84	67	53	54

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
106	62	45	41	34

Remark : One faculty member considered only once a year. Research scholars are not considered.

6.3.3	Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years
	
	  6.3.3.1. Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years
	    Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
50	64	30	31	24

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
10	12	7	7	6

Remark : The activities conducted for teaching and non teaching staff alone can be included under this metric

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6.3.4	Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years
	6.3.4.1. Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
174	249	163	131	115

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
58	169	93	88	62

Remark : Programs of duration less than one week not considered.

6.5.3	Average number of quality initiatives by IQAC for promoting quality culture per year
	6.5.3.1. Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
40	32	21	14	10

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
28	26	16	11	5

Remark : quality initiatives by IQAC alone are accepted.

7.1.1	Number of gender equity promotion programs organized by the institution during the last five years
	7.1.1.1. Number of gender equity promotion programs organized by the institution year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
7	5	8	7	5

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
2	2	2	0	1

Remark : Only gender equity promotion programs accepted.

7.1.8	Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

7.1.8.1. Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
116.14	81.19	22.86	8.319	6.02

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	0	0

Remark : campus maintenance cannot be taken as expenses on green initiatives.

7.1.9	Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

Answer before DVV Verification : A. 7 and more of the above
Answer After DVV Verification: B. At least 6 of the above
Remark : As per submitted documents.

7.1.10	Number of Specific initiatives to address locational advantages and disadvantages during the last five years 7.1.10.1. Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
25	13	11	13	6

Answer After DVV Verification :

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2018-19	2017-18	2016-17	2015-16	2014-15
0	0	0	00	0

Remark : None of the activities address locational advantages and disadvantages

7.1.11	Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

7.1.11.1. Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
53	51	15	15	09

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
0	0	00	0	0

Remark : None of the activities contribute to local communities

7.1.13	Display of core values in the institution and on its website

Answer before DVV Verification : Yes
Answer After DVV Verification: No
Remark : Supporting document does not reflect the core values of the institution

7.1.16	The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Answer before DVV Verification : Yes
Answer After DVV Verification: No
Remark : None of the courses as per supporting document comes under Human values and professional ethics

7.1.17	Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

7.1.17.1. Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15

12	15	17	17	13

Answer After DVV Verification :

2018-19	2017-18	2016-17	2015-16	2014-15
5	4	4	4	5

Remark : the activities considered under metric 3.6.3 are excluded

2.Extended Profile Deviations

ID	Extended Questions
1.1	Number of programs offered year-wise for last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
25	25	25	25	25

Answer After DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
25	19	19	19	19

2.3	Number of students appeared in the examination conducted by the Institution, year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
9348	9421	9495	9398	9530

Answer After DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
4685	4729	4784	4723	4802

3.2	Number of full time teachers year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
280	300	303	289	272

Answer After DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
256	296	292	285	272

4.2	Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during the last five years

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
143	179	274	260	229

Answer After DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
1	1	1	1	1

4.4	Total number of computers in the campus for academic purpose Answer before DVV Verification : 1616 Answer after DVV Verification : 1579

4.5	Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

Answer before DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
1575.03	1459.24	1668.36	2124.83	1653.53

Answer After DVV Verification:

2018-19	2017-18	2016-17	2015-16	2014-15
948.62	866.43	940.03	915.03	1001.03

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