



SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

MATRUSRI ENGINEERING COLLEGE

**SAIDABAD OPPOSITE MADHANAPET MARKET HYDERABAD TELANGANA
500059**

<https://matrusri.edu.in>

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Matrusri Engineering College (MEC) was established by Matrusri Education Society in 2011 in the heart of the city at Saidabad in Hyderabad of Telangana State. The college is affiliated to Osmania University, Hyderabad. MEC started its journey with a vision to become a pioneer in Technical Education in the private sector. It offers BE programs in Civil Engineering, CSE, EEE, ECE, Mechanical Engineering and IT which are producing highly competent technical professionals. All the BE programs except IT are accredited by NBA in 2019-20.

Every department organizes seminars on higher education and workshops. To foster professional attitudes and behaviors, institute organizes personality development and soft skills training programs. The college encourages its students to participate in NPTEL courses, Coursera courses and NITTTR programs for skill upgradation. Aligning to the latest developments in the engineering sector, the faculty members are motivated to participate in Faculty Development Programs, conferences, workshops, seminars and also adopt innovative teaching techniques using the digital technology platforms like Virtual Labs and online teaching. The college associates with professional bodies like IEEE, IETE, CSI, ISTE and SAE and with other prestigious organizations such as Spoken Tutorial Project-IIT Bombay, CISCO Networking Academy, e-Yantra Lab for advanced ICT programs and training on latest technologies.

Nurturing the creativity in young minds has been one of the top preferences of the institute. With this motto, the college has initiated 'Matrusri Maker Space (MMS)', the brainchild of MEC. This is a platform wherein students get a chance for hands-on learning with all the tools to explore their talent and creativity which enable them to build prototypes.

To promote sports and extracurricular activities, MEC has different clubs like Matrusri Campus Connect, Orator's Club, Dance Club, Music Club, Photography Club and Youth for Seva. The college emphasizes on the importance of inculcation of human values and motivates its staff members and students to participate in social activities being organized by NSS and NCC units of the institution. It also encourages the students to participate in Society Outreach Program like Unnat Bharat Abhiyan, MHRD, Govt. of India and Swachh Bharat Abhiyan, Govt. of India.

Vision

To be a premier academic institution striving continuously for excellence in technical education, research and technological service to the nation.

Mission

- To recognize and make quality Engineering education available to the society.
- To create a community of learning in which students acquire knowledge and apply them professionally with societal concern.
- To prepare for life-long learning to meet intellectual and career challenges.
- To promote professional ethics, leadership qualities and social responsibilities.

- To maintain research environment with an opportunity to create, apply and disseminate knowledge to the needs of society and the industry.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

1. All the branches except IT are accredited by NBA.
2. Socially conscious, humanitarian, far- sighted and visionary management
3. Located at the center of the city.
4. Highly qualified and experienced teaching and non-teaching staff with high retention ratio.
5. Membership with professional societies like IEEE, ISTE, IETE, SAE, CSI etc.
6. Wi-fi enabled campus.
7. Students' admissions have been consistently good.
8. Functional MoUs with industries and academic institutions like IIT-Bombay, NITW.
9. Well- established and state-of-the-art laboratories with good infrastructure.
10. The administrative and management policies & controls are well-defined.
11. Students top in university ranks every academic year.
12. Registered Alumni Association.
13. Recognized and proactive NSS Unit.
14. Lush green environment-friendly, pollution- free, plastic-free campus to create an ideal study space

Institutional Weakness

It takes proactive measures to improve the quality of teaching, learning, and research. Though the institute has scripted many success stories, there are certain areas in which it needs to move forward. There is a need to overcome the limitations in the following areas:

1. Attracting more core companies to campus for recruitment. Efforts are made by signing MoUs with various organizations to bridge the gap between academia and industrial requirements.
2. Adhering to affiliated status, the college has restrictions pertaining to the academic flexibility to address industry requirements.
3. R&D and consultancy activities need to be strengthened.
4. Establishment of laboratories through Institute Industry Collaboration.

Institutional Opportunity

1. Autonomous status will provide the flexibility in overcoming the shortfalls faced under affiliated status.
2. The location of the college will leverage the opportunity to have collaboration with Central/State Universities, industry and research laboratories.
3. Collaborative research work can be carried with government sectors like ISRO, DRDO, NRSC, Texas Instruments etc.
4. Creating awareness among faculty members and students about the intellectual property rights and patent filing.
5. Strengthening the alumni network to provide more career development opportunities to the students.

6. Introducing PG programs in each branch of the institution.

Institutional Challenge

1. With a wide range of career opportunities available in the Software / IT sector, attracting quality students to enroll in the core engineering branches like Civil, EEE and Mechanical Engineering has become a challenge.
2. Being an affiliated institution, meeting the industry demands and expectation with rapid change in technology has become a challenge.
3. Attracting core companies for placements.
4. Promoting sponsored research and consultancy as per industry requirements.
5. Imparting value-added courses and student exchange programs on niche technologies to bridge the curricular gaps in the stipulated time period of an academic year has always been a challenge.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

- Being an affiliated college of Osmania University, the curriculum is prescribed by the affiliated university and is observed strictly. The institute is following the Outcome Based Education (OBE).
- Choice Based Credit system(CBCS) has been implemented for the programs since 2016-17.
- The Program Educational Objectives (PEOs) of the department and the institution are well defined and implemented along with Program Outcomes (POs), Course Outcomes (COs) and Programme Specific Outcomes (PSOs).
- The feedback on the curriculum from the stakeholders is collected and is analyzed and the action plan is discussed and deliberated in department meetings towards addressing the gap.
- The IQAC in support with the Program Assessment Committee (PAC), Department Advisory Committee (DAC) collects the suggestions about the identification of curricular gaps and suggestions are sent to the BoS of university.
- The institute meticulously plans its academic sessions, ensuring timely preparation of academic calendars, timetables and the distribution of courses.
- The ERP system is used to prepare and maintain the documentation of the curriculum delivery.
- The faculty participates in the activities like Academic council/BoS setting of question papers related to curriculum, design and development of curriculum for add on/certificate courses.
- Different electives are offered to bridge the gap between curriculum and industry and is achieved by organizing value added enrichment courses, seminars, guest lectures, hand on practice workshops, industrial visits, and internships.
- Class review committee monitors the status of the syllabus covered and feedback is taken from students twice in a semester.
- The performance of the student is evaluated on a continuous basis by conducting two internal examinations.
- HOD and senior faculty verifies the quality and standard of the question paper as per AICTE and OU reforms.
- The laboratory courses and project work are evaluated as part of CIE performance
- The students are offered subjects on cross cutting issues like Gender sensitization, Environment and Sustainability, Human Values and Professional Ethics as a part of curriculum.

- The Percentage of students undertaking project works, internships and field works is about 93.65%.

Teaching-learning and Evaluation

- Admission in to various courses of the institution is based on EAMCET/JEE/ECET examinations. The Institute follows rules and regulations of State Government with regard to catering diverse needs of students of various categories.
- Effective learning is assured with qualitative content delivery by faculty using possible e-learning resources such as NPTEL Lectures, ICT enabled teaching, models, charts, Journals etc.
- Evaluation Process and reforms emphasize effectiveness of teaching-learning process adopted by institution. Evaluation process of affiliating University and Institution is being analyzed for effective implementation and possible subsequent reforms to further refine learning process.
- Students' performance is assessed using direct and indirect assessment methods through COs and Pos attainment by analyzing semester wise results. Feedback from students and parents helps to improve teaching-learning, and assessment strategies adopted by institution.
- College admits students who meet eligibility criteria formulated by Government of Telangana and Osmania University.
- Average enrollment percentage is 94.36%
- Average percentage of seats filled as per reservation policy is 99.59%.
- Special programs for advanced and slow learners are conducted after assessing students with internal and external assessments.
- Student-Full-time teacher ratio is 1:14.6.
- Student-centric methods like experiential learning, participative learning, problem-solving methodologies are adopted for enhancing learning experiences.
- To achieve effective teaching objectives, teachers adopt instructional methods such as ICT tools with LMS, Online teaching, Smart Classrooms, Seminars/Webinars, Workshops/Conferences/Guest Lectures, Industrial visits, Project Based Learning, e-resources, encouragement to participate in Paper presentations/Coding Competitions are conducted to enhance creativity and innovation in teaching-learning.
- Each mentor counsels students about academic, co-curricular, extra-curricular and stress related issues.
- Average percentage of full-time teachers against sanctioned posts is 100%.
- Average percentage of full-time teachers with Ph.D. is 20.42%
- Average teaching experience of full-time teachers is 5.27 years
- Assessment system is transparent and robust in terms of frequency and variety. Continuous Internal Evaluation (CIE) is conducted as per schedule and is subjected to reforms.
- Mechanism to deal with examination-related grievances is also transparent, time-bound and efficient.
- Teachers and students of all courses are well aware of their respective POs, PSOs, and COs
- Institution evaluates attainment of COs, POs, and PSOs
- Average pass percentage of students is 91.3%.

Research, Innovations and Extension

The Institute has taken a step forward towards research and associated activities through equipped research laboratories, conducting technical seminars, workshops and training sessions relating to recent technologies in the various fields to enhance the knowledge of the students on the emerging fields of research.

- Institution encourages senior faculty members to submit research proposals under various Government/Non Government and Consultancy agencies.
- Department organises workshops, hands-on sessions, value added courses and seminars to students to cope up with the latest trends in technology.
- Institute supports faculty members to pursue their Ph.D.'s in various higher learning institutions as a result most of the faculty members are currently pursuing Ph.D in various disciplines.
- Financial support is provided to faculty members and students to publish the research in Patents, Copy Rights, International/National Journals and Conferences.
- As a part of extension activities, institute has organized various activities like SwachaBharath, Blood Donation, Satyavardhan, Yoga, Traffic Awareness to sensitize the students to the social issues under NSS/NCC/UBA.
- As a part of collaboration with the higher learning institutions, research laboratories like IIT Hyderabad, IIIT Hyderabad, JNTUH, NIT Warangal, OSMANIA University, DRDL and RCI, subject experts are invited to deliver expert lectures to students and faculty.
- Collaborative research has encouraged by signing MoU with prestigious organizations and institutes like NIT Warangal, IIIT Hyderabad, ORACLE Corporation, CISCO, THUB (An Ecosystem hungry for Innovation initiated by Telangana State Government).
- Institution supports faculty and students with financial aid to develop prototypes of products and also to present their innovations at various national level competitions like SIH, SAE, Hackathons organized by various states.

Infrastructure and Learning Resources

The college has adequate infrastructure and resources that cater to the needs of the students. The details of the infrastructure and learning resources that are available are as follows:

- 38 classrooms with LCD and Wi-Fi facilities and 4 seminar halls with PAS(Public Addressing System), Audio System (amplifier & wireless mouth piece), LCD projector & screen with LAN, wifi.
- The institution has domain centric laboratories as per the regulations of AICTE and Osmania University
- Adequate facilities for outdoor and indoor games with Well-equipped Gymnasium and Yoga is practiced and encouraged.
- Automated library using Integrated Library Management System (ILMS), with a total collection of 23,926 books, 2400 volumes, 50 back volumes, 58 printed journals, 06 E-journals, 10,750 Online Journals, 15 magazines and 6 Newspapers.
- Each department is well equipped with department library as separate section.
- College library is having Digital library service with 28 computers with internet facility.
- Library has various subscriptions like e-journals, remote access to e-resources and other databases it also provides open access to e-books.
- Annual average expenditure per year for the purchase of books and journals is Rs.17.01 lakhs.
- Internet Connectivity is provided with Leased line of bandwidth 60Mbps of Fibertel and 40Mbps & 20Mbps of BSNL.
- Surplus ethernet ports, WI-FI are provided across the campus.
- Student-Computer ratio is 3.16.
- Considerable amount was allocated in budget for infrastructure augmentation and maintenance.
- Facilitis such as media center, recording facility, lecture capturing system for e-content development are available.

Student Support and Progression

- The students are benefitted financially by the tuition fee reimbursement scheme to eligible students offered by the State Government of Telangana.
- The college management also encourages the meritorious students by awarding Gold Medals to the students who secure University ranks and class toppers every year.
- The institution has taken several initiatives to enhance the skills of the students. Several programs are organized by the college to impart soft skills, communication skills and employability skills of the students.
- Guidance is provided to the students on career planning.
- Training programs are conducted by professionals from industry to help students prepare for competitive examinations and placements.
- Several workshops, seminars and Yoga sessions are conducted by the college to train the students on Stress Management techniques and improving Life skills.
- All the students are motivated to ensure their complete participation in various activities organized by the college.
- The institution has a very effective and transparent system for timely redressal of student grievances related to ragging, sexual harassment and indiscipline.
- Student counselors play a major role to create awareness among students on all aspects.
- The institute has a very encouraging record in student placements and higher education.
- Students are encouraged to participate in various cultural and sports activities organized by the college and at outside.
- Several committees, chapters and clubs are constituted at institution and department level with adequate student representation to promote sports, cultural and extracurricular activities and also for holistic development of student fraternity.
- The institution has a registered Alumni Association and Alumni meetings are organized once in a year.
- The Alumni also conducts programs to create awareness among students about the current opportunities in the industry and to enhance the employability skills.

Governance, Leadership and Management

- The institute has a well-defined organizational structure.
- The head of the institute is over all Incharge for the academic and administrative bodies. Vice-Principal and Head of the Departments to support the principal in various academic activities.
- Faculty are represented in the BOG, IQAC, CAC and administrative committees as part of participative management.
- Principal have been authorized to sanction any expense up to an amount of Rs.25.000/-
- The institute has a well-defined strategic plan & deployment for 2016-2021. The IQAC committee intermittently monitoring, evaluation of attainment of strategic plan.
- In all the academic and administrative committees involve faculty members and assign the responsibilities and decentralization of work.
- E-governance has been implemented for the purpose of admissions, finance and accounts and examinations using the in house developed software.
- The institute has a well-defined service rules for both teaching & non-teaching staff.
- The institute implements several welfare measures for the faculty and staff for their personal and professional growth. These include EPF, ESIC, Gratuity, maternity leave for women, provident fund, festival advance etc.

- Faculty are encouraged to attend faculty development programs, Refresher courses workshops, publication in journals & conferences etc and are financially supported by the way of providing on duty, registration fee etc.
- Professional development programs are conducted for teaching faculty and administrative / technical training programs for non-teaching staff. The faculty is also encouraged to enhance their educational qualifications by reducing their workload, adjusting their timetable, and providing academic leave.
- The institute follows well defined faculty appraisal system, which was approved by the IQAC.
- The institution has a budgetary process through which proposals under different heads are verified and approved by the Governing Body. The utilization of the budget is also monitored effectively.
- External financial audit conducted once a year and internal financial audit conducted periodically.
- The Internal Quality Assurance Cell (IQAC) regularly reviews the teaching learning process evaluation and assessment, structure etc.
- Participating regularly in the ranking of HEI's instituted by MHRD, NIRF, IIC, ARIIA.
- Five undergraduate programs have been accredited by NBA and are live.

Institutional Values and Best Practices

- Required facilities for women are provided. Gender issues are sensitized through various activities. Internal Complaint Committee looks in to the grievances of the women.
- Institution has facilities such as Solar power, Bio gas plant. Power conservation is done by using sensor based lights and LED lamps.
- Waste management includes solid waste, liquid waste and E-waste. Used hazardous chemicals are carefully handled.
- Water conservation facilities like Rain water harvesting pits, recharge of borewells are available. Recycled waste water is used for gardening. Drinking water distribution system is maintained.
- Green campus initiatives include restriction of automobiles, use of bicycles and battery powered vehicles, pedestrian friendly path ways, ban on plastic usage. Land scaping is maintained.
- Quality audits on environment and energy are regularly under taken and college has received an award for maintaining clean and green campus. Environmental promotional activities beyond the campus are conducted.
- Barrier free and disabled friendly environment provides resources that are friendly to differently abled persons.
- College conducts various events under tolerance and harmony towards cultural, regional, linguistic, communal, socio economic and other diversities.
- The institution conducts various programs that bring awareness about the values, rights, duties and responsibilities among the teachers and students.
- The institution has prescribed code of conduct for students, teachers, other staff and administrators. College conducts annual awareness programs on professional ethics
- Institution celebrates various commemorative events.
- Two best practices are (i) **Matrusri Makerspace**: Matrusri Makerspace is a constructivist and constructionist movement and is a center of excellence where students and staff can turn their ideas into working model. (ii) **Simulated Learning Environment For Laboratory Experiments**: A complete Learning Management System around the Virtual Labs has been provided, where the students/ teachers can avail the various tools for learning. This enthruses students to conduct experiments by arousing their curiosity and helps them in learning basic and advanced concepts through remote experimentation.
- **Distinctiveness**: The holistic perspective of the college is to make the students focus on understanding values, nurturing skills and moving towards knowledge. To support this cause, the performance of the

institution, in the areas like Matrusri campus connect, e-yantra, satyardhaan, Cisco Networking Academy etc., distinctive to its priority and thrust, is described.

NAAC

2. PROFILE

2.1 BASIC INFORMATION

| Name and Address of the College | |
|---------------------------------|---|
| Name | MATRUSRI ENGINEERING COLLEGE |
| Address | saidabad Opposite Madhanapet Market Hyderabad Telangana |
| City | Hyderabad |
| State | Telangana |
| Pin | 500059 |
| Website | https://matrusri.edu.in |

| Contacts for Communication | | | | | |
|----------------------------|-------------------------|----------------------------|------------|------------------|--------------------------------|
| Designation | Name | Telephone with STD Code | Mobile | Fax | Email |
| Principal | D. Hanumantha Rao | 040-24072764 | 9703230136 | 040-2407276 4 | principal@matrusri .edu.in |
| IQAC / CIQA coordinator | M. Sushanth Babu | 040-24074765 | 9849299910 | - | drsushanth@matru sri.edu.in |

| Status of the Institution | |
|---------------------------|----------------------------|
| Institution Status | Private and Self Financing |

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

| Recognized Minority institution | |
|--|----|
| If it is a recognized minority institution | No |

| Establishment Details | |
|--------------------------------------|------------|
| Date of establishment of the college | 27-07-2011 |

University to which the college is affiliated/ or which governs the college (if it is a constituent college)

| State | University name | Document |
|-----------|--------------------|-------------------------------|
| Telangana | Osmania University | View Document |

Details of UGC recognition

| Under Section | Date | View Document |
|---------------|------------|-------------------------------|
| 2f of UGC | 17-10-2018 | View Document |
| 12B of UGC | | |

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

| Statutory Regulatory Authority | Recognition/Approval details Institution/Department programme | Day, Month and year (dd-mm-yyyy) | Validity in months | Remarks |
|--------------------------------|---|----------------------------------|--------------------|---------|
| AICTE | View Document | 15-06-2020 | 12 | |

Details of autonomy

| | |
|--|----|
| Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges? | No |
|--|----|

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 | National Board of Accreditation |
| Date of recognition | 19-03-2019 |

| Location and Area of Campus | | | | |
|------------------------------------|---|------------------|-----------------------------|---------------------------------|
| Campus Type | Address | Location* | Campus Area in Acres | Built up Area in sq.mts. |
| Main campus area | saidabad Opposite Madhanapet Market Hyderabad Telangana | Urban | 3.56 | 14730 |

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,Computer Science And Engineering | 48 | Ten Plus Two | English | 180 | 180 |
| UG | BE,Civil Engineering | 48 | Ten Plus Two | English | 120 | 84 |
| UG | BE,Electronics And Communication Engineering | 48 | Ten Plus Two | English | 120 | 117 |
| UG | BE,Electrical And Electronics Engineering | 48 | Ten Plus Two | English | 60 | 35 |
| UG | BE,Information Technology | 48 | Ten Plus Two | English | 60 | 60 |
| UG | BE,Mechanical Engineering | 48 | Ten Plus Two | English | 60 | 39 |

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 | 12 | | | | 13 | | | | 100 | | | |
| Recruited | 12 | 0 | 0 | 12 | 11 | 2 | 0 | 13 | 60 | 40 | 0 | 100 |
| Yet to Recruit | 0 | | | | 0 | | | | 0 | | | |
| Sanctioned by the Management/Society or Other Authorized Bodies | 12 | | | | 13 | | | | 100 | | | |
| Recruited | 12 | 0 | 0 | 12 | 11 | 2 | 0 | 13 | 60 | 40 | 0 | 100 |
| Yet to Recruit | 0 | | | | 0 | | | | 0 | | | |

| Non-Teaching Staff | | | | |
|---|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned by the UGC /University State Government | | | | 45 |
| Recruited | 26 | 19 | 0 | 45 |
| Yet to Recruit | | | | 0 |
| Sanctioned by the Management/Society or Other Authorized Bodies | | | | 45 |
| Recruited | 26 | 19 | 0 | 45 |
| Yet to Recruit | | | | 0 |

| Technical Staff | | | | |
|---|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned by the UGC /University State Government | | | | 43 |
| Recruited | 35 | 8 | 0 | 43 |
| Yet to Recruit | | | | 0 |
| Sanctioned by the Management/Society or Other Authorized Bodies | | | | 43 |
| Recruited | 35 | 8 | 0 | 43 |
| Yet to Recruit | | | | 0 |

Qualification Details of the Teaching Staff

| Permanent Teachers | | | | | | | | | | |
|------------------------------|------------------|---------------|---------------|----------------------------|---------------|---------------|----------------------------|---------------|---------------|--------------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| D.sc/D.Litt. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 10 | 0 | 0 | 7 | 2 | 0 | 9 | 3 | 0 | 31 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 2 | 0 | 0 | 4 | 0 | 0 | 51 | 37 | 0 | 94 |

| Temporary Teachers | | | | | | | | | | |
|-----------------------|-----------|--------|--------|---------------------|--------|--------|---------------------|--------|--------|-------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| 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 | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| 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 | | Total |
| | | | | | |
| | 3 | | 0 | | 3 |

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 |
|-----------|--------|---|----------------------------|--------------|------------------|-------|
| | | UG | Male | 316 | 9 | 7 |
| | Female | 180 | 1 | 2 | 0 | 183 |
| | 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 | 137 | 126 | 136 | 143 |
| | Female | 67 | 77 | 68 | 67 |
| | Others | 0 | 0 | 0 | 0 |
| ST | Male | 51 | 63 | 67 | 73 |
| | Female | 31 | 32 | 32 | 24 |
| | Others | 0 | 0 | 0 | 0 |
| OBC | Male | 477 | 452 | 437 | 436 |
| | Female | 294 | 257 | 251 | 266 |
| | Others | 0 | 0 | 0 | 0 |
| General | Male | 419 | 407 | 417 | 383 |
| | Female | 267 | 248 | 221 | 210 |
| | Others | 0 | 0 | 0 | 0 |
| Others | Male | 62 | 67 | 75 | 75 |
| | Female | 23 | 16 | 17 | 17 |
| | Others | 0 | 0 | 0 | 0 |
| Total | | 1828 | 1745 | 1721 | 1694 |

Extended Profile

1 Program

1.1

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 245 | 253 | 268 | 264 | 248 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

1.2

Number of programs offered year-wise for last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 6 | 5 | 5 | 5 | 5 |

2 Students

2.1

Number of students year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 1828 | 1745 | 1721 | 1694 | 1672 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

2.2

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 210 | 147 | 147 | 147 | 147 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

2.3

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 376 | 371 | 338 | 348 | 360 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

3 Teachers

3.1

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 125 | 112 | 119 | 117 | 104 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

3.2

Number of sanctioned posts year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 125 | 112 | 119 | 117 | 104 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

4 Institution

4.1

Total number of classrooms and seminar halls

Response: 38

4.2

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 359.29 | 611.84 | 338.93 | 253.74 | 184.51 |

4.3

Number of Computers

Response: 709

4.4

Total number of computers in the campus for academic purpose

Response: 575

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The Institution ensures effective curriculum delivery through a well planned and documented process

Response:

Matrusri Engineering College is affiliated to Osmania University and approved by AICTE and ISO 9001:2015 certified. All programmes except IT are NBA accredited. The Vision & Mission of the Institute and Vision, Mission & Program Educational Objectives (PEOs) of all departments are well defined and implemented along with Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs). The institute follows the Outcome Based Education (OBE).

Curriculum planning:

- The Institute follows the curriculum designed by the respective Board of Studies (BoS) of the affiliating University.
- Based on the Almanac provided by the affiliating University, Institute prepares the Academic calendar and forwards it to all the departments.
- Respective departments prepare the academic calendars with proposed guest lectures, seminars and other academic activities.
- Timetables are prepared including the library and project hours and are uploaded to the Institute website and displayed on all department notice boards.

Curriculum Delivery

- Subjects are allocated to the faculty based on the area of specialization, experience and competency.
- The faculty members prepare the course outcomes and map them to the Program outcomes.
- The faculty members prepare lesson plan and course file.
- The curriculum is executed by way of lectures and lab experiments.
- The ERP system is used to prepare and maintain the documentation of curriculum delivery.
- The Class monitoring committee collects the feedback from the students on syllabus coverage and academic related matters.
- Online E-learning resources like NPTEL videos, Webinars, Spoken Tutorial (IIT Bombay) and Learning Management systems (LMS) are used to enhance the concepts of engineering knowledge.
- Industry visits and guest lectures are arranged to bridge the curricular gap.
- Students are motivated to participate in various technical events.

| File Description | Document |
|-------------------------------|-------------------------------|
| Upload Additional information | View Document |

1.1.2 The institution adheres to the academic calendar including for the conduct of CIE**Response:**

The institution adheres to the academic calendar including the conduct of Continuous Internal Evaluation CIE with revised Blooms taxonomy.

- The University provides the Almanac and the Institute prepares the Academic calendar and forwards it to the departments, where department wise academic calendars are prepared. It contains the date of commencement of class work, instruction period, internal and external examination duration, vacation period, last date for submission of internal marks, and last date of instruction, proposed Guest lectures, workshops, industrial visits and Training & Placement activities.
- Each department prepares the time-table as per the guidelines given by the University. It is disseminated on the institute website and on the notice boards.
- The Faculty members prepare the lesson plans and course files.
- A course file consists of course outcomes, lesson plan, suggested references, study material and solved previous examination papers. Awareness among the students on the course schedule and course outcomes is created at the beginning of the semester.
- Syllabus coverage status is verified by the course monitoring committee periodically.

Conduct of Continuous Internal Evaluation CIE:

- Performance of the students is evaluated by conducting internal examinations, assignments and slip tests.
- Experiment wise performance of the students in laboratory is evaluated.
- The Project Work is evaluated using rubrics.
- Question papers are prepared with course outcomes and revised Blooms Taxonomy levels along with scheme of evaluation and key.
- Department exam branch ensures smooth conduct of examinations.
- The quality of the question paper is assessed by senior faculty.
- CIE marks are uploaded to University web portal within the stipulated time as per the almanac.

| File Description | Document |
|-------------------------------|-------------------------------|
| Upload Additional information | View Document |

1.1.3 Teachers of the Institution participate in following activities related to curriculum development and assessment of the affiliating University and/are represented on the following academic bodies during the last five years

- 1. Academic council/BoS of Affiliating university**
- 2. Setting of question papers for UG/PG programs**
- 3. Design and Development of Curriculum for Add on/ certificate/ Diploma Courses**
- 4. Assessment /evaluation process of the affiliating University**

Response: A. All of the above

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| Details of participation of teachers in various bodies/activities provided as a response to the metric | View Document |

1.2 Academic Flexibility

1.2.1 Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

Response: 100

1.2.1.1 Number of Programmes in which CBCS/ Elective course system implemented.

Response: 6

| File Description | Document |
|--|-------------------------------|
| Minutes of relevant Academic Council/ BOS meetings | View Document |
| Institutional data in prescribed format | View Document |

1.2.2 Number of Add on /Certificate programs offered during the last five years

Response: 128

1.2.2.1 How many Add on /Certificate programs are offered within the last 5 years.

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 42 | 30 | 21 | 19 | 16 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Brochure or any other document relating to Add on /Certificate programs | View Document |

1.2.3 Average percentage of students enrolled in Certificate/ Add-on programs as against the total number of students during the last five years

Response: 85.73

1.2.3.1 Number of students enrolled in subject related Certificate or Add-on programs year wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 1828 | 1745 | 1308 | 1288 | 1281 |

| File Description | Document |
|---|-------------------------------|
| Details of the students enrolled in Subjects related to certificate/Add-on programs | View Document |

1.3 Curriculum Enrichment

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

Response:

The institute has an integration of the cross cutting issues like Gender, Environment and Sustainability, Human Values and Professional Ethics by way of the courses embedded into the curriculum.

Gender Sensitization:

Gender sensitization is offered as a course to all the programmes, as Gender Sensitization is a basic requirement to understand the sensitive needs of a particular gender. The course covers understanding of gender-sensibility with issues of gender in contemporary India, key biological aspects of gender, critical perspective on the specialization of men and women.

Human Values and Professional Ethics:

The Course, Human Values and Professional Ethics offered in the curriculum, covers identification of human values and skills, profession and happiness, importance of trust, mutually satisfying human behaviour, appropriate technologies and management patterns to create harmony in professional and personal life.

Environment and Sustainability :

The Course, Environment and Sustainability offered in the curriculum covers basic knowledge on environment and its allied problems, understanding importance of biological diversity, conservation of natural resources, creating awareness on Green technologies, Environmental Laws and regulations.

The following is the list of courses which include Human Values, Environment & Sustainability, Gender,

Professional ethics as part of curriculum prescribed by the university:

- Gender sensitization
- Human Values & Professional Ethics
- Environmental science
- Essence of Indian Traditional knowledge
- Industrial Psychology
- Biology for Engineers
- Energy Sciences and Engineering
- Indian constitution
- Renewable Energy Technologies

| File Description | Document |
|---|-------------------------------|
| Upload the list and description of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum. | View Document |

1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years

Response: 95.95

1.3.2.1 Number of courses that include experiential learning through project work/field work/internship year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 236 | 247 | 254 | 252 | 237 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

1.3.3 Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year

Response: 93.16

1.3.3.1 Number of students undertaking project work/field work / internships

Response: 1703

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

1.4 Feedback System

1.4.1 Institution obtains feedback on the syllabus and its transaction at the institution from the following stakeholders 1) Students 2) Teachers 3) Employers 4) Alumni

Response: A. All of the above

| File Description | Document |
|-------------------------------------|-------------------------------|
| Any additional information (Upload) | View Document |
| URL for stakeholder feedback report | View Document |

1.4.2 Feedback process of the Institution may be classified as follows: Options:

1. Feedback collected, analysed and action taken and feedback available on website
2. Feedback collected, analysed and action has been taken
3. Feedback collected and analysed
4. Feedback collected
5. Feedback not collected

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

| File Description | Document |
|-------------------------|-------------------------------|
| URL for feedback report | View Document |

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average Enrolment percentage (Average of last five years)

Response: 94.36

2.1.1.1 Number of students admitted year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 515 | 411 | 413 | 406 | 391 |

2.1.1.2 Number of sanctioned seats year wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 600 | 420 | 420 | 420 | 420 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

2.1.2 Average percentage of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy) during the last five years (exclusive of supernumerary seats)

Response: 99.59

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 210 | 144 | 147 | 147 | 147 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | 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 and organises special Programmes for advanced learners and slow learners

Response:

The learning levels of newly admitted students are assessed based on SSC grade, Intermediate score, EAMCET and ECET ranking.

The institution actively organizes Induction program for three weeks as per the norms of AICTE for newly admitted students. Induction program covers various activity modules on Maths, Physics, Chemistry, general ability, quantitative ability, and general knowledge which enable students to find their interest, explore their inner beings and motivate to perform well in their chosen branch of Engineering.

Methods to assess the learning level of the students

Faculty member, as a mentor, is assigned a maximum of 15 students. The institute has a regular practice to identify the learning levels of the students in various parameters. The mentor and class teacher assess learning levels of each student based on active participation in classroom activities, performance in Continuous Internal Evaluation (CIE), Semester End Examination (SEE), Co-curricular, Extra-curricular activities, Projects, Trainings and participation in Intra and Inter college level competitions.

Measures taken to support slow learners

Each department has a well-defined process of monitoring, guiding and assisting slow learners. Monthly consolidated attendance report is taken by class teacher and the same is given to the mentors.

- Mentors counsel the students who are irregular to class work and whose performance is poor in CIE as well as SEE. The same is communicated to the parents.
- Tutorial and remedial classes are conducted.
- Additional course material and question banks are provided.
- Online Video lecture links are provided.
- Advanced learners are grouped with slow learners to execute the project works.
- College organizes various workshops, guest lectures, webinars and seminars for students in association with professional societies like CSI, IEI, ISTE and IEEE to improve learning ability of students.
- Group Discussions are organized by pairing slow learners with advanced learners to improve learning ability.

Measures taken to support advanced learners

- Class Toppers are awarded with Gold Medals, certificates and monetary benefits every year.
- College has linkage with Spoken Tutorial, NPTEL, CISCO Academy, ORACLE Academy, IEEE Skill Connect, CODE TANTRA, COURSERA which help students to get trained and certified in advanced courses for skill up-gradation.
- Various events like Project expo, Internal SMART INDIA HACKATHON, Boot trap, Ideathon are

organized to motivate students to exhibit their models by providing financial assistance.

- Training & Placement Cell of institution organizes Campus Recruitment Training (CRT) and pre placement training.
- Students are encouraged to participate in intra and inter college events such as conferences, paper presentation and technical quizzes.
- Workshops are organized with hands on experience on emerging technologies.
- Students are motivated to do micro projects to inculcate research orientation apart from projects.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

2.2.2 Student- Full time teacher ratio (Data for the latest completed academic year)

Response: 15:1

| File Description | 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:

The institution focuses on student centric teaching methods at various levels to provide quality education.

Experiential learning: The institution offers strategical experiential learning as follows:

- **Laboratory Sessions:** Laboratory sessions are conducted for better understanding of theoretical concepts.
- **Internships:** Internships are provided to the Students through MOUs with the industry.
- **Industrial Study Visits & Field Visits:** Organized to expose the students to the current technologies and provide an opportunity to learn practically through interaction.
- **Industry Driven Competition:** Encouraged to participate in competitions & HACATHONS conducted by reputed organizations to showcase their creative ideation and talent.
- **Integrated tools:** Students are encouraged to enroll in online courses like NPTEL-SWAYAM, COURSERA, CODE-TANTRA, and CISCO.
- **Bridge courses:** Bridge courses are conducted for lateral entry students for filling the gaps of academic courses.
- **MOODLE:** Used to cover various learning levels such as video lectures, demos, assignments, group tasks etc.,
- **e-Learning:** The institution provides NDL logins to access test books & references, course materials, project reports, magazines, printed journals & e-journals.

Participative learning: The institution focuses on active involvement of students to upgrade themselves independently and interdependently by participative learning methods

- **Workshops, Guest lectures and Seminars:** Students are encouraged to get trained with latest trends and innovative technologies by organizing workshops, guest lectures and seminars.
- **Group Discussions & Debates:** Encouraging students to participate in debates and discussions.
- **Technical Presentation:** Students are encouraged to participate in technical events to showcase their presentation skills through posters, papers and model presentations and to contribute articles to the college magazines.
- **Peer group collaborative learning:** Students from multi-disciplines are involved in participating for development of products by sharing their experience with each other.
- **Plickers:** Used to gather information for evaluation of students performance.
- **Alumni Interaction:** Alumni meets are organized every year to build a strong relationship between students and alumni to share their experience and knowledge for career building.
- **Think pair-share:** Implemented in classrooms to help students to form individual ideas, discussions and share with in other groups.
- **Technical club activities:** The institution has various professional societies like IEEE, IETE, IEI, CSI, SAE, ISIE, ISO, where students actively participate in various activities.

Problem Solving Methodologies: These are processes through which a situation or an issue may be analyzed, and suggestive solutions are implemented.

- **Hands-on training programs:** In every semester, students participate in training activities to explore the industry and advanced technologies.
- **Project Based learning:** Students can design and develop projects by information gathering, investigating, analyzing and demonstrating on real time challenges.
- **Open ended Problem solving:** Apart from regular laboratory experiments, students are encouraged to develop hands-on and feasible solutions for open ended problems.
- **Innovative model development:** Faculty members encourage students to solve real-time problems with innovative solutions for developing models to meet the challenges in industry and society.
- **Assignments & Quizzes:** Used to analyze performance and understanding capability of students after completion of the concept.
- **Virtual labs:** Used to provide remote-access to labs in various disciplines to avail various tools of learning, including additional web-resources, video-lectures, animated demonstrations and self evaluation.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

Response:

Digital literacy is an essential skill required for teaching community. ICT enabled tools make education system more interesting and creates rich learning environment. Matrusri Engineering College has adopted

ICT enabled teaching learning process in addition to the conventional classroom teaching. Every classroom and laboratory is well equipped with modern teaching aids like LCD projectors and internet enabled computer systems for classroom instruction.

ICT enabled pedagogical initiatives used by the faculty members are as follows:

- **Whiteboard and marker:** To convey basics, critical information, history, background, theories and equations.
- **Blended Teaching:** Usage of teaching aid techniques such as video lectures, power point presentations, collaborative and individual learning strategies.
- **Online Teaching:** Faculty made a swift transition from classroom to online teaching by using online platforms like Google classroom, ZOOM, CISCO WEBEX and You-tube.
- **Edu-blogs:** Faculty blogs are used as instructional potential for online resources for students.
- **Integrated courses:** Virtual labs is an ICT tool used by the students to avail remote access to labs in various disciplines.
- **Course Handouts:** Video lectures, lecture notes, assignment questions, tutorial questions and model question papers shared using Google classroom, Edu-blogs.
- **Massive Open Online Course:** Faculty enroll for various courses like NPTEL, COURSERA, SPOKEN TUTORIAL and other MOOCs platforms for better understanding of the course and encourages the students to get certified.
- **Courseware:** Course specific software like MATLAB, VLSI, Xilinx, e-sim, CAD CAM are used to execute laboratory experiments and also to implement innovative ideas.
- **Social Media in Education:** Faculty members use the social media platforms like Whatsapp and Telegram to connect with the students for sharing information.
- **Ability Assessment Test:** Online platforms like Reference Globe, Code-Tantra, Co-Cubes are provided for training and to assess the capabilities of the students in analytical, aptitude, technical skills.
- **Google classroom:** Delivering the lectures and also sharing the content to students.
- **Google Forms:** Assessing the students for evaluating quiz, assignments etc.
- **MOODLE:** Used for online communication through e-mails and forum.
- **Info-gram:** Used to publish faculty views in the form of charts and info-graphics, it is a responsive and interactive platform.
- **Canvas:** It is a course management system to support online teaching and learning
- **Slide share:** With the help of Google Slides, faculty presents the content at the real time.
- **Mentimeter:** Used to present and analyze presentations using smart devices and get insights of participants.

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View Document |
| Provide link for webpage describing the ICT enabled tools for effective teaching-learning process. | View Document |

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)**Response:** 15:1**2.3.3.1 Number of mentors**

Response: 125

| File Description | Document |
|---|-------------------------------|
| Upload year wise, number of students enrolled and full time teachers on roll. | View Document |
| Mentor/mentee ratio | View Document |
| Circulars pertaining to assigning mentors to mentees | View Document |

2.4 Teacher Profile and Quality**2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years****Response:** 100

| File Description | Document |
|--|-------------------------------|
| List of the faculty members authenticated by the Head of HEI | View Document |
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

2.4.2 Average percentage of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)**Response:** 21.22**2.4.2.1 Number of full time teachers with *Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt.* year wise during the last five years**

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 30 | 25 | 26 | 23 | 19 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)

Response: 5.27

2.4.3.1 Total experience of full-time teachers

Response: 659

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

2.5 Evaluation Process and Reforms

2.5.1 Mechanism of internal assessment is transparent and robust in terms of frequency and mode

Response:

- College is affiliated to Osmania University and is guided by the regulations formulated by the university in all the matters pertaining to syllabi, examination, and evaluation and awarding of degree.
- University issues almanac for every academic year, the department prepares academic calendar for every semester which includes schedule of internal assessment, assignments and other curricular and co curricular activities.
- Almanac, academic calendar, timetable are disseminated at the beginning of the semester.
- Transparency is maintained in the conduction and assessment of internal exams and assignments for theory, lab, project, seminar and internship as follows:

Theory

- Syllabus and schedule for every internal assessment and assignment is communicated to students well in advance.
- First internal examination is conducted after 8 weeks of commencement of the semester and second internal examination is conducted during 15th week.
- Examinations are conducted by respective department examination branch.
- Internal examination question paper along with scheme and key is prepared by respective staff member and audited by senior faculty to ensure syllabus coverage, course outcomes and level of revised blooms taxonomy.
- Question paper with scheme & key is submitted in a sealed cover to the Department Internal Examination Branch.
- Internal exams, assignments are conducted transparently as teacher ensures that the attendance

sheet of the test is signed by each student in person.

- Answer scripts are evaluated within three days of completion of exam schedule.
- Course coordinator verifies the evaluated papers randomly to ensure the evaluation is in line with the key.
- Scheme and key of the question paper is discussed in the classroom.
- Finalized CIE marks are displayed in notice board and communicated to parents.
- Consolidated reports signed by HOD and approved by principal are submitted to college academic and exam branch to submit to affiliated university.

Lab

- Performance of a student is evaluated transparently at the end of every laboratory session based on theoretical knowledge, skills to implement the experiment and results.
- Performance of the students in practical courses is evaluated based on CIE.

Project

- Project reviews are conducted periodically by department project review committee. This promotes transparency as well as gives inputs to the students for their improvisation.
- Project evaluation and awarding of internal marks are based on various rubrics such as motivation, problem statement, literature survey, scope of the project, proposed methodology, architecture, design, presentation skills.

Technical Seminar

- Students will choose a new technology or latest topic and explore the topic.
- Performance of students is evaluated based on the parameters like literature survey, technical content, presentation skills and viva-voce.

Internship

- Students internships will be evaluated based on various parameters such as literature survey, architecture, design, technology stack, implementation, results & analysis, presentation skills.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

2.5.2 Mechanism to deal with internal examination related grievances is transparent, time- bound and efficient

Response:

- The internal answer scripts and assignments are evaluated within 3 days after the completion of exam schedule and are given to students for self assessment.
- The scheme and key for the internal examination question paper is prepared and discussed with the

students.

- For complete transparency, finalized marks are displayed on notice board, sent to parents and given sufficient time to correct to address any grievances raised by the students.
- The general grievances and redressal mechanism with regard to internal examinations are:
 - **Discrepancy in totaling of marks:** If any student finds any mistake in totaling of marks, the student approaches the staff to resolve the issue.
 - **Wrong posting in mark sheets:** If any student finds wrong posting of marks in display of notice board, the matter is reported to the HOD, upon verification appropriate corrective action will be initiated.
 - **Discrepancy in aggregate internal marks:** If any student finds a discrepancy in aggregate marks, student approaches HOD, then HOD informs the internal exam in charge to resolve the issue.
 - **Discrepancy due to wrong numbering of question:** If student finds that the marks are not awarded due to wrong numbering, then can directly approach the staff for redressal.
 - **Late submission of assignment:** If any student submits the assignment late due to valid reason, student can approach the staff for correcting the marks with an acceptance letter signed by the HOD.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

2.6 Student Performance and Learning Outcomes

2.6.1 Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution.

Response:

The institution is effectively implementing the Outcome-Based Education (OBE) to impart education through a student-centric approach. The Institution has conducted workshops on Outcome-Based Education to create awareness among faculty members.

The Course Outcomes are defined to achieve Programme Outcomes (POs), Program Specific Outcomes (PSOs). The Program Outcomes (POs) are defined by the National Board of Accreditation (NBA). Program Specific Outcomes (PSOs) are defined for individual programs after thorough discussions & deliberations with stakeholders. The PEOs are defined in line with the vision and mission statements of the departments and institute.

Course Outcomes (COs) for all the courses in the curriculum for the program are provided by the affiliating university. If necessary, concerned faculty members can define / modify the course outcomes using action verbs of various learning levels as suggested by revised Bloom Taxonomy.

Course Outcomes are correlated to POs and PSOs by concerned faculty members on a scale of levels, 1 for low, 2 for medium, and 3 for high.

Program Outcomes, Program Specific Outcomes and Course Outcomes are disseminated to stakeholders through the following ways

- College Website: Vision and Mission of institution.
- Main Library: Vision and Mission of institution.
- Departmental Website: Vision and Mission of department, POs, PSOs & PEOs
- Department Notice Boards: Vision and Mission, POs, PSOs & PEOs
- Departmental News Letters: Vision and Mission, POs, PSOs & PEOs
- Classrooms: Vision and Mission of both institution and departments, POs and PSOs
- HOD and Faculty Rooms: Vision and Mission, POs and PSOs
- Department Library: Vision and Mission, POs, PSOs & PEOs,
- Laboratories: Vision and Mission, POs, PSOs & PEOs, relevant COs
- Course Files: Vision and Mission, POs, PSOs & PEOs, relevant COs
- Lab Manuals: Vision and Mission, POs, PSOs & PEOs, relevant COs
- Lab Records: Vision and Mission of institution.
- Attendance Register: Vision and Mission, POs, PSOs & PEOs, relevant COs
- Pamphlets: Vision and Mission, POs, PSOs & PEOs.

| File Description | Document |
|---|-------------------------------|
| Upload COs for all courses (examples from Glossary) | View Document |
| Upload any additional information | View Document |

2.6.2 Attainment of programme outcomes and course outcomes are evaluated by the institution.

Response:

The process of assessing the attainment of Course Outcomes (COs), Programme Outcomes (POs), Programme Specific Outcomes (PSOs) is as follows:

Attainment of Course Outcomes

CO Attainment is calculated based on the performance of the students using various assessment tools such as **CIE** and **SEE**.

In CIE performance of each student in individual COs is available from internal exams, assignments, slip tests, and quiz. SEE is conducted and evaluated by the affiliating university and overall performance is provided by the university in terms of marks/grade. The course coordinator will distribute marks among all COs.

CO Attainment of each course is computed based on the predefined targets as per the given table

| Range | Attainment Level |
|-------|------------------|
| x>80 | 3 |

| | |
|-----------------------|------------------|
| 70 | 2.5 -3.0 |
| 60 < x ≤ 70 | 2.0 - 2.5 |
| 50 < x ≤ 60 | 1.5 - 2.0 |
| 40 ≤ x ≤ 50 | 1 - 1.5 |
| 30 | 0.5- 1.0 |
| x < 30 | 0 |

Where 'x' is the percentage of students getting 50% marks and above

The CO level in CIE and the CO level in SEE are combined as

- **Theory**
 - 0.25*CIE Level + 0.75* SEE Level (Non-CBCS)
 - 0.30*CIE Level + 0.70* SEE Level (CBCS/AICTE)
- **Laboratory**
 - 0.33 *CIE Level + 0.66*SEE Level
- **Seminars & Industrial Visit/ Study**
 - CIE Level
- **Project**
 - 0.50* CIE Level + 0.50*SEE Level (Non-CBCS)
 - 0.33 *CIE Level + 0.66*SEE Level(CBCS/AICTE)

Identify the set value for each course outcome: The set value for each CO for any course is set by the concerned subject expert. If a course COs are met with set value, then the set value will be reviewed.

Attainment of Program Outcomes, Program Specific Outcomes

POs& PSOs attainment carried out by using two assessment methods

- Direct Assessment Method
- Indirect Assessment Method

The attainment weightage distribution as follows

| Assessment Methods | PO/PSO attainment Weightage |
|---------------------|-----------------------------|
| | Distribution (in %) |
| Direct Assessment | 80 |
| Indirect Assessment | 20 |

Direct Assessment Method: Direct Assessment of POs for a course is obtained by mapping the average value of course outcome attainment with the mapping of the target or expected POs for the particular

course.

Indirect Assessment Method (Surveys): Opinions on POs, PSOs, and COs are collected from various stakeholders by surveys such as Program Exit Survey, Course Exit Survey, Alumni Survey and Employer Feedback Survey. The appropriate weightage has been given for the surveys as follows

Weightage of Indirect Attainment

| Indirect Attainment Tools | PO/PSO attainment Weightage |
|---------------------------|-----------------------------|
| | Distribution (in %) |
| Program Exit Survey | 10 |
| Course Exit Survey | 5 |
| Alumni Survey | 2.5 |
| Employer Feedback Survey | 2.5 |

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

2.6.3 Average pass percentage of Students during last five years

Response: 91.3

2.6.3.1 Total number of final year students who passed the university examination year-wise during the last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 368 | 364 | 338 | 347 | 357 |

2.6.3.2 Total number of final year students who appeared for the university examination year-wise during the last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 392 | 391 | 373 | 396 | 391 |

| File Description | Document |
|---|-------------------------------|
| Upload any additional information | View Document |
| Institutional data in prescribed format | View Document |

2.7 Student Satisfaction Survey

| 2.7.1 Online student satisfaction survey regarding teaching learning process | |
|---|-------------------------------|
| Response: | |
| File Description | Document |
| Upload database of all currently enrolled students (Data Template) | View Document |

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

Response: 19.15

3.1.1.1 Total Grants from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 10.80 | 4.68 | 2.15 | 0.63 | 0.89 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of the grant award letters for sponsored research projects / endowments | View Document |
| Any additional information | View Document |

3.1.2 Percentage of departments having Research projects funded by government and non government agencies during the last five years

Response: 61.54

3.1.2.1 Number of departments having Research projects funded by government and non-government agencies during the last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 5 | 4 | 2 | 2 | 3 |

3.1.2.2 Number of departments offering academic programmes

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 6 | 5 | 5 | 5 | 5 |

| File Description | Document |
|---|-------------------------------|
| Supporting document from Funding Agency | View Document |
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |
| Paste link to funding agency website | View Document |

3.1.3 Number of Seminars/conferences/workshops conducted by the institution during the last five years

Response: 214

3.1.3.1 Total number of Seminars/conferences/workshops conducted by the institution year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 45 | 30 | 46 | 48 | 45 |

| File Description | Document |
|---|-------------------------------|
| Report of the event | View Document |
| Institutional data in prescribed format | View Document |

3.2 Research Publications and Awards

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

Response: 2.76

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 78 | 30 | 114 | 62 | 34 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years**Response:** 1.3**3.2.2.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years**

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 56 | 27 | 57 | 8 | 2 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

3.3 Extension Activities**3.3.1 Extension activities are carried out in the neighborhood community, sensitizing students to social issues, for their holistic development, and impact thereof during the last five years.****Response:**

The college maintains its social cohesiveness through extended activities in the neighbourhood community to sensitize students about social issues. The college consistently promotes participation of students and faculty members in socio-friendly extension activities through various cells and activity centres. Unnat Bharat Abhiyan (UBA) is a flagship programme of the Ministry of Human Resource Development, with the intention to enrich Rural India. The knowledge base and resource of the Premier Institutions of the country are to be leveraged to bring in transformational change in the rural development process. College adopted five villages and render their social services to the community under “Village Adoption Program” as a part of UBA. A comprehensive socio-economic survey is conducted by the students in the village to identify the problems and needs of the local people. Based on the survey, the programmes are prepared in such a way which would cater for better educational, socio-medical and health-care and awareness among the villagers.

Under “Plastic free campaign” student and faculty educated the need to adopt a plastic-free lifestyle by making the village plastic-free in adopted villages. The residents of the village were made aware about the health and climate-hazards of using plastic and were also urged to adopt Eco-friendly products in their daily lives. 50 solar lamps assembled under student solar ambassador workshop organized by IIT, Bombay as part of 150 birth anniversary Mahatma Gandhi and distributed in the adopted villages.

The college aims to develop students’ Emotional Quotient through their interaction with various challenges and hurdles faced by the people in the nearby community and encourage stakeholders to

develop their positive attitude towards life. Student and faculty distributed masks and grocery kits in the neighbour villages and educated them to combat Covid-19 pandemic.

The students feel a responsibility and believe that they need to give back to society and the environment what they have taken by doing community service through Swachh Bharat Abhiyan, Harithaharam, Rally for River. College organized Blood Donation camp every year in association with Indian Red Cross society to support Sickel cell patient and needy person.

Credit courses on human values and professional ethics, as well as environmental studies, are provided as part of the students' holistic development. At regular intervals, guest lectures are organized for students by inviting experts from outside to educate them on social issues such as drug addiction, traffic rules and regulation, anti- ragging, cybercrimes, safety, and security to women in Telangana state through SHE Team Awareness program and so on.

Students of the college have started a social concept called SATHYARDHAAN where in periodic contributions from the students and accumulated fund is utilized for needy people. Through this a four year kid suffering from cancer was benefited. Similarly, food supplies, general items, chairs to government blind school were distributed.

| File Description | Document |
|---------------------------------------|-------------------------------|
| Upload any additional information | View Document |
| Paste link for additional information | View Document |

3.3.2 Number of awards and recognitions received for extension activities from government/ government recognised bodies during the last five years

Response: 37

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 22 | 7 | 6 | 1 | 1 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copy of the award letters | View Document |

3.3.3 Number of extension and outreach programs conducted by the institution through NSS/NCC/Red cross/YRC etc., during the last five years (including Government initiated programs

such as Swachh Bharat, Aids Awareness, Gender Issue, etc. and those organised in collaboration with industry, community and NGOs)

Response: 84

3.3.3.1 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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 25 | 17 | 16 | 11 | 15 |

| File Description | Document |
|---|-------------------------------|
| Reports of the event organized | View Document |
| Institutional data in prescribed format | View Document |

3.3.4 Average percentage of students participating in extension activities at 3.3.3. above during last five years

Response: 82.08

3.3.4.1 Total number of Students participating in extension activities conducted in collaboration with industry, community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 1593 | 1447 | 1478 | 1330 | 1270 |

| File Description | Document |
|---|-------------------------------|
| Report of the event | View Document |
| Institutional data in prescribed format | View Document |

3.4 Collaboration

3.4.1 The Institution has several collaborations/linkages for Faculty exchange, Student exchange, Internship, Field trip, On-job training, research etc during the last five years

Response: 207

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 49 | 58 | 40 | 34 | 26 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of linkage related Document | View Document |

3.4.2 Number of functional MoUs with national and international institutions, universities, industries, corporate houses etc. during the last five years

Response: 53

3.4.2.1 Number of functional MoUs with Institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 18 | 17 | 8 | 6 | 4 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format(Data template) | View Document |
| e-Copies of the MoUs with institution./ industry/ corporate houses | View Document |

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The Institution has adequate infrastructure and physical facilities for teaching- learning. viz., classrooms, laboratories, computing equipment etc.

Response:

Matrusri Engineering College is spread over 3.62 acres of land with built up area of 14,730 Sq.mts. The institution has adequate infrastructure and physical facilities for teaching-learning as per the regulations of AICTE and Osmania University. The environment is serene, lush green and eco-friendly. The facilities available are mentioned below.

Classrooms:

The institution has spacious, well-equipped, well ventilated classrooms with LCD projectors and WI-FI connectivity. Adequate tutorial and smart classrooms are provided.

Laboratories:

The institution has domain centric well-equipped laboratories to conduct experiments. Additional facilities are available to address content beyond syllabus, projects and research activities.

The institution has specific facilities like Center of Excellence for Electric Vehicles, BOT lab, CISCO Networking Academy, Matrusri MakerSpace, MSME incubation center and e-Yantra laboratory.

Seminar Halls:

The institution has adequate seminar halls to conduct seminars, conferences, guest lectures and workshops. Seminar halls are equipped with LCD projectors, PAS with WIFI connectivity and air conditioned with seating capacity ranging from 60 to 500.

Computing Equipment:

The institution has 709 high-end computers with all necessary peripherals.

Library:

The institution has a central library with adequate seating capacity. It has a reference section and digital library with 25 systems, accessible National Digital Library (NDL), SWAYAM lecture videos. Staff and students are able to access online journals through IEEE, ASME, ASCE, DELNET, JGATE. Library is automated with NewGenLib ILMs software. In addition to central library, each department is equipped with department library.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

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

Response:

Cultural Activities:

Students are encouraged to join college level cultural clubs like Matrusri Campus Connect, Photography Club, Heritage Club, Orators Club, Music Club, and Dance Club. The institution organizes cultural fests, co-curricular and extra-curricular activities and encourages students to participate actively. The institution has adequate facilities like auditorium, Audio Visual rooms, and quadrangle court yard to organize these cultural activities.

Sports & Games (indoor, outdoor):

The institution is equipped with indoor and outdoor sports facilities for students and faculty to take part in individual and team activities within and beyond academic hours.

Students participated in various sports events at inter college, inter university, state level and national level competitions and brought laurels to the institution.

Indoor and Outdoor sports facilities of the institution are available from the inception (2011).

| Facility | Particulars | Area |
|--------------------|--|--|
| Indoor Facilities | <ul style="list-style-type: none"> • Table Tennis • Caroms • Chess | 2400 sqft. |
| Outdoor Facilities | <ul style="list-style-type: none"> • Basketball Court • Volleyball Court • Throw ball Court • Badminton Court • Tennikoit • Shotput • Cricket Net | The outdoor facilities have been spread over 1 acre. |

Gymnasium:

Gymnasium in the institution was established in 2017 to promote physical fitness for healthy lifestyle. The institution has adequate facilities with gym equipment like tread mill, dumbbells, weights, hand clips, bar bells, cycles, multi-purpose weight bench, gym balls, skipping ropes for students and staff.

Gymnasium facilities are utilized by students and staff under the supervision of instructor. Separate timings are allocated for men and women. Gymnasium facilities are available beyond college hours.

Yoga Centre:

Regular yoga sessions are organized in the college for awareness of healthy lifestyle. Every year 21st of June is celebrated as International Day of Yoga in college campus. Yoga mats are available to perform Yoga.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

4.1.3 Percentage of classrooms and seminar halls with ICT- enabled facilities such as smart class, LMS, etc. (Data for the latest completed academic year)

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 38

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format(Data template) | View Document |

4.1.4 Average percentage of expenditure, excluding salary for infrastructure augmentation during last five years(INR in Lakhs)

Response: 23.05

4.1.4.1 Expenditure for infrastructure augmentation, excluding salary year-wise during last five years (INR in lakhs)

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 57.46 | 184.2 | 86.82 | 77.66 | 23.87 |

| File Description | Document |
|--|-------------------------------|
| Upload audited utilization statements | View Document |
| Upload any additional information | View Document |
| Institutional data in prescribed format(Data template) | 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 carpet area 627 Sq. mt. is located in M block with good infrastructure and ambience. There is regular subscription to newspapers, magazines and journals, there by augmenting the library as a rich source of knowledge. In addition to central library, each department is well equipped with department library.

NewGenLib is a fully web based integrated library management software that runs on distributed computers through a network or server. It can also run on local area networks without access to the Internet. NewGenLib supports following major international standards for better interoperability. NewGenLib is a complete solution for libraries. It is a unique combination of a library automation software, digital library software and a database search facilitator.

NewGenLib is compatible with International standards such as MARC 21 for bibliographic description, ISBD, OAI PMH Protocol, Z 39.50 Protocol, Dublin Core, Unicode, and many more.

It uses Java technology, PostgreSQL for the database, and Apache for Web server. NewGenLib unlike Koha is a platform independent software which turns it more beneficial for the user who are not well verse with Linux.

It has six main modules, i.e.

- Technical processing (cataloguing)
- Circulation.
- Acquisitions serial management.
- OPAC besides administration.
- Queries
- Utilities

Features of NewGenLib

- Compatible with international standards such as MARC 21.
- Scalable, manageable and efficient.
- Compatible to run on any version of Windows (except window 95, 98 and 2000)and Linux.
- Automated email/instant messaging is integrated in different function of software

- Form and letter can be configured to save time.
- Extensive use of parameters to enable easy configuration of the software to suit specific.
- Needs Allows digital attachment to metadata.
- Enables users to search online databases through OPAC.
- Self-issue return is enabled that save the time of the user.

| | |
|---|-------------|
| Name of the ILMS software | New Gen Lib |
| Nature of automation (fully or partially) | Fully |
| Version | 2.1 |
| Year of Automation | 2013 |

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

4.2.2 The institution has subscription for the following e-resources

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases
- 6.Remote access to e-resources

Response: A. Any 4 or more of the above

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View Document |
| Institutional data in prescribed format(Data template) | View Document |

4.2.3 Average annual expenditure for purchase of books/e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)

Response: 17.01

4.2.3.1 Annual expenditure of purchase of books/e-books and subscription to journals/e-journals year wise during last five years (INR in Lakhs)

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 25.62 | 19.67 | 14.87 | 18.80 | 6.10 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format(Data template) | View Document |
| Audited statements of accounts | View Document |
| Any additional information | View Document |

4.2.4 Percentage per day usage of library by teachers and students (foot falls and login data for online access) during the last completed academic year

Response: 22.79

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

Response: 445

| File Description | Document |
|---|-------------------------------|
| Details of library usage by teachers and students | View Document |

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

The college campus has a well-established state of the art IT infrastructure and facilities. Internet bandwidth of 280 Mbps supports various services such as academic and administrative activities, campus CC TVs, biometric devices. Campus is enabled with Wi-Fi facility.

The details of up gradation that has taken place over the last five years (2015-16 to 2019-20) are shown below:

- Procured 575 desktop computers and 5 servers for academic purpose.
- 46 Wi-Fi access points were added to campus network.
- Upgraded internet bandwidth of 70 Mbps in 2015 to 110 Mbps in 2017 and to 280 Mbps in 2019.
- Procured Microsoft Cloud Campus subscription licenses in 2013 and renewed every year.
- Procured licensed MATLAB software in 2015 & 2019 and other department softwares in CED, CSE, EEE, ECE, MECH and their upgradations.
- Upgraded RAM from 2 GB to 4 GB for 30 desktop computers.
- Procured LCD/LED projectors for classrooms, seminar halls, conference halls and laboratories.
- The institution has smart classroom equipped with smart interactive board.
- Biometric Attendance for staff and students is introduced.
- Electronic surveillance system with 63 cameras is installed on the campus.
- All the CRT monitors are upgraded to LCD/LED monitors.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

4.3.2 Student - Computer ratio (Data for the latest completed academic year)

Response: 3:1

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |
| Student – computer ratio | View Document |

4.3.3 Bandwidth of internet connection in the Institution

Response: A. 750 MBPS

| File Description | Document |
|--|-------------------------------|
| Details of available bandwidth of internet connection in the Institution | View Document |

4.4 Maintenance of Campus Infrastructure

4.4.1 Average percentage of expenditure incurred on maintenance of infrastructure (physical and academic support facilities) excluding salary component during the last five years(INR in Lakhs)

Response: 68.65

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 276.49 | 370.87 | 224.32 | 152.36 | 146.55 |

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View Document |
| Institutional data in prescribed format(Data template) | View Document |
| Audited statements of accounts | 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 institution has structured system for maintaining and utilizing facilities available.
- The institution has formulated a maintenance committee for looking after academic support facilities, infrastructure maintenance and its utilization.
- Each facility has a supervisor to look after the maintenance and a log register is used to record maintenance activities.
- The security of the institution is taken care by an external agency.
- Housekeeping services to maintain cleanliness of campus and buildings is outsourced to an external agency.

The following is the maintenance procedure for various facilities:

Classrooms

- Regular inspection of furniture and classroom equipment is carried out.

Laboratories

- Performance of equipment is monitored on a regular basis and respective log books are maintained.
- Calibration of equipment is carried out periodically.
- All the minor repairs are carried out by the laboratory technicians. Major repairs for all laboratory equipment are outsourced.

Library

- The library has advisory committee to look after proper functioning.
- An accession register is maintained.
- Stock verification process is carried out before the commencement of academic year.
- Damaged books are sent for re-binding.

Computers

- The institution has a system administrator to oversee the maintenance of computer systems.
- Computer systems are protected with antivirus and firewalls.
- Up-gradation of software as per the curriculum requirement.

Sports Facilities

- Outdoor sports facilities are monitored and maintained periodically.
- The consumables for indoor and outdoor games are procured as required.

RO Plant

- Periodical maintenance of RO plants is carried out.

Electrical Maintenance

- Telangana State Electricity department inspects the performance of the transformer periodically, based on recommendations, corrective actions are initiated.
- The diesel generators for power back up are inspected at regular intervals for proper maintenance.

Landscaping

- The college has AMC for maintenance of landscapes and greenery.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

NAAC

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 last five years

Response: 47.48

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 858 | 820 | 806 | 808 | 818 |

| File Description | Document |
|--|-------------------------------|
| upload self attested letter with the list of students sanctioned scholarship | View Document |
| Institutional data in prescribed format | View Document |

5.1.2 Average percentage of students benefitted by scholarships, freeships etc. provided by the institution / non- government agencies during the last five years

Response: 1.94

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 50 | 42 | 29 | 26 | 22 |

| File Description | Document |
|---|-------------------------------|
| Upload any additional information | View Document |
| Institutional data in prescribed format | View Document |

5.1.3 Capacity building and skills enhancement initiatives taken by the institution include the following

1. Soft skills

2. Language and communication skills
3. Life skills (Yoga, physical fitness, health and hygiene)
4. ICT/computing skills

Response: A. All of the above

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |
| Link to Institutional website | View Document |

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

Response: 100

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 1828 | 1745 | 1721 | 1694 | 1672 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

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

1. Implementation of guidelines of statutory/regulatory bodies
2. Organisation wide awareness and undertakings on policies with zero tolerance
3. Mechanisms for submission of online/offline students' grievances
4. Timely redressal of the grievances through appropriate committees

Response: A. All of the above

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View 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 |

5.2 Student Progression

| 5.2.1 Average percentage of placement of outgoing students during the last five years | | | | |
|--|-------------------------------|---------|---------|---------|
| Response: 54.84 | | | | |
| 5.2.1.1 Number of outgoing students placed year - wise during the last five years. | | | | |
| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
| 161 | 213 | 204 | 201 | 201 |
| File Description | Document | | | |
| Self attested list of students placed | View Document | | | |
| Institutional data in prescribed format | View Document | | | |

| 5.2.2 Average percentage of students progressing to higher education during the last five years | | | | |
|--|-------------------------------|--|--|--|
| Response: 96.01 | | | | |
| 5.2.2.1 Number of outgoing student progressing to higher education. | | | | |
| Response: 361 | | | | |
| File Description | Document | | | |
| Upload supporting data for student/alumni | View Document | | | |
| Institutional data in prescribed format | 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: JAM/CLAT/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State |
|---|

government examinations)

Response: 95.82

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 91 | 84 | 88 | 110 | 77 |

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 96 | 87 | 93 | 115 | 79 |

| File Description | Document |
|---|-------------------------------|
| Upload supporting data for the same | View Document |
| Institutional data in prescribed format | View Document |

5.3 Student Participation and Activities

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

Response: 81

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 17 | 19 | 22 | 13 | 10 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of award letters and certificates | View Document |
| Any additional information | View Document |

5.3.2 Institution facilitates students' representation and engagement in various administrative, co-curricular and extracurricular activities (student council/ students representation on various bodies as per established processes and norms)

Response:

The Institution facilitates the representation of students in various decision making, academic and administrative bodies. Student opinions and suggestions are considered in the implementation and conduct of academic and student centric activities. The students are motivated to participate in all co-curricular and extra-curricular activities. The institution provides necessary support to students for organizing campaigns on social cause and charitable activities.

A team of faculty members constantly guide the students for their active participation and leadership in various committees, clubs and associations.

These committees have been nurturing them as responsible citizens, motivating them to serve the society. Being part of these committees, the students are able to come forward with proposals related to academics, cultural and sports activities, issues related to society and contribution of their time and resources to attend to societal problems, helping the poor students and supporting juniors to meet the new era challenges. They are also able to interact with alumni and institutes for internships, projects and employment opportunities. The programs like Unnat Bharat Abhiyan, Haritha haram, Satyardhan are successfully conducted by the students.

As members of professional bodies like IEI, IEEE, ISTE, CSI, SAE, IESTE, students participate in various activities at local and regional chapters.

The following are the committees at departmental and institutional level, where the students have been actively participating.

Institute level Committees

- Internal Quality Assurance cell (IQAC)
- Anti-Ragging committee (ARC)
- Internal Complaints Committee (ICC)
- Cultural & Sports Committee (CSC)
- Matrusri Campus Connect (MCC)
- Matrusri Alumni Welfare Association

Department Level committees

- Student Interaction Committee (SIC)
- Program Assessment Committee (PAC)
- Professional Bodies

| File Description | Document |
|---------------------------------------|-------------------------------|
| Upload any additional information | View Document |
| Paste link for additional information | View Document |

5.3.3 Average number of sports and cultural events/competitions in which students of the Institution participated during last five years (organised by the institution/other institutions)

Response: 22.8

5.3.3.1 Number of sports and cultural events/competitions in which students of the Institution participated year-wise during last five years

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 26 | 24 | 25 | 20 | 19 |

| File Description | Document |
|---|-------------------------------|
| Report of the event | View Document |
| Institutional data in prescribed format | View Document |

5.4 Alumni Engagement

5.4.1 There is a registered Alumni Association that contributes significantly to the development of the institution through financial and/or other support services

Response:

The institution has a registered and functional alumni association under the name “Matrusri Alumni Welfare Association”.

Alumni meet is conducted every year during the month of December, to encourage interaction among alumni and the students. On the day of the event many activities are conducted for the Alumni like games, quizzes.

Alumni have contributed to the association fund, to organize various alumni and developmental activities.

Knowledge Transfer:

Our Alumni have been actively contributing for the establishment of laboratories and knowledge hubs in college.

Our Alumni from ECE, Mr. Abhay Joshi was instrumental in establishing the E-Yantra lab in association with current II and III-year students of various departments.

Our Alumni Mr. A. Akhil from EEE department is actively coordinating with T-Hub, as part of which many activities like workshops and seminars are conducted.

Guidance for Higher Education:

The Alumni, pursuing their higher studies in various universities across the world, share their experiences and help the students in choosing specialization for higher education.

The Alumni guide students appearing for GATE, PGECET, GRE, TOEFL, IELTS and other competitive exams.

Guidance on Placements:

Our Alumni are placed in various reputed organizations like Google, HSBC, TCS, Hitachi and many reputed organizations. They help the students to prepare for placements by giving suggestions on improving articulation and soft skills. They share their valuable experiences at work, so that students get accustomed to different work environments and learn standards of work and ethics.

Extra-curricular Activities:

Our alumni support and encourage students to participate in various extra-curricular activities. Our Alumni Mr. Pridhvi from Mechanical Engineering and Ms. Vaishnavi from ECE are associated with Matrusri Dance Club and guided students for URVI 2020.

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5.4.2 Alumni contribution during the last five years (INR in lakhs)

Response: A. ? 5 Lakhs

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Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

The Vision and Mission of the college are:

Vision:

To be a premier academic institution striving continuously for excellence in technical education, research and technological service to the nation.

Mission:

- To recognize and make quality Engineering education available to the society.
- To create a community of learning in which students acquire knowledge and apply them professionally with societal concern.
- To prepare for life-long learning to meet intellectual and career challenges.
- To promote professional ethics, leadership qualities and social responsibilities.
- To maintain research environment with an opportunity to create, apply and disseminate knowledge to the needs of society and the industry.

Governance:

Institutional governance is completely in tune with the vision and mission of the institution. Matrusri Engineering College was established by Matrusri Education Society in 2011 aiming at becoming a pioneer in technical education in the private sector. It is managed by executive committee and board of governors. The board of governors, constituted as per the norms, meets at regular intervals to review the operations of the institution and provides guidance for further improvements.

Perspective Plans:

Based on the Vision and Mission of the institution, Quality Policy is framed and driven by the needs of the stakeholders. Institution prepared strategic plan with suggestions from IQAC.

Participation of teachers in decision-making bodies:

The faculty members are actively involved in the decision-making bodies of the institution viz., Board of Governors, IQAC, CAC, DAC, PAC, Boards of Studies (BoS) of Osmania university.

Faculty members are also nominated as members of various committees such as Anti-Ragging & Disciplinary Committee, SC & ST Committee, Grievances Redressal, Internal Complaint Committee, and Institution Innovation Council.

The faculty members actively involved in organizing committees of various college events like Annual day, Tech fest, Orientation day, Alumni day, etc.

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6.1.2 The effective leadership is visible in various institutional practices such as decentralization and participative management

Response:

Decentralization and participative management

- The institution has decentralized mechanism in effective leadership, financial, administration and academic affairs.
- The formation of institutional committees like Board of governors, IQAC, CAC, DAC, PAC, Anti-Ragging Committee, Grievance and Redressal Committee, R&D Committee, Academic Committee, etc. is the result of decentralization of work and participative management.
- The head of the institution periodically organizes meetings with HODs and senior faculty members for the improvement in academic activities, R & D activities, training and placement activities, curricular, co- curricular and extracurricular activities and establishment and up gradation of laboratories as per curriculum.
- At the department level, the HODs decentralize administrative/academic activities by assigning responsibilities to faculty members.
- Principal & HODs are authorized to spend an amount of Rs. 25,000/- and 5,000/- respectively.

Case Study: Decentralization and Participative Management to organize institutional level event “Annual Techfest (SADHYA)”

- Head of the Institution identifies and deposes a senior faculty member as convener to organize Annual TechFest (SADHYA).
- The convener organizes a meeting with HODs and senior faculty to discuss about various activities to be conducted as part of the event.
- HODs conduct meeting with the faculty members of respective departments and come out with the proposal of set of activities to be conducted with budget and other requirements to the convener.
- Convener submits the proposed budget to the head of the institution.
- Head of the Institution discusses the budgetary requirements with the finance committee for approval.
- Convener is communicated with the budget allocated for conducting various activities in each department.
- After the completion of the event, HODs submit the statements of expenditure incurred, to the convener.
- Convener submits the above statements to the head of the institution and in turn head of the institution sends it to the account section for verification and settlement.

| File Description | Document |
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| Upload any additional information | View Document |

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic / Perspective plan is effectively deployed

Response:

The institute has developed a strategic plan in the year 2016 for five years with the help and suggestions from all the stakeholders. The strategic goals of this plan were:

Strategy- 1: Good Governance

Strategy- 2: Autonomous Status

Strategy- 3: Accreditation & Certification

Strategy- 4: Infrastructure and facilities

Strategy- 5: Teaching & Learning

Strategy- 6: Industry & Institute Collaborations

Strategy- 7: Training & Placement, Internships & Career

Strategy- 8: Research & Development

Strategy- 9: Alumni engagement and interaction

Strategy-10: Library & information centre

Strategy- 11: Entrepreneurship

Case Study: Strategy- 8: Industry & Institute Collaborations

Objective: To reduce the gap between industry expectations (practice) and academic offerings (theory) in collaboration with the industry to attain a symbiosis.

The following are the identified tasks:

- Establishment of industry institute interaction cell
- Professional bodies membership
- Identification of potential areas for linkages/ MoUs with industries
- Support for internships, visits, trainings, guest lectures
- Opportunities for Industry based/sponsored projects.

- Establish centers of excellence & skill development centers.

The developments made are:

- Industry Institute Interaction cell established in year of 2017
- Students' chapters of various Professional Bodies like IEEE, ISTE, SAE, CSI, ISIE, and IE&I are actively taken forward by the students.
- Over all 53 Functional MOUs with Industries and Academic institutions with IIT-Bombay, NITW etc., in last five years.
- Every year the institute arranged industrial study visits for students like INCOIS, NIAR, TS Substations, etc.,
- Most of the students done their summer internship in different industries.
- The institute jointly conducted with industry different training programs/skill developments programmes like E-Bike design, PLC Automation, etc.,

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View Document |
| Strategic Plan and deployment documents on the website | View Document |
| Paste link for additional information | View Document |

6.2.2 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment and service rules, procedures, etc.

Response:

Matrusri Engineering College, Saidabad, Hyderabad, Telangana, was established by Matrusri Education Society in 2011 aiming at becoming a pioneer in Technical Education in the private sector. The policies and procedures on academic matters & administrative setups are taken care by the following council committees/ institutional bodies.

Executive Committee:

The major decision-making activities of Matrusri Educational Society are taken care by the Executive Committee.

Board of Governors (BOG):

The board of governors is constituted as per the AICTE norms and meets at regular intervals to reviews the operations of the institution. The main functions of the governing body are decisions on administrative and academic matters, communications from AICTE and State Govt, physical infrastructure facilities, new programmes /additional intake, policies for faculty & Staff, faculty recruitment, student welfare measures and approval of budget.

Internal Quality Assurance Cell (IQAC):

IQAC monitors the academic, research, co-curricular and extracurricular activities to ensure quality in teaching & learning.

College Academic Council (CAC):

This Council is constituted to deal with all academic related affairs of the College, academic staff, academic planning, Instructional issues, Co-curricular activities, & Extra-curricular activities and maintaining discipline in the College Campus. The recommendations are sent to IQAC/Board of Governors for further approvals.

Other Academic and Administrative Duties:

- The principal monitors the various academic and administrative matters.
- Vice Principal, Heads of the Department (HODs), Coordinators and In-charges provide academic support to the principal.
- Establishment Section assists the Principal in administrative activities.
- Training & placement cell conducts training in skill development and provides placement assistance.
- Examination Cell Incharge monitors the conduct of internal & external examinations.
- Librarian performs all activities related to library.
- Research & Development cell motivates the faculty members of all programs for R&D activities in the area of their specialization and help their professional growth.
- Entrepreneurship & Development committee conducts interactive sessions and trainings between the industry and the academia/students.
- Office superintendent (Academics) will monitor the administrative activities related to academics.
- Senior Accounts Officer assists the principal in financial matters.

Service Rules, Policies and Procedures:

The service rules and policies regarding recruitment and promotion are prepared as per AICTE and Osmania University norms. The same is available on the college website and circulated among all sections in the college.

| File Description | Document |
|---|-------------------------------|
| Upload any additional information | View Document |
| Paste 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. Administration****2. Finance and Accounts**

3.Student Admission and Support**4.Examination**

Response: A. All of the above

| File Description | Document |
|--|-------------------------------|
| Screen shots of user interfaces | View Document |
| Institutional data in prescribed format(Data template) | View Document |
| ERP (Enterprise Resource Planning) Document | View Document |

6.3 Faculty Empowerment Strategies**6.3.1 The institution has effective welfare measures for teaching and non-teaching staff**

Response:

Welfare Schemes for teaching and non-teaching staff:

- EPF contribution by management.
- Availability of Casual, Special Casual Leaves in a calendar year.
- Provision for CCLs, ELs and summer vacation.
- Commuted leave facility of 20 half days (= 10 full days) per year on medical grounds.
- Maternity Leave.
- Subsidized transport facility for the staff.
- Accidental Insurance policy for the staff.
- Institution organizes refresher courses, FDPs and workshops for teaching staff.
- Institution conducts training programs on IT enabled skills and soft skills for non-teaching staff.
- Best teacher awards to encourage teaching staff.
- ESI-facility for all eligible staff.
- Festival Advance for non-teaching staff.
- Cafeteria facility
- Sports and gymnasium facilities for staff
- The institution organizes health awareness camps and free health checkups.
- A health clinic and ambulance facilities.
- Partial reimbursement of health insurance policy premium.

Professional growth welfare schemes:

- Financial Support for attending FDP, Refresher courses, workshops and for publications in journals & conferences, NPTEL courses etc.,
- Financial assistance for Professional body memberships.
- OD for attending conferences, seminars, FDPs and research work.

| File Description | Document |
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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: 90.35

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 170 | 103 | 91 | 97 | 67 |

| File Description | Document |
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| Upload any additional information | View Document |
| Institutional data in prescribed format(Data template) | 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: 19

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 20 | 24 | 18 | 20 | 13 |

| File Description | Document |
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| Upload any additional information | View Document |
| Institutional data in prescribed format(Data template) | View Document |

6.3.4 Average percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation /

Induction Programmes, Refresher Course, Short Term Course).**Response:** 48.77**6.3.4.1 Total number of teachers attending professional development Programmes viz., Orientation / Induction Programme, Refresher Course, Short Term Course year-wise during the last five years**

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 92 | 69 | 52 | 40 | 32 |

| File Description | Document |
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| Upload any additional information | View Document |
| IQAC report summary | View Document |
| Institutional data in prescribed format(Data template) | View Document |

6.3.5 Institutions Performance Appraisal System for teaching and non-teaching staff**Response:**

The Institution has a practice of assessing the performance of the faculty through online Annual Faculty Appraisal system.

Annual Faculty Appraisal Form:**Teaching Staff:**

The annual faculty appraisal form is a self-assessment report submitted by the faculty, verified by the HOD and forwarded to the principal.

The faculty performance appraisal form consists of two parts.

Part - I

- Professional details of faculty member.
- Information about teaching load.
- Details of project works guided; FDP's/ Seminars/ workshops attended/organised, administrative works carried out.

Part -II

The quantitative assessment:

- Instructional related parameters
- Participation in departmental and student activities
- Contributions to Research publications and Consultancy works.
- Student feedback
- Result analysis
- The self-appraisal form is submitted by the faculty at the end of each academic year.
- The self-appraisal form is verified by HOD and a report is submitted to the principal.
- A review committee comprising of Principal, Vice Principal, HOD, and two senior faculties review the appraisal report.
- The committee interacts with individual faculty to suggest and guide them for improvement in performance. Based on the observations, the review committee also recommends a list of suggestions to be implemented by individual faculty through an advisory note.

Non-Teaching Staff:

The institution has a practice of assessing the performance of non-teaching staff and administrative staff through a self-appraisal form based on the works assigned.

The performance appraisal form of technical supporting staff consists of the following parameters.

- Workload
- Academic Duties
- Training courses attended

The performance appraisal form of administrative staff consists of the following parameters.

- Details of works allotted
- Training courses attended
- Participation in additional duties

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

The Principal of the college is the disbursement officer for making payment of Salaries, Infrastructure augmentation and Academic facilities & Physical facilities etc. The financial committee of the college oversees the internal and reviews the finding of the external financial audit procedures.

Internal Audit:

The Internal financial Audit Committee conducts audit in the following areas:

1. Audit of Financial transactions and maintenance of books of accounts in the Accounts Section.
2. Monitors the physical verification of stocks in the Departments and Library.

The Internal financial Audit team monitors the accounting systems, policies, procedures, budgets and methods of accounting of the various transactions as per norms stipulated by the nodal agencies of state Govt. and Central Govt. bodies.

They adapt the methods of verification to detect revenue leakages, any misuse of financial resources, diversion of funds, deviation of procedures etc.

They verify fee challans, payment vouchers, purchase orders, Principal's approval for the payments made, budget coverage, bills and delivery challans, stock entry registers, cash book and ledger and subsidiary ledgers and other documents as required for the audit.

They conduct physical verification of cash and bank receipts of fixed deposits etc. periodically and physical verification of asset items in the Departments and in the college.

Statutory Audit:

Every year college accounts are being audited by Statutory Auditors appointed by Governing Body of the sponsored society. After completion of Audit, statutory auditors will prepare Balance Sheet, Income & Expenditure, Receipts & Payments of the college and express their opinion through Auditor's report.

Statutory auditors mainly focus on the following documents for the audit purpose.

1. Delegation of financial powers
2. Bank statements and certificates.
3. Previous years Audit Report, Auditor's remarks, and observations.
4. Budget, cash flow statements, Govt. Orders for fixation of fee, reports of physical verification of asset items.
5. Policies, Procedures, and methods adopted by Accounts Section for collection of fee and payments made and recording transactions in the books of accounts.
6. Reports of Internal Auditors.

The auditors will mention free and fair view of the college in their audit reports.

| File Description | Document |
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| Upload any additional information | View Document |

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

Response: 3.98

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

| 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 |
|---------|---------|---------|---------|---------|
| 0.87 | 1.11 | 0.5 | 0.525 | 0.975 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format(Data template) | View Document |

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

Response:

Strategies for mobilisation of funds:

The strategies followed for mobilization of funds is as follows:

- Collection of student fee through e-collect based on norms of Telangana State Higher Education [TSCHE].
- Interest earned from fixed deposits
- Grants received from MHRD (UBA)
- Sponsorship received from AICTE for STTPs
- Sponsorship from private organization
- Revenue generated from state & National level examination conduct in the campus.
- Internal revenues generated from consultancy works.
- Amounts received from alumni, philanthropists, and other stakeholders for organizing tech fest, student's research, and project activities.
- Grants and sponsorships from various organizations including Professional Bodies to conduct various Symposiums, Seminars, National and International Conferences and other similar activities.

Strategies for Optimal utilization of resources:

Majorly, the funds are utilized under following categories:

- Salaries of teaching and non-teaching staff
- Purchase of Equipment and Infrastructure
- Research and Development
- Faculty and student development Activities (FDP, Workshops, Conferences, Tech-fest, training programs, organizing Co-curricular and Extra –curricular activities)
- Maintenance of Infrastructure

The optimal utilization of financial resources is achieved through financial committee at Management level,

College Academic Committee and Department Advisory Committee, Program Assessment Committee.

- The internal and external audit is performed regular/periodically to make sure that the budget is optimally utilized for the purpose it is intended.
- The expenses are utilized based on the budget approvals.
- All purchases are made through quotations, comparative statements and negotiations for procurement of capital equipment and Infrastructure facilities.
- Monthly statements are prepared for income and expenditure based on approval by the Managing Committee/ Board of Governors.

| File Description | Document |
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| Upload any 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:

An Internal Quality Assurance Cell was constituted in the year 2015 as the directions of UGC to initialize the quality assurance strategies and processes.

The college oversee the quality assurance with the help of following committee:

- College Academic Council (CAC)
- Department Advisory Committee (DAC)
- Program assessment Committee (PAC)
- Academic Audit Committee (AAC)
- Evaluation and Result Analysis Committee (RAC)
- Student Interaction Committee (SIC)

Initiatives for quality assurance are as follows:

- Implementation of OBE
- Defining COs, PSOs , CO & PO attainments and strategies for improvement
- Implementation of CBCS from AY: 2016-17
- Implementation of AICTE model curriculum in AY:2018-19
- Evaluation & assessment process of CIE.
- Usage of ICT tools for better Teaching – Learning Process.
- State of art equipment
- Strengthening Student Mentoring System
- Introduce Biometric attendance system for Students, Teaching, and non-teaching staff
- Participation in NIRF,ARIIA, Career 360°, Times Higher Education etc., for ranking process.
- 3.5 star achieved for Institution Innovation Cell (IIC)

- Establishment of MSME Business incubation center.
- Industry & Institution collaboration cell to promote interaction
- Faculty and students certifications in MOOCs courses.
- Review the Placement and career guidance activities.
- Faculty participation in FDPs, Workshops, STTPs to enrich their knowledge in advance technologies.

Best Practice-1: Student Mentoring System

The IQAC implemented an effective student mentoring system in the institution. The students are mentored by faculty members on aspects related to academics, profession, career and all round development from first year onwards. A complete track record of the student's activities like academic, curricular, co-Curricular, extra-curricular achievements, social activities and also the details of parent meeting are maintained by faculty members, appointed as counselors or mentors. Each mentor is allotted with 15 students. Mentoring activity starts with identifying bright and weak students by their previous achievements and records. The mentor will counsel the students at least twice in a semester. This system develops an interaction between students, mentor, and parents. After the implementation of mentoring system, considerable improvement is observed in attendance, academic results and students undergoing training for placement.

Best Practice-2: Promoting Technology Enhanced Learning

For promoting technology enhanced learning experiences of the students and staff, IQAC has initiated the process of enrolment into MOOCs (Massive Open Online Courses)

- The institution has started NPTEL Local Chapter in Jul-2016 and appointed Institute Coordinator (Single Point of Contact (SPOC)). As a result, 254 certifications were achieved by faculty & students in last four years.
- In the Covid pandemic, institute has procured four campus licenses of Coursera for continuous learning for the students & faculty. As a result, 978 Courses were completed by faculty & students in the year 2019-20.
- The Institution is associated with Spoken-Tutorial, IIT Bombay remote center, ISRO, e yantra, CISCO, Oracle academy. II, III, & IV years students of Civil, Mechanical, and ECE CSE and EEE departments are benefited from above linkages.

| File Description | Document |
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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 and recorded the incremental improvement in various activities (For first cycle - Incremental improvements made for the preceding five years with regard to quality For second and subsequent cycles - Incremental improvements made for the preceding five years with regard to quality and post accreditation

quality initiatives)

Response:

IQAC regularly reviews the teaching learning process, its methodologies, operations, and learning outcomes. Two examples of institutional reviews and implementation of teaching learning reforms are:

1. Skill Upgradation:

Methodologies of Operations of skill upgradation in teaching learning process:

IQAC initiated to collect the feedback from the stakeholders of the institute. Based on the stakeholder's input IQAC reviews and finds gaps in teaching learning process.

Identified gaps namely value-added courses, skill development courses, MOOC certification courses and improvement in industry interaction to facilitate internships and design projects. Based on the IQAC recommendations, HODs & training placement Committee identifies the resources to meet the gaps identified by the IQAC.

These gaps are filled by conducting value-added courses to enhance knowledge in thrust areas. Skill development courses such as communication skills, soft skills and technical skills are introduced from third semester students in collaboration with various organizations viz. FACE, TIME, Oracle Academy, Codetantra, AMCAT, CISCO, Reference globe, valmiki consultancy etc., to improve placement opportunities.

Students are enrolled for MOOC certification courses from NPTEL and Coursera to learn the current trends in technology.

To enrich the student's industrial exposure and practical knowledge, students are encouraged to undergo internships, mini and major projects at various Govt. and Pvt. Organizations like DRDO, RCI, BHEL, BDL, ECIL, ETDC, TSSPDL, NTPC, TATA projects, CISCO, ISRO, TCS, NAIR, INCOIS, Quality Photonics, Texas Instruments.

Learning outcomes:

Students are trained according to the industry expectations, improving employability skills and PO attainments of all the programs.

2. Implementation of Outcome-Based Education (OBE):

Methodologies of Operations of Implementation of Outcome-Based Education (OBE) in teaching learning process:

The institute switched over to outcome-based education and prepared course outcomes, program outcomes, program specific outcomes and programme educational objectives for all the programs. Each CO may lead to attainment of one or more Program Outcomes (POs) or Program Specific Outcomes (PSOs). The attainments of the students in a course at different assessments are inputs COs to questions mapping and CO/PO/PSO mappings on a 0-3 scale with 0 as no mapping and 3 as tightly mapped. Based on the previous

results & attainments faculty decides the target that should be achieved for each CO. If the students attain the target level for two consecutive times, the CO target value will be increased based on the suggestion given by IQAC. Course Attainment computations are made for each course at the end of the semester and the Program Outcomes are mapped and evaluated.

Learning Outcome:

These assessments are useful for offering the course with necessary improvements as required for the next semester. The Course end feedback and program exit feedback are collected from the students and the corrective actions are initiated to improve the course content, the delivery mechanism, and the evaluation system.

| File Description | Document |
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| Upload any additional information | View Document |

6.5.3 Quality assurance initiatives of the institution include:

- 1. Regular meeting of Internal Quality Assurance Cell (IQAC); Feedback collected, analysed and used for improvements**
- 2. Collaborative quality initiatives with other institution(s)**
- 3. Participation in NIRF**
- 4. any other quality audit recognized by state, national or international agencies (ISO Certification, NBA)**

Response: A. All of the above

| File Description | Document |
|--|-------------------------------|
| Upload e-copies of the accreditations and certifications | View Document |
| Institutional data in prescribed format(Data template) | View Document |
| Paste web link of Annual reports of Institution | View Document |

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Measures initiated by the Institution for the promotion of gender equity during the last five years.

Response:

Gender equity & sensitization in curricular and co-curricular activities

- Gender equity & sensitization in curricular and co-curricular activities are initiated in college through various activities like debates, discussions, seminars, theatrical performances and other forms of arts.
- The IEEE student branch of MECS under WIE-AG (Women in Engineering Affinity group) celebrates Women's Day every year to facilitate the global inspiration, engagement and advancement of woman in technical disciplines, also hosted a program on "Awareness session on Women Health".
- A seminar was organized for faculty members and students by Science and Humanities department to bring out the awareness on the topic of gender sensitization. The college celebrates women centric festivals like Dandiya and Bathukamma (floral festival in Telangana) every year as a part of MCC (Matrusri Campus Connect) activities.
- Our curriculum has courses on Gender Sensitization and Human values and Ethics, to enable students to think away from fixed gender discriminatory rules of the society. Students have a look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities and understand the basic requirements for fulfillment of aspirations of every human being with their correct priority. Understand Harmony in the Family and Society and holistic perception of harmony at all levels of existence.
- Girls and female teachers participate in sports and games.

Facilities for Women:

1.Safety and Security

- The entire campus is under CCTV surveillance.
- An Internal Complaint Committee has been constituted to receive the complaints from girl students and to seek medical, police and legal intervention with the consent of the complainant.
- Anti ragging squad is maintained to ensure that no ragging takes place .
- A safe environment that is free of sexual harassment.
- An atmosphere promoting equality and gender justice.
- visitors log register is maintained and passes are provided to the visitors .
- Institute holds an exclusive health care centre with a Lady Doctor and an ambulance service on its hand.
- Extra security precautionary measures are taken when there are events beyond college hours.
- Organised a program in the collegewith SHE TEAM of Hyderabad city police for the girls to bring the awareness on self protection and an app"HAWK EYE" ,created by SHE TEAM was installed in the mobile phones of all the girl students and female faculty members.

2.Counseling

- Separate Counseling sessions are arranged for girls and a team of faculty is available for mentoring students with depression, psychological problems and even gender-related issues.
- Career development programs by experienced speakers are also conducted to guide and motivate.

3.Common Rooms

- Common rooms are available in each Academic block of the institution, which are equipped with tables, chairs, beds with linen, drinking water coolers and washrooms, exclusively for girl students and women employees.
- Sanitary towels are made available in the Health care center and Sanitary Incinerator is installed. Sick room is available with bedding facility.

Male, Female Strength:

The ratio of male to female staff is 2:1, average ratio of Boys and Girls in the college is also 2:1.

| File Description | Document |
|---|-------------------------------|
| Specific facilities provided for women in terms of: a. Safety and security b. Counselling c. Common Rooms d. Day care center for young children e. Any other relevant information | View Document |
| Annual gender sensitization action plan | View Document |

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures

- 1.Solar energy
- 2.Biogas plant
- 3.Wheeling to the Grid
- 4.Sensor-based energy conservation
- 5.Use of LED bulbs/ power efficient equipment

Response: A. 4 or All of the above

| File Description | Document |
|--------------------------------|-------------------------------|
| Geotagged Photographs | View Document |
| Any other relevant information | View Document |

7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)

- **Solid waste management**
- **Liquid waste management**
- **Biomedical waste management**
- **E-waste management**
- **Waste recycling system**
- **Hazardous chemicals and radioactive waste management**

Response:

Waste management includes the process of collection, transportation and disposal of garbage and sewage and other waste products. The college believes in creating awareness on environmental responsibility among its students, through various activities. Swachh Bharat Campaigns are organized every year by the students. Waste management is very important to maintain an ecofriendly campus.

Waste Management steps include:

- Solid waste management
- Liquid waste management
- E-waste management

Swachh Bharat Abhiyan (SBA) is a campaign in India started by Hon'ble Prime Minister which aims to maintain cleanliness everywhere. In response to this campaign MECS conducts frequent activities like cleaning of roads, awareness on proper waste management etc.

Solid waste management:

The solid waste on the campus is disposed off in a systematic way. Different dustbins are provided in the college at all department staff rooms, labs, library, at the entrance of every floor and at the canteen to collect the dry waste and wet waste. Cleaning or emptying the dustbins is done on a regular basis. The garbage and plastic waste, collected by our housekeeping personnel, are handed over to Municipal vehicle that visits the college regularly.

Liquid waste Management:

All waste water lines from toilets, bathrooms, kitchens, and laboratories are connected to the GHMC sewerage lines. The Hazardous Lab chemicals are diluted and stored in plastic containers, segregated by compatibility and are placed at safe place in the laboratory, away from the reach of the students. Waste water from the RO plant is being used for the purpose of gardening.

E-waste management:

Due to frequent advancement in the technology various electronic equipment/ products/gadgets tend to become obsolete and hence there is a need of E-waste management. The E-wastemanagement is as follows (i) disposing off of E-waste through an authorized agency to ensure proper recycling. (ii) Some of the computer peripherals are used for demonstration to the students.

| File Description | Document |
|---|-------------------------------|
| Geotagged photographs of the facilities | View Document |
| Relevant documents like agreements/MoUs with Government and other approved agencies | View Document |

7.1.4 Water conservation facilities available in the Institution:

1. Rain water harvesting
2. Borewell /Open well recharge
3. Construction of tanks and bunds
4. Waste water recycling
5. Maintenance of water bodies and distribution system in the campus

Response: A. Any 4 or all of the above

| File Description | Document |
|--|-------------------------------|
| Geotagged photographs / videos of the facilities | View Document |
| Any other relevant information | View Document |

7.1.5 Green campus initiatives include:

1. Restricted entry of automobiles
2. Use of Bicycles/ Battery powered vehicles
3. Pedestrian Friendly pathways
4. Ban on use of Plastic
5. Landscaping with trees and plants

Response: Any 4 or All of the above

| File Description | Document |
|---|-------------------------------|
| Geotagged photos / videos of the facilities | View Document |
| Any other relevant documents | View Document |

7.1.6 Quality audits on environment and energy regularly undertaken by the Institution and any awards received for such green campus initiatives:

1. Green audit
2. Energy audit
3. Environment audit
4. Clean and green campus recognitions / awards
5. Beyond the campus environmental promotion activities

Response: A. Any 4 or all of the above

| File Description | Document |
|---|-------------------------------|
| Reports on environment and energy audits submitted by the auditing agency | View Document |
| Certification by the auditing agency | View Document |
| Certificates of the awards received | View Document |
| Any other relevant information | View Document |

7.1.7 The Institution has disabled-friendly, barrier free environment

- 1. Built environment with ramps/lifts for easy access to classrooms.**
- 2. Disabled-friendly washrooms**
- 3. Signage including tactile path, lights, display boards and signposts**
- 4. Assistive technology and facilities for persons with disabilities (Divyangjan) accessible website, screen-reading software, mechanized equipment**
- 5. Provision for enquiry and information : Human assistance, reader, scribe, soft copies of reading material, screen reading**

Response: A. Any 4 or all of the above

| File Description | Document |
|--|-------------------------------|
| Policy documents and information brochures on the support to be provided | View Document |
| Geotagged photographs / videos of the facilities | View Document |

7.1.8 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).

Response:

Tolerance and harmony towards

Cultural Diversities:

The college establishes a good environment for the students to develop personality and behavior. Students are encouraged to form cultural clubs like Matrusri Campus Connect, Matrusri Dance Club, Matrusri Music Club, Matrusri Photography Club, Youth for Seva and Matrusri Heritage Club in order to make large number of students take part in the cultural activities. Every year the college celebrates traditional day and cultural fest with the intension of transferring experiences from generation to generation.

Regional Diversities:

The college promotes regionalism by celebrating regional festivals like Telangana Formation Day, Bathukamma, Bonalu, Sankranthi and Rangoli.

Students of Jammu & Kashmir and Ladakh have been allotted seats in Matrusri Engineering College every year by AICTE under “The Prime Minister's Special Scheme (PMSSS) “ to pursue various professional UG programs since 2016.

Linguistic Diversities:

Students are motivated to improve their linguistic skills by conducting various workshops, invited talks and guest lecturers by experienced people from NIT's and IIT's. The promotional events conducted are “Enhancing speaking skills in English-Invited Talk”, “Skill developmental program- English proficiency test”. A workshop on ‘pupil to professional’ on the importance of soft skills, psychometric tests has been conducted. Matrusri Orators Club, organizes JAM sessions, Group Discussions to improve the communication skills of the students.

Communal Diversities:

The college encourages the staff and students to improve their collective behavior by conducting various communal events like Dandiya , Rangoli ,Holi , Kite Festivals. Apart from these the college promotes events like Gogreen Ganesha , Ganesh Nimarjan, new year celebrations and Anuual Day Celebrations.

The students of various religions are allowed to go to religious places during working hours to perform prayers. The students are sanctioned optional leaves to celebrate the festivals like Onam, Boxing Day, Guru Gobind Singh's Birthday.

Socioeconomic and other diversities :

The college supports the students to improve the socio economic factor by organizing events such as “Building career path”, “Global Challenges and opportunities”, “Career Planning, Goal Setting, Habit formation, How to lead life, Moral values, Indian Culture”, “Motivation cum Personality Development”, which help them to improve their employability and entrepreneur skills.

| File Description | Document |
|--|-------------------------------|
| Any other relevant information. | View Document |
| Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution) | View Document |

7.1.9 Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).

Response:**Values:**

A seminar on “Teachings on Bhagavat Geetha for Excellence” is organized in collaboration with SamskrithiBharathi, Telangana.

Matrusri Campus Connect (MCC) conducts various programs on the occasion of Independence Day and Republic Day, some of them are

- Flag Hoisting. ...
- Skits
- VandeMataram Fest. ...
- Show a Patriotic Movie. ...
- Organize Independence Day Quiz. ...

Institution has the proud privilege in expressing the essence of Teachers’ Day by conducting few sports especially for the teachers like

- Football games.
- Carom competitions.
- Cricket.
- Basketball and events like singing, short videos, mimicry, lunch party with teachers.

Rights, duties and responsibilities:

Issues related to rights, duties and responsibilities are sensitized through various activities.

- A social organization called SATHYARDHAAN was established to extend helping hand to the needy. The impulsion of this organization is to pacify, the human suffering and all- round amelioration of society especially, the poor, the helpless and the weaker sections, involving the students making them aware of their social responsibility towards the society.
- Students participated in Rally for Rivers, a campaign crafted by Jaggi Vasudev of Isha Foundation to create mass awareness and garner public support for a government policy to save rivers.
- Swachh Bharat Abhiyan, is a country-wide campaign to eliminate open defecation and improve solid waste management, an initiative of the Government of India was organized.
- As a part of World AIDS DAY, Volunteers of MECS - NSS unit and students have taken part in campaign for bringing awareness about unity in the fight against HIV.
- Blood Donation camp was organized by NSS unit of MECS in association with Thalassemia and Sickle Cell Society.
- Students and staff members participated in 5K Walk organized by Hyderabad Traffic Police in bringing traffic awareness among citizens of Hyderabad.
- As a part of Anti Ragging campaign students have pledged against Ragging and organized awareness programs.
- Organized YOGA sessions on International Yoga Day and during induction program.
- As a part of International Volunteer Day, a seminar on “PERMACULTURE” an approach to land management and philosophy that adopts arrangements observed in flourishing natural ecosystems, was organized.

- As part of UNNAT BHARAT ABHIYAN, an MHRD initiative, institution adopted five villages viz., GaddaMallaiahGuda, Rangapur, Cheeded, Dadpally and Mondi Gourelly. Students and volunteers of NSS have distributed cloth bags, solar lanterns. Awareness programs are organized in these villages on waste and sewerage management.

| File Description | Document |
|--|-------------------------------|
| Any other relevant information | View Document |
| Details of activities that inculcate values; necessary to render students in to responsible citizens | View Document |

7.1.10 The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.

1. The Code of Conduct is displayed on the website
2. There is a committee to monitor adherence to the Code of Conduct
3. Institution organizes professional ethics programmes for students, teachers, administrators and other staff
4. Annual awareness programmes on Code of Conduct are organized

Response: A. All of the above

| File Description | Document |
|---|-------------------------------|
| Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programs etc., in support of the claims. | View Document |
| Code of ethics policy document | View Document |
| Any other relevant information | View Document |

7.1.11 Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).

Response:

Institution organizes national and international commemorative days, events and festivals.

Teachers Day: Students organize teacher's day and honor teachers. Conduct few sports especially for the teachers like

- Football games.
- Carom competitions.

- Cricket.
- Basketball and events like singing, short videos, mimicry, lunch party with teachers.

Engineers Day: Engineer's Day is celebrated on 15th September as a tribute to Bharat Ratna Shri M. Visvesvaraya, on his birth anniversary. Dr M. Visvesvaraya, father of Civil Engineering, was a great Engineer, Administrator, an Eminent Statesman, Educationalist & a Social Worker. On this occasion, students of MECS take up a socially relevant subject to sensitize the students towards their societal commitment and in the return help the society. Guest lectures by eminent speakers on "Role of Engineers in developing India" "Satellite Communication & Applications", "Recent Advances in Mechanical Engineering", "Mitigation of Road Accidents & Traffic Management Techniques" are organized. The events like 'Technical Rapid Fire' are conducted.

Women's Day: The students organize women's day celebrations to honor and respect the women staff in the college. Institution organised the women health program, the primary goal of the program was to reduce infant mortality and also the maternal mortality ratio. Guest lectures are organised on the issues related to women health and technical subjects.

Independence Day & Republic Day: Independence Day and Republic Day are celebrated by conducting the following programs

- Flag Hoisting
- Skits
- Vande Mataram Fest.
- Show a Patriotic Movie
- Independence Day & Republic day Quizzes
- Constitution awareness programs.

Yoga day: International Day of Yoga is observed on 21st June, to spread awareness about the importance and effects of Yoga on the health. The word 'Yoga' is derived from Sanskrit which means 'to join' or 'to unite'. MECS organizes the day in which all students and faculty participate in Yoga sessions.

Swami Vivekananda Birth Anniversary: Swami Vivekananda Birth Anniversary will be celebrated all over India and in different countries in the world on 12th January. MECS celebrates Swami Vivekananda Birth Anniversary. Organized Inspiring speeches by the president from Ramakrishna Math, Ascetic swamiji, Swami Bodhamayananda to spread the thoughts of Swamiji. Musical tribute to Swami Vivekananda was conducted by the Music club of MECS.

Annual awareness programs

Institution organizes Annual awareness programs on professional ethics for students, teachers, administrators and other staff. The institution offers a course on Essence of Indian Traditional Knowledge, Human Values and professional ethics, Gender sensitization, Environment Sciences Indian Constitution and Industrial psychology.

| File Description | Document |
|--|-------------------------------|
| Geotagged photographs of some of the events | View Document |
| Any other relevant information | View Document |
| Annual report of the celebrations and commemorative events for the last five years | View Document |

7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.

Response:

TITLE: MATRUSRI MAKERSPACE

Objective:

- Matrusri Makerspace is to create a centre of excellence where students and faculty can turn their ideas into a working model.
- The centre facilitates hands-on learning with the necessary tools to explore their creativity in multidisciplinary areas.
- It is a platform for students to work in a collaborative spirit and build prototypes from academic projects.

Context:

In recent times, there is paradigm shift in the way innovative solutions are being implemented for various challenging problems by teams consisting of experts from multi-disciplinary background. This facility is created to encourage experiential learning and experimentation using any combination of art and technology. The centre aims to bridge the gap between academia and industry and promote research-based activities. Matrusri Maker Space provides the environment for tinkering and innovation to build a culture of team spirit, entrepreneurship, and multidisciplinary partnership.

Practice:

- Matrusri Makerspace provides the right kind of environment for ideation, collaborative learning and converting the conceptual ideas into prototypes or working models.
- The centre is equipped with latest computer systems and software for carrying out the preliminary activities of design, simulation and analysis. The necessary tools and equipment like 3Dprinter, CNC turning and milling machine, wood turning lathe, electrical and electronic workstations are provided to develop prototypes and working models.
- The hub provides the right kind of ambience and resources for brain storming, group discussion and presentation sessions.
- Students utilize the facilities at Matrusri Makerspace to participate in various state and national level events like Electric Two -Wheeler Design Competition, Electric Solar Vehicle Championship,

Go-Kart and Efficycle design competition, Project Expo, SAEISS Tier I, Tier II, Tier III events, Smart India Hackathon, Sadhya2K - a college level technical fest and Unnat Bharat Abhiyan.

- All the activities are conducted under the able guidance and support of well experienced faculty. Mentors and Jury from industry and academia are invited for further improvements.
- Regular interactions with entrepreneurs and alumni are arranged by conducting guest lectures and seminars to create awareness on the latest technological advancements and industry needs.

Evidence of Success

- Team Vayuputra from Mechanical Engineering Department secured second place in Telangana State in Efficycle virtual round competition conducted by LPU SAE Northern division during 2019-20 academic year.
- Team Apollo from Mechanical Engineering Department secured second place in Telangana State and 14th All India rank in Go-Kart virtual round competition conducted by LPU SAE Northern division during 2019-20 academic year.
- Team Hacksters have reached the Grand Finale of Smart India Hackathon 2020-software edition and had an opportunity to interact with the Prime Minister of India Mr. Narendra Modi.
- Team secured 2nd ranking at National Level in Electric Solar Vehicle Design Competition conducted by SAE and held at Bhimavaram, AP during 2017-18.
- Students have secured First prize in Material Identification, Second prize in M-CAD and Third prize in Reverse Engineering events at SAE TIER II events conducted in 2019-20 academic year.
- Students have secured ETWDC All India Ranking of 11th in Electric Two-Wheeler Design Competition held at BAIT, Sathyamangalam, Tamilnadu during 2019-20.
- Students have developed prototypes and working models for their academic projects and one of the projects received funding from IE(I) Hyderabad division.

Problems encountered

- To identify the societal problems and develop technically feasible and financially viable solutions for patenting and commercial usage.
- Well experienced trainers to impart necessary training to the students on latest software and hardware.
- Motivating students to utilize the facilities available in Matrusri Makerspace is a big challenge.
- A big change in the mindset among students is needed from the traditional learning methods of classroom education to a more practical oriented system.
- Infrastructure for reverse engineering, high end instrumentation for testing the prototypes.

TITLE: Simulated Learning Environment for Laboratory Experiments

Objective:

- To provide a complete Learning Management System around the Virtual Laboratories where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.
- To provide unique opportunity to enhance the quality of engineering education by providing adequate practical skills.

- To provide a remote access to Labs in various disciplines of Science and Engineering.

Context:

- Technological advances have created new possibilities in education, requiring the development of new pedagogical practices that contribute to the process of teaching and learning.
- Virtual labs are virtual environments that are designed for various experiments; through them the real time laboratory experiments can be simulated to link the practical applications with the theoretical concepts.
- Provide a platform for the students to practice beyond syllabus experiments through remote access.
- Access to compilers and code editors embedded in HTML pages, which enable learners to write, edit and run the code easily within eLearning course.

The Practice:

- Faculty are imparting training to students on performing experiments on virtual laboratories.
- During extensive usage of Virtual Labs MECS is indirectly supporting IIIT Hyderabad and evaluating performance of experiments & debugging activities.
- On an average around 500 experiments per semester were practised by students across all branches of engineering related to curriculum
- Faculty coordinators are identifying some experiments beyond curriculum and the same is explained to the students for further practice virtually.
- Virtual Labs are made more effective and realistic by providing additional inputs to the students like accompanying audio and video streaming of an actual lab experiments and equipments too.
- As the International Institute of Information Technology- Hyderabad (IIIT H), identified MECS as a nodal centre for virtual labs, periodical reports are submitted to IIITH on utilization of virtual labs.
- After successful implementation of experiments in Virtual Labs, students are evaluated by assigning tasks.
- With the continuous commitment towards implementation of virtual lab by faculty and students, IIIT Hyderabad, as recognised MECS as Nodal centre for Virtual Labs.

Evidence of Success:

- International Institute of Information Technology-(IIIT), Hyderabad, identified MECS as nodal centre for development of virtual labs and an MOU is signed in this regard in the year 2018.
- Faculty are trained by IIIT Hyderabad on virtual labs.
- During extensive usage of Virtual Labs MECS is indirectly supporting IIIT Hyderabad and evaluating performance of experiments & debugging activities too.
- More than 10,000 experiments were practised by the faculty and students so far and submitted report to IIIT Hyderabad.
- Skills acquired by the students of MECS after implementing experimental concepts are used to develop Mini Projects.
- Supporting technical staff also got an opportunity to practice advanced experiments virtually.
- Students can access a realistic virtual lab from their devices anytime and anywhere- this helped tremendously during recent online learning requirements.
- Periodically usage report of Virtual labs is submitted by the College to IIIT Hyderabad.

Problems Encountered:

- While students are practicing experiments related to content beyond syllabus additional resources are to be provided especially in the case of interdisciplinary courses.
- Internet and networking issues are faced by students in remote areas to access Virtual labs content.
- In some experiments notations used by online tools are not the same ones that the student studies in theory classes.

| File Description | Document |
|--|-------------------------------|
| Best practices in the Institutional web site | View Document |

7.3 Institutional Distinctiveness**7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words****Response:**

TITLE: To make the students focus on understanding values, nurturing skills and moving towards knowledge by way of e-Teaching and Learning.

The holistic perspective of the college is to make the students focus on understanding values, nurturing skills and moving towards knowledge.

Matrusri Campus Connect (MCC):

The college has started MCC, working with the motto of bridging the gap between the teachers and the students. This organization spurs up the social intelligence and responsibilities by conducting various philanthropic, social and ethnic activities. Some of which are like:

- Orientation Day for first year students
- Independence Day
- Cleanliness,
- Green environment & tree plantation,
- Gender sensitization,
- Traffic rule awareness,
- Ganesh Nimarjan
- Janmashtami celebrations

Vivekananda Institute of Human Excellence: Vivekananda Yuva Kendra (VYK), a branch of Vivekananda Institute of Human Excellence was inaugurated on February 22, 2016 at Matrusri

Engineering College. The chief guest for the program was Sri Swami BhodhamayanandaJi, Director VIHE, R K Math, Hyderabad. The main aim of establishing VYK was to instill faith among the students and impart noble values of life raising them to higher levels of maturity with spiritual, moral, and eternal values of personality development and human excellence. Many seminars, guest lectures by eminent personalities, FDPs and celebrations such as Gurupurnima, National Youth Day, etc were also organized by VYK in this endeavour.

Youth for seva:

Rally for Rivers: Students of MEC participated in a program called, “Rally for Rivers”, a comprehensive solution to save Indian rivers and to raise awareness about the existing environmental issues in India..

Street Cause: It is a Non Government Organization. As a part of this, an event, “Run for a Cause Series”, was conducted educating the students of government schools on hygiene and making the students aware of the importance of education.

Sathyardhaan: Matrusri engineering college has started a social organization called Sathyardhaan which literally means helping hand to the needy. The college takes pride in announcing that there are around four hundred members of this organization. Implementing the purpose of the organization, amount collected was donated to a four year old cancer kid who was undergoing treatment at “Basavatarakam Indo American Cancer Hospital”.

Few volunteers along with the faculty went to the Government Blind School located at Malakpet. The team distributed the food supplies and general items to the students and chairs to the school. The team also encouraged SAY NO TO PLASTIC USE in the program.

e-Yantra: Matrusri Engineering College is keen on nurturing its students technically and transforming them into innovators and young entrepreneurs. The college has established Robotics Lab with the help of e-Yantra lab Setup Initiative (eLSI), MHRD IIT Bombay on 3rd Jan 2020. The motive of engaging with e-Yantra is to empower the students with innovative and entrepreneurial skills, to design program robots to various applications.

CISCO Networking Academy: The concept of education cannot be confined to what happens in the classrooms. Regular practice of our college adopting innovative teaching has captivated CISCO Networking Academy attention.

CISCO offered

1. IT Essentials

2. CCNA

3. Cyber Security Essentials.

And under this program, 461 students from II, III & IV years of our college have been qualified and received certificates from CISCO NETWORKING ACADEMY.

Code tantra: College prepares its students for life-long learning. Implementing this, college is associated with Code Tantra, a government of India recognized startup. The students are trained with C/C++ Programming, Python, Data structures, JAVA courses. The features of the platform include curriculum management, controllable at individual level, rich online course authoring & design with support for rich media, animations, etc. From the time of its association with Code tantra, all the students of I, II, III,IV year students are trained in different platforms like C,C++,JAVA.

Free Book Bank: Free books are provided for under privileged students, specially for SC&ST students (the recipients of scholarships from Telangana govt) to support them in having uninterrupted learning, inturn contending as a service to the society by providing scope for poor students' education.

Winnou, an Eduportal: College has set up Winnou, an Edu portal to supervise every detail of both the students and the faculty related to admission, attendance, sessional and final marks, faculty-wise feedback, class-wise feedback and to share study material with the students. Google Class Room is used extensively by the faculty to take online classes, to share study material, to conduct exams online. Every teacher in the college has own Blog where, he/she shares his/her thoughts, study material and discuss subject related issues.

The Spoken Tutorial: Facilitating the self-learning process of its students, our college is associated with a Knowledge Partner Spoken-Tutorial, IIT Bombay which strongly aims at spreading IT literacy all over India. The Spoken Tutorial Project is about teaching and learning a particular FOSS (Free and Open Source Software) like Linux, Scilab, LaTeX, PHP & MySQL, Java, C/C++, Libre Office etc. via an easy Video tool - Spoken Tutorials Google award winning MOOC. Under this program 573 students from II, III & IV years of our college have qualified and received certificates from IIT Bombay.

Coursera : A platform, launched as a global effort to assist colleges and universities to deliver courseware online. From April till now, five hundred and eighty-eight students including the faculty have enrolled and received their certificates and also taken part in guided projects, an update in Coursera. Progressing swiftly, the college has signed an MOU with Coursera and procured 300 Licenses for the second and third year students to continue their learning through Coursera.

Accelerating to further level, the college takes pride in sharing that it has procured additionally four Campus Licenses from Coursera for the students & Faculty for the A.Y 2020-2021 to continue their learning through Coursera.

The highly motivated youngsters on the campus are a constant source of pride who are relentlessly bringing laurels to the institution by bagging university ranks. Matrusri Education Society takes the opportunity of felicitating them by offering financial benefits in the form of cash prizes..

In just a span of a decade the college exemplifies a commendable setting for technical and professional e-learning.

| File Description | Document |
|--|-------------------------------|
| Appropriate web in the Institutional website | View Document |

5. CONCLUSION

Additional Information :

- 5 departments were Accredited by National Board of Accreditation (NBA).
- Institution is recognized under UGC 2f.
- Affiliated to Osmania University, Hyderabad.
- Every year students secure University Ranks.
- The institution had been graded with AAA+ by Carrier 360.
- 3.5 star rating in MHRD-IIC.
- Recognized under UBA, Swach Bharat Aayan.
- Established Business Incubation Center through MSME.
- Well-equipped laboratories, state-of-the-art digital library, smart classrooms, seminar halls for effective teaching-learning.
- 53 active MOUs linked with Industry, IITs and NITs.
- Active professional bodies in each department like- IEEE, CSI, ASME, SAE, IETE, ISTE etc.

Concluding Remarks :

With a vision of becoming a premier institution in technical education, the institution is committed to quality in teaching-learning process, infrastructure facilities and qualified faculty members. The uniqueness and the success of the institution made it as one of the top notch institutions for admission in Telangana state. The institution encourages faculty members and students in enriching their knowledge to the latest trends in technology by organizing various technical events. Extension activities under UBA, Swach Bharat, NSS and NCC are organized to sensitize the students to social issues, gender issues and for their holistic development.

The prestigious NAAC accreditation will be a breakthrough as well as bolstering in accelerating our growth towards achieving engineering excellence.