



SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

MOUNT ZION COLLEGE OF ENGINEERING- KADAMMANITTA

**MOUNT ZION COLLEGE OF ENGINEERING ANTHYALANKAVU P.O.
KADAMMANITTA, PATHANAMTHITTA**

689649

www.mzce.ac.in

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NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Mount Zion Group of institutions has been set by its patrons in the year 2001 with a passion to provide value based superior quality professional education to the young generation and is managed by the Charitable Educational and Welfare Society (Reg.No. Q 378/83) incorporated in 1983.

Mount Zion College of Engineering, established in 2001, has been active on academic as well as non-academic front since its inception. The Institute is affiliated to APJ Abdul Kalam Technological University (initially Kerala Technological University), a State Government University which has come into existence on May 21, 2014 with an aim to give leadership to the technology related policy formulation and Engineering Planning for the State. It also emphasizes to improve the academic standards of the Graduate, Post Graduate and Research Programmes in Engineering Science, Technology and Management and regulate the academic standards of all colleges affiliated to the University.

The college has carved a niche for itself in diverse domains such as Engineering Technology, Information Technology, Business Management, Aviation Industry etc. The campus, spread over 10 acres provides a panoramic view of the valleys in all its splendor. The nearby towns Kozhencherry, Pathanamthitta and Ranni are each at a distance of 10 kms away. The nearest railhead Chengannur is 25 kms away. About 600 young, energetic, vibrant and budding professionals are pursuing knowledge in their areas of specialization through these programmes in the campus. To provide better practical training, all departments have well equipped labs. Our mission is enabling the young generation to meet the challenges of the futuristic society by equipping them with the technological skills, sustainable values and everlasting ethos.

As a professional educational institution, Mount Zion College of Engineering has always strived to educate engineers and management professionals to the next level through innovative activities. Scholars from all over Kerala and abroad seek admission here because of its well experienced faculty, separate hostel facility for ladies and gents and apt learning environment. MZCE trains undergraduate engineers in six disciplines and conducts four post graduate courses including MBA.

MZCE has an excellent team of faculty, well-experienced, committed and devoted in imparting holistic training as to make students industry ready. It has state of the art infrastructure with an area of 15503 sq.m in a sprawling campus of 10 acres with panoramic landscapes, well-planned class rooms, laboratories, workshops, updated library with latest national/international journals and e-journals, hostels, playgrounds and gymnasium on the pristine hillock.

Vision

“Moulding socially conscious Technocrats”

Mission

Enabling the young generation to meet the challenges of the futuristic society by equipping them with the technological skills, sustainable values and everlasting ethos.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- Our college is an approved and affiliated institution that adheres to the AICTE and APJAKTU standards and provides quality education.
- The Board of Management, Academic Council, and other authorities provide good governance through expertise and wisdom.
- An energetic management and young and dynamic staff ensure the quality of technical education.
- The College possesses excellent infrastructure facilities, including ICT-enabled classrooms, laboratories, library, transportation system, hostel, and other support facilities like Wi-Fi and Common Computing Centre.
- The college is providing good support for Co-curricular and Extracurricular activities.
- The institution certified with ISO 9001:2020
- Ecofriendly Campus
- Good learning environment.
- IQAC imparts quality experience to academic and non-academic activities.
- Institutional Commitment to developing community-oriented activities through NSS.
- Opportunity to showcase multiple skills and talents of students on campus through Arts Fest, Sports and games etc.
- Effective Statutory committees /cells for student grievance redressal.

Institutional Weakness

- The college is located in a rural area.
- The affiliated system imposes limits on academic freedom in colleges.

- The public transportation facilities are inadequate.
- No financial grants or any other sources for self-supporting colleges.

Institutional Opportunity

- Encouraging students for competitive examinations and higher studies.
- The alumni associations facilitate well-organised interactions between alumni.
- It is possible to conduct different add-on courses and training programs.
- MOU with Industries.
- Exposure to experts through webinars and invited talks.

Institutional Challenge

- Lack of awareness about the technical courses and future possibilities among the rural background students and their parents.
- Lack of communication skills among the rural background students.
- Attracting major companies to campus for placement due to remote geographical location from industries.
- To attract and retain expert faculty.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

The college has a clear vision for learning, research and extension and to be an instrument of change for peace, progress and prosperity for all. The college makes every effort to realize its mission of developing competent human resources through quality education, by creating innovative educational environments and promoting creativity to develop skilled human resources. College has 6 UG and 4 PG programs affiliated to APJ Abdul Kalam Technological University and follows the curriculum and academic policies prescribed by the University.

Before the commencement of classes, the institution held a meeting on the detailed curriculum and syllabus. Departments respectively conduct meetings on academic activities and set timetables for the semester. However, it is pertinent to mention that the college is supposed to teach the curricula designed by the affiliating university and the institute makes efforts for curriculum improvement through its representatives participating in boards of studies meetings who provide suggestions and inputs for revision of the syllabi in the respective Departments of the APJ Abdul Kalam Technological University. The College has a committee to look after the effective implementation and timely completion of prescribed syllabi in various disciplines.

Faculty members are often sent to attend the FDP Programmes, Seminars, Conferences, Workshop and training programs organized by other premier Institutions/Universities. The institute provides all infrastructures, teaching aids, computers labs, LCD projectors, etc. in order to ensure effective implementation and to adopt the best teaching practices in the classes. The Institute invites Industry experts and corporate managers to interact with faculty and students. To help the slow learners, the college arranges remedial measures.

There is a mechanism to obtain feedback from students and other stakeholders on the curriculum. It is placed before the members of the Academic Council. Suggestions from the council are communicated with the university.

Teaching-learning and Evaluation

The Teaching-Learning and Evaluation at MZCE ensures the professional qualities and results

that is necessary for students overall development. Admissions at MZCE are granted to students as per the regulation of AICTE, KTU and the Kerala Government. The First Year class begins with an Orientation Programme which initiates and prepares students to develop their curricular and extra-curricular skills. In synchronization with the KTU academic calendar, a semester plan is prepared and communicated to students and faculty members. Course plans are prepared by each faculty and approved by the respective HoD and Principal. The advanced and slow learners are identified through various assessment and observations. Separate care is given to such groups of students. Students are encouraged and supported to participate in various inter and intra technical events.

Faculties at MZCE are utilizing ICT enabled tools for effective Teaching Learning Process with sources from e-journal, e-books etc. In addition, software platforms like Google Meet, Google classroom, Canvas and Zoom are used in ICT. With the intention of improving the teaching learning process, students' feedback is taken twice in every semester.

Class Committee and Course Committees are formed with senior staff and student representatives to have review and suggestions about academic progression. Mentoring system is effectively maintained at MZCE. Students are assessed regularly through assignments, internal examinations, seminars etc. The Best Outgoing Student and Academic Performers are honored every year. Attainment of COs and POs help to provide Outcome Based Education successfully.

Research, Innovations and Extension

The institution is actively involved in extension activities to help society by its services. The college has unit of NSS and a contingent of NSS through which college renders social and community services. Besides organizing blood donation programs, environmental awareness programs is also conducting by the institution.

The college organizes workshops and sensitization programs to create research spirit among teachers and students. Some faculty members at individual level has got sanctioned projects and completed successfully. Many teachers in this college have published their research papers in National and International journals with good impact factors.

Infrastructure and Learning Resources

The Institution has an extensive campus spread over 10 acres of land with 15503 sq.m built-up area comprising modern buildings with ease of access to both students and faculty. The College has 33 classrooms with ICT facilities, 51 department laboratories, 4 common laboratories, common computing centre, conference rooms and guest rooms. It has internet facilities, separate hostels for men and women, solid waste incinerator, rain

water harvesting, solar powered light to create a learner-centric environment.

The College has 301 computers . The Institution has 5 seminar halls with a seating capacity of 100 pax. each, for conducting various programs.

The College library is housed in an area of 464.13 sq.m and uses an open source software called "KOHA". The College provides full-fledged internet and Wi-Fi network facility. The whole campus is under CCTV surveillance. The College has a multi purpose paly ground for cricket and football, separate courts for basketball, badminton and indoor games. Canteen, cafeterias and transportation facilities are provided. startup Incubation Centre (IEDC) is launched to enable entrepreneurial development among the students and also to incubate start-up companies in the campus.

Student Support and Progression

This Institute offers attractive scholarships in order to encourage meritorious student to participate in the learning program. It not only help students in monetary terms but also to motivate meritorious students to pursue their education in MZCE.

Facilitating mechanisms like guidance cell, placement cell, grievance redressal cell and student welfare measures to support students. Specially designed inputs are provided to the needy students with learning difficulties. Provision is made for bridge and value added courses in relevant areas. Institution has a well structured, organized guidance and counseling system in place. The Placement Cell is proactive and has organized several skill development, career guidance and campus drives to facilitate the placement of the students. The institution has the required infrastructure and promotes active participation of the students in social, cultural and leisure activities. Encouraging students' participation in activities facilitates developing various skills and competencies.

Student Council helps the administration in maintaining peace and harmony in the campus by helping the administration in smooth conduct of various academic and co-curricular activities. The committees working along with the management ensures coordination and effective working of various Professional Society Chapters and Clubs of the College such as IEDC,IEEE, and NSS.

An informal Alumni Association of MZCE was formed in 2007. The students formed the association with a view to maintain their warm bond with their campus. The Objectives of the Association is to provide a forum to establish a link between the alumni, staff and students of the institute.

Governance, Leadership and Management

The vision of the Mount Zion College of Engineering (MZCE) is to Moulding socially conscious Technocrats. Our institution goals are autonomy in all the pedagogical pursuits. We aim at the accomplishment of a great and ambitious dream to be fulfilled by creating history in the educational dispensation of the state through international reputation as a center offering world class contribution. The institution seeks to capture opportunities where students can experiment with their skills, proficiency, potential, expertise and enthusiasm for achieving personal growth in their career. Enhancement of the individual and collective proficiency of the students and the staff with respect to the collegiate, administrative, social and professional workmanship. Another objective is the collection, analytical experimentation and dissemination of intellectual insight

achieved through rigorous and aggressive exposure. Any institution exposed to activities involving public interests in any discipline requires effectiveness and efficiency in the various functionalities of its different bodies setup for the smooth discharge of the power, authority and responsibility delegated to them.

The Principal in association with the Governing body, staff and student council is proactively engaged to accomplish the vision and mission. Various committees headed by faculty are functioning in the Institute for the overall development of the Institution. Our institution has a very potential e-governance center from where each and every collegiate, pedagogical, academic, intellectual, administrative, managerial and personal and social activity is governed effectively and successfully there by reducing the monotonous and laborious human hours. The prime operational areas where implementation of e-governance has been launched are in administration finance and accounts, student admission and support and examination. The success of any educational dispensation depends primarily on the pedagogical competency of its faculty members. The academic and intellectual competency should be nurtured, enriched, and augmented by conducive personal and professional ambience. Faculty Empowerment programmes / General Welfare measures include, seminars and workshops on recent technologies. Faculty are eligible for availing casual leave, duty leave, group Insurance, PF, health services, free hostel accommodation are provided. The Institution has implemented Performance Appraisal System for teaching and nonteaching staff.

For financial management, annual budget is prepared for every academic year based on the requirements of each department. The Institution conducts internal and external audits every year. The income and expenditure of the Institution is audited regularly by registered chartered accountants on an annual basis. Internal Quality Assurance Cell (IQAC) that plays a proactive role in continuous improvement includes: Internal Academics Audit Team, Exam Cell, Internal exam Monitoring Committee, IIC and IEDC, Department Advisory Committee, Department quality assurance cell (DQAC), Research & Development Committee, Placement Cell, Student Disciplinary Committee, Feedback Committee, Grievance redressal committee. All these efforts help MZCE to accomplish the Vision, "Moulding socially conscious Technocrats".

Institutional Values and Best Practices

The Women Cell of the college has organised several women empowerment programmes and workshops for all students, teaching and non-teaching personnel as a part of gender sensitisation. Students who are confronted with challenging environments are specially taken care of by the counseling unit which addresses their issues sympathetically. Provision of separate common rooms for men and women is also provided.

The Institution has several alternate sources of energy and energy conservation measures like solar panel, bio-gas plant, and use of LED bulbs to ensure minimal dependence on external sources of energy.

Our college and management have launched a very effective system of managing two types of waste materials incurred within and without the campus, solid waste management and E-waste. Rainwater harvesting is done on campus. Water recharging systems are also available at the campus. The initiatives of the institute as a part of green campus includes restricted entry of automobiles, landscaping with trees and plants etc.

The Institution regularly undertakes Green Audit, Energy Audit and Environment for the past two years. The institution also maintains ramps, disable-friendly washrooms, wheel chair etc. in order to make the campus disabled friendly.

Students and employees at Mount Zion College of Engineering are educated about constitutional rights, duties,

and responsibilities so that they may carry out their duties as responsible citizens. Apart from this the college also has several best practices like Snehamrutham, Campus Hope, Widow Pension Scheme etc.

NAAC

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	MOUNT ZION COLLEGE OF ENGINEERING-KADAMMANITTA
Address	MOUNT ZION COLLEGE OF ENGINEERING ANTHYALANKAVU P.O. KADAMMANITTA,PATHANAMTHITTA
City	KADAMMANITTA
State	Kerala
Pin	689649
Website	www.mzce.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	A Sivasubramanian	0468-2216325	9188520541	0468-2217425	mzcengg@gmail.com
IQAC / CIQA coordinator	Rangit Varghese	0468-2217525	9447963458	-	rangitvarghese@gmail.com

Status of the Institution	
Institution Status	Private and Self Financing

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

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

Establishment Details	
Date of establishment of the college	13-07-2001

University to which the college is affiliated/ or which governs the college (if it is a constituent college)		
State	University name	Document
Kerala	A.P.J. Abdul Kalam Technological University	View Document

Details of UGC recognition		
Under Section	Date	View Document
2f of UGC		
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	25-06-2021	12	AICTE EoA

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?	No

Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	MOUNT ZION COLLEGE OF ENGINEERING ANTHYALANKAVU P.O. K ADAMMANITTA,PATHAN AMTHITTA	Rural	10	15503

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	BTech,Aero nautical Engineering	48	HSC or Diploma	English	30	18
UG	BTech,Applied Electronics And Instrumentation Engineering	48	HSC or Diploma	English	30	10
UG	BTech,Civil Engineering	48	HSC or Diploma	English	60	17
UG	BTech,Computer Science And Engineering	48	HSC or Diploma	English	60	36

UG	BTech,Electronics And Communication Engineering	48	HSC or Diploma	English	30	9
UG	BTech,Mechanical Engineering	48	HSC or Diploma	English	30	10
PG	Mtech,Computer Science And Engineering	24	BE or B.Tech	English	12	8
PG	Mtech,Communication Engineering	24	BE or B.Tech	English	12	2
PG	MCA,Master Of Computer Applications	24	Any degree with mathematics in plus two or Graduate Level	English	60	34
PG	MBA,Master Of Business Administration	24	Any degree	English	60	43

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	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	9				1				85			
Recruited	8	1	0	9	0	1	0	1	35	50	0	85
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				33
Recruited	18	15	0	33
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				11
Recruited	8	3	0	11
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/LLD	0	0	0	0	0	0	0	0	0	0
Ph.D.	4	1	0	0	0	0	0	0	0	5
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	4	0	0	0	1	0	50	35	0	90

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD	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/LLD	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
	0	0	0	0	0

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	98	4	198	0	300
	Female	49	1	48	0	98
	Others	0	0	0	0	0
PG	Male	45	0	0	0	45
	Female	109	2	0	0	111
	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	0	2	3	3
	Female	2	3	4	3
	Others	0	0	0	0
ST	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
OBC	Male	13	5	10	6
	Female	21	20	17	14
	Others	0	0	0	0
General	Male	85	79	85	101
	Female	64	48	45	80
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		185	157	164	207

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	As we are an affiliated institute, our curriculum is predetermined, and our options for multidisciplinary and interdisciplinary education are limited. Minors (2015 scheme) and Non-Departmental Electives (2019 scheme) have been added to the curriculum to encourage students to take a proactive approach to education by allowing them to choose their elective subject from outside their domain. Nevertheless, beyond the curriculum the efforts are being taken by way of seminars, webinars, workshops, projects etc. to give exposure to students outside their domain.
2. Academic bank of credits (ABC):	As of now, the Academic Bank of Credit system is not integrated into the curriculum and we do not have an option for a credit bank. But the students do have an option of gaining credit and additional credit points within the curriculum. Students pursuing a B.Tech degree can earn a total of 180 credits under the 2015 curriculum and 160 credits under the 2019 curriculum. In addition, 2 credits can be earned as part of the mandatory activity points, by way of participation in co-curricular, extracurricular activities, undergoing internships, undertaking MOOC courses etc. An additional 20 credits each can be obtained by choosing honors and minors during their graduation. Of which, they are liable to account 8 credits through MOOC courses such as NPTEL, Coursera, and SWAYAM. Apart from their main stream of education, knowledge imbibed through online and minors enriches their employability skills also. The modern era is driven by digital technology, and the internet and World Wide Web have influenced the entire globe. Being up to date on the latest techniques and technologically savvy allows the learner to be more career-focused.
3. Skill development:	We strive ahead with an objective to facilitate students in becoming more career-focused by developing their academic expertise as well as overall improvement in essential soft skills and interpersonal skills. MZCE primarily focus on fostering students' entire human personality by allowing them to participate meaningfully not only in their profession, but also in their family, society, and natural environment, ultimately leading to a just and equitable society. With the vision to involve professional and higher educational institutions in the development of rural areas in the country and to

	<p>achieve sustainable development and a better quality of life, various activities have been instigated. These initiatives aim to build and strengthen a strong institutional neighbourhood network with a vision of rural development. We have established links with two neighbouring villages such as Cherukole and Naranganam and adopted a tribal colony comprising 20 families in Laha, Pathanamthitta as part of rural development initiatives under Campus Hope. We have already taken the initiative to incorporate education on human values and several faculty members have already participated in the AICTE FDP on Universal Human Values in an endeavour to impart it to the students and is being done during the Student Induction Programmes. In 2022, we took the first step by joining the Kerala government's Additional Skill Acquisition Programme (ASAP), which aims to raise student awareness and bring them into the skill development ecosystem. ASAP bridges the gap between industry and academia by emphasising student employability and placement .</p>
<p>4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):</p>	<p>As an affiliated institution, we are obliged to strictly adhere to the curriculum's norms and regulations. University exams and the assessment procedures for students are in English. So, a mixed approach of both English and vernacular language is used for teaching and learning process. The combination of both languages enables students to comprehend their subject knowledge with the assistance of teachers. As our faculty members are from Kerala, students benefit more from the process of learning and unlearning. Apart from classroom learning, online education also allows them to expand their knowledge in both languages.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>Outcome-Based Education (OBE) framework is used to fix the outcomes expected from students at the end of the programme and also in their careers. Through a process of predefined evaluation, feedback, corrective measures, and continuous improvement, we optimize the student-centric teaching-learning process. MZCE initiatives align with NEP and OBE frameworks, which encourage students to be productive and contribute to nation building through their own innovations and contributions. We adhere to the OBE frame work, by evaluating both quantitatively and qualitatively the different predetermined outcomes such as course outcomes,</p>

programme outcomes and programme specific outcomes throughout the entire process. To establish the correlation between a CO to certain - POs and PSOs, the degree of closeness of each CO towards those POs and PSOs are identified. NEP enhances the educational system to recognize, identify and foster the individual students to mould them with required skill sets. We maximize curriculum flexibility by allowing students to choose courses within programmes based on their interests and abilities. But when under the university system, courses under any programme will be decided by the university with a little freedom of choice to students in the form of electives, seminars and projects. During from 2019 scheme onwards, the COs are already fixed by the university along with the syllabus of the course. Core curriculum encourages our students to take interdisciplinary courses in the Science, Humanities, Management, sustainable technologies, and environmental science knowledge, as well as core engineering subjects, which helps them to be more career oriented. Multidisciplinary and holistic approach develops critical thinking and creativity of students in various field. Outcomes in the OBE framework are attained not only through summative assessment methods, but also through a variety of other indirect methods. MZCE initiatives for internships, industrial visits, and other curriculum activities along with faculty contributions, are all aligned with the OBE and NEP framework. MZCE has dedicated software for Question paper analyser which helps the faculty members to analyse the Bloom's taxonomy levels of the questions prepared for Continuous Internal assessment.

6. Distance education/online education:

Due to Covid -19 pandemic, educational institutions in the country has increasingly been involved in using digital platforms for engaging classes, conducting conferences and meetings. Keeping aside the negative impact of lack of face-to-face learning, online education has broken the geographical barriers creating interaction of experts and students from distant geographies. After the initial chaos of the Covid pandemic, MZCE decided to resume the teaching/learning process remotely. As an initial step towards remote learning, it was decided to create digital learning resources, both textual and visual, for the course contents to continue the previous classes.

These course contents were communicated to the students through Google Classroom. The IQAC took care of the whole procedure, ensuring that all courses were assigned within Google Classroom and the entire students of the respective classes could access the learning resources. After posting the contents, teachers carried out discussion sessions with the students through different online conferencing platforms, including Google Meet, Zoom, etc. Student satisfaction on the remote teaching/learning process is evaluated, and corrections were made wherever necessary. Project guidance and evaluations, remedial classes, and mentoring sessions were also conducted through the online platforms. With a proper timetable, our college took the entire classes to run online and completed the studies and internal examination in the time frame advised by the university. Google Classrooms and Google Meets were made accessible by the heads of departments, and continuous monitoring is done to ensure the quality of course delivery. Periodic Class Committee Meetings helped to align the teaching/learning process with student needs. We encouraged students to do NPTEL courses as well

Extended Profile

1 Program

1.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
366	369	378	410	400
File Description		Document		
Institutional data prescribed format		View Document		

1.2

Number of programs offered year-wise for last five years

2020-21	2019-20	2018-19	2017-18	2016-17
10	10	10	10	10

2 Students

2.1

Number of students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
554	601	690	822	620
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

2020-21	2019-20	2018-19	2017-18	2016-17
167	172	172	215	215

File Description	Document
Institutional data in prescribed format	View Document

2.3

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

2020-21	2019-20	2018-19	2017-18	2016-17
140	172	191	262	214

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

2020-21	2019-20	2018-19	2017-18	2016-17
95	100	98	134	149

File Description	Document
Institutional data in prescribed format	View Document

3.2

Number of sanctioned posts year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
94	92	98	132	140

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)

2020-21	2019-20	2018-19	2017-18	2016-17
74.66	110.53	202.2	213.61	245.5

4.3

Number of Computers

Response: 270

NAAC

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:

Mount Zion College of Engineering, Kadammanitta, is affiliated to APJ Abdul Kalam Technological University, Thiruvananthapuram and ensures effective curriculum delivery through a well planned and documented process.

On the commencement of academic year, the following are being carried out:

- Effective implementation of curriculum delivery for Outcome Based Education is ensured by conducting a meeting of Head of Departments followed by subject allocation meeting in each department at the beginning of each semester. The Department Head assigns courses and workload to individual faculty members.
- During class committee meetings, the academic activities were discussed: coverage of subjects, coverage of lab experiments, selection of elective subjects, CO-PO, co-curricular activities, value added courses etc as per university academic calendar. Each semester administers three class committee meetings. For each meeting the Chairman presides over the discussion, Head of the Departments, subject staff and student representatives give suggestions and opinions on the academic activities.
- Course Committee is formed for the common subjects and a Course Coordinator is assigned for ensuring the attainment of course objectives, method and schedule of content delivery. The committee also decides the question paper selection set by the teachers from different departments.
- All the faculty members are advised to set question papers for internal examinations which have more logical, analytical reasoning and which also include more of case study questions. Every question paper is reviewed by the Question Paper Evaluation Committee which comprises senior faculty members of the department.
- Two internal examinations are held for every batch in each semester. The valued answer papers are promptly returned to the students with proper guidance for improvement.
- Remedial coaching is given to needy students in which under-achievers are given personal attention.
- Special classes are also arranged for the timely completion of the curriculum content.
- Course diary for all the courses are prepared by the faculty members in advance. These are reviewed by the HOD of the respective department.
- The course file contains the syllabus, lesson plan, content beyond the syllabus, previous year question paper, sample assessment papers, sample assignment copies and answer keys for Assessment test.
- UG/PG students are given seminars/assignments under the guidance of faculty members for testing their understanding of the subjects.
- Laboratory sessions assessment is based on performance, records of practical experiments, viva-voce, output, and final lab exam. The final lab examination is conducted in the presence of an

external examiner.

- The Progress of the project work is monitored and evaluated by the Project Coordination Committee at regular intervals and feedback is given in order to improve the quality of work.
- Innovative projects are recommended for publishing in conferences / journals.
- Industrial visits are conducted for UG and PG students in which they visit places and institutions of academic value.
- All documentation relating to the course content delivery is audited on a periodic basis by IQAC through Academic audit.

File Description	Document
Upload Additional information	View Document
Link for Additional information	View Document

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

Response:

MZCE consistently adheres to the academic calendar provided by APJKTU. The departmental activities are planned based on the academic calendar and directions from IQAC. They include seminars/workshops to enhance the knowledge of the students.

Features of our Educational System and academic flexibilities:

- Semester System
- Choice based credit system
- Continuous Internal Evaluation (CIE)

On the commencement of academic year

- Class committee meetings are conducted periodically for each class to ensure effective content delivery.
- Two internal examinations are conducted per semester for each subject as internal assessment.
- CIE question papers are created based on course outcomes and Bloom's taxonomy and they are authorized by the internal exam coordinator and Head of Departments.
- The faculty handling each course will evaluate the answer sheets based on the answer key as per the scheme. After each CIE, consolidated marks are submitted to the Principal through Department Heads. Students who were unable to take the internal examinations due to legitimate reasons are eligible for a retest. Remedial classes and assessments are conducted, which help students to raise their grades. Based on the Assessment test performance, slow learners are identified and special coaching is given to them.
- The academic evaluation comprises end-semester examination and internal assessment. For internal

evaluation, two exams are conducted per semester, student's final internal marks are computed using the average of both of these exams and assignments. As per Mahatma Gandhi University and APJKTU-2019 regulations, marks for attendance are also considered for internal marks of both UG and PG.

- In the third year, students may choose any design/mini-project under their discipline. This course is designed to inspire students to think creatively.
- Comprehensive Examination is evaluated based on written cum oral examination, covering all courses completed till the sixth semester.
- The seminar presentation is conducted in the seventh semester. Students must choose a topic based on current technology for the seminar and have to submit the seminar report. A departmental committee consisting of the Department Head, a coordinator, and a senior faculty member will assess it.
- Project work is divided into two stages: phase I in the seventh semester and phase II in the eighth semester. Each phase is evaluated separately. Students must present a project report at the end of each semester. The project will be evaluated by a departmental committee during the first phase. In project phase II, the committee additionally includes an external examiner.
- Effective learning is ensured through Hands on projects, Experimental learning and industry visits.
- E-learning resources such as NPTEL is utilized for improving the content delivery
- The IQAC Academic Audit is done every year to ensure the faultless functioning of all departments and other bodies in the college.
- Teachers are given charge of various activities and the Management keeps the proceedings under strict surveillance.

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

1.2 Academic Flexibility

<p>1.2.1 Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented</p> <p>Response: 100</p>														
<p>1.2.1.1 Number of Programmes in which CBCS / Elective course system implemented.</p> <p>Response: 10</p>														
File Description	Document													
Minutes of relevant Academic Council/ BOS meetings	View Document													
Institutional data in prescribed format	View Document													
Any additional information	View Document													
Link for Additional information	View Document													
<p>1.2.2 Number of Add on /Certificate programs offered during the last five years</p> <p>Response: 32</p>														
<p>1.2.2.1 How many Add on /Certificate programs are offered within the last 5 years.</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>5</td> <td>7</td> <td>6</td> <td>6</td> </tr> </tbody> </table>					2020-21	2019-20	2018-19	2017-18	2016-17	8	5	7	6	6
2020-21	2019-20	2018-19	2017-18	2016-17										
8	5	7	6	6										

File Description	Document
List of Add on /Certificate programs	View Document
Brochure or any other document relating to Add on /Certificate programs	View Document
Any additional information	View Document
Link for Additional information	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: 44.43

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

2020-21	2019-20	2018-19	2017-18	2016-17
276	218	317	355	291

File Description	Document
Details of the students enrolled in Subjects related to certificate/Add-on programs	View Document
Any additional information	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 curriculum of KTU addresses the cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability.

Professional Ethics:

- As per KTU regulation, the curriculum included papers/ subjects like **Life skills, Business Economics, Business Ethics and Corporate Governance** and so on to put forward ethics in the professional life of students. Institution conducts personality development classes each year.

Gender:

- College instructs students the importance of their existence and behavior to the society via seminars, meetings etc. Each year world women's day was conducted remembering every woman who impressed the world through their lives.
- Various committees such as Staff Welfare Committee, Students' Grievance Redressal Committee, Students' Counseling Center, Women's cell, Anti-Ragging Committee have been formed to ensure this equality.

Human values:

- An Induction program on Universal Human Values was conducted for the first year students during the academic year 2020-21.
- College actively operates two NSS units. Students energetically extend their helping hands to the needy during crises. They volunteered for flood relief activities, health center cleaning, blood donation camps, free medical camps and so on. Students volunteered the activities conducted for specially abled children and conducted games. The institution built a ramp at Computer Science block for physically challenged students and faculties.
- Each year on September 5, besides remembering the birthday of Dr. S. Radhakrishnan, students honor their faculties.

Environment and Sustainability:

- A course "**Introduction to Sustainable Engineering**" is introduced in the curriculum by the university to impart awareness to the students about sustainability. This course enables the student to understand the role and influence of engineering in environmental problems.
- The courses such as **Environmental Engineering, Environment Impact Assessment** etc help students to learn about the ecosystem and other environmental factors. The course includes the Scope & Nature of Environment Science, Natural Resources, Biodiversity, Pollution, Social Issues and Population and global warming and other related issues.
- College provides students a wonderful platform to mingle with each other and learn about extension activities. College conducts Environment Day every year, students and faculties sustain the green environment by planting saplings from the forest department. College also distributes saplings to students and faculties.
- Water, being an essential element to mankind and environment, college instructs students about the importance of conservation of water and practices rainwater harvesting. Mankind and nature are interconnected.
- Yoga plays a great role in human health mentally, physically and spiritually. College also provides yoga classes to students and faculties.
- College erected solar lamps thereby conserves electrical energy.

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
Any additional information	View Document

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

Response: 25.47

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

2020-21	2019-20	2018-19	2017-18	2016-17
96	92	94	108	100

File Description	Document
Programme / Curriculum/ Syllabus of the courses	View Document
MoU's with relevant organizations for these courses, if any Average percentage of courses that include experiential learning through project work/field work/internship	View Document
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	View Document
Any additional information	View Document

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

Response: 86.82

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

Response: 481

File Description	Document
List of programmes and number of students undertaking project work/field work/ /internships	View Document
Any additional information	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
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management (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
Upload any additional information	View Document
URL for feedback report	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average Enrolment percentage (Average of last five years)

Response: 42.71

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

2020-21	2019-20	2018-19	2017-18	2016-17
224	169	174	249	287

2.1.1.2 Number of sanctioned seats year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
456	468	468	588	588

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: 17.89

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

2020-21	2019-20	2018-19	2017-18	2016-17
36	30	34	26	40

File Description	Document
Average percentage of seats filled against seats reserved	View Document
Any additional information	View Document

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Response:

Advanced learners and slow learners identification

- The Institution identifies the advanced learners through their Academic Performance i.e. based on performance in previous university exams, first internal test and subject teacher observation.
- The parameters to distinguish slow and advanced learners are based on the 50% marks obtained by student in CIE, 25% academic performance in preceding University examination and 25% subject teacher observation.
- The understudy getting marks beneath 40% would be recognized as slow learners and the understudy getting marks over 70 % would be identified as advanced learners. All others are considered as average learners who are getting advantages of both slow learners and advanced learners.
- Student-faculty interaction in the classroom also helps to identify slow learners and advanced learners.

Slow Learners

- Departments conduct remedial classes for slow learners so that they all are getting individual attention, care is taken by faculty in monitoring the performance of slow learners, faculty members revise the important/tough topics and provide university question banks and discuss the way of presenting the answers in the exam to score marks.
- The number of hours taken for remedial class is decided by the faculty members as required.
- A remedial test will be conducted for the weaker students thereafter.
- **Previous years' university question papers with answer keys** are disseminated among slow learners and also encourage collaborative learning.
- College is conducting Induction/Orientation Programmes for both slow and advanced learners at the beginning of every year
- Revision classes and previous year university question paper discussions are delivered to slow learners by advanced learners.

Advanced Learners

- Advanced learners are encouraged to pursue Higher Studies.
- Encouraged to be a member of professional bodies and organize technical events.
- Encouraged to publish papers in Conferences and Journals.
- Encouraged to join additional certification programmes and workshops.
- Encouraged to register and participate in events organized by professional bodies including IEEE

- **Previous years' university question papers with answer keys** are disseminated among advanced learners and also encourage collaborative learning.
- College is conducting Induction/Orientation Programmes for both slow and advanced learners at the beginning of every year
- Revision classes and previous year university question paper discussions are delivered to slow learners by advanced learners.

File Description	Document
Upload any additional information	View Document
Past link for additional Information	View Document

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

Response: 6:1

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 learning is made student centric by the following strategies.

Experiential Learning:

- Industrial visits are arranged to enable the students to acquire knowledge on relevant topics.
- Lab sessions help in experimental learning and permit the students to widen their knowledge and skills.
- Mini projects, projects guided by the faculty are implemented by the students which will help them in experimental learning.

Participative Learning:

- The faculty usually begins the class hours after a discussion regarding the previous class hour topic and thus making the student participative.

- Question answer session or doubt clearance session is conducted at the end of class hour thus making the students participative.
- Seminars are conducted during class hours which will help the student to explore, learn and present the topic in the class.
- Blended learning in which e-learning is combined with traditional classroom teaching, which will help the students to become more student centric.
- Group discussions, Quiz sessions and Debates are conducted by students during class hours on relevant topics thus making the students participative. The faculty acts as an observer.
- Mini projects, projects guided by the faculty are implemented by the students which will help them in participative learning.
- Participation in project competitions, paper presentations, design contests, Webinar, technical and management fests are always encouraged.

Independent Learning

- Online courses: Students are encouraged to do additional courses using online platforms like NPTEL, Swayam etc

Problem solving methodologies:

- Tutorial classes are provided as a part of problem solving methodology in which problems at different levels are solved. The classes are handled by two faculty members. The students in groups solve problems at a much higher speed and interest than in single.
- Aptitude training, logical reasoning training are provided to the students so as to improve their aptitude and reasoning skills and also as a part of placement training.
- Assignments are provided which will help them to explore different learning resources and to develop learning and problem solving skills.
- Study materials are provided to the students which include additional problems and theoretical notes apart from regular class hour notes, to promote self-study among the students.

File Description	Document
Upload any additional information	View Document
Link for additional information	View Document

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

Response:

Our Institution encourages intensive use of ICT enabled tools including online resources for effective teaching and learning processes. Out of 95 teachers, 84 teachers of the College are using ICT tools and resources available on the campus.

General ICT Tools

General ICT Tools using by our faculties are: Desktop and laptops, Projector, Digital cameras, Printer, Photocopier, tablets, Pen Drive, Scanners, Microphones, interactive white board, DVDs and CDs. Our Faculty practices Video Conferencing, Google Forms, Google meet, Google classroom, MOOCS, MIS and YouTube channels for the teaching-learning process.

e-Resources:

College ensures sufficient resources for the various courses we offer.

• LIBRARY MANAGEMENT SYSTEM

Our common library is endowed with a large amount of digital resources from various universities. Databases like DELNET are actively used in the library which is a network of 1000 institutions and access is being given to more than 60 lakh records through online systems. Our College has membership in the J-Gate as well as in the *National Digital Library*, containing 4 crore 60 lakhs books, for students for all subjects created by the Government Of India through the college website. Our library management system is KOHA, an open-source software. Our students have access to NPTEL through the website and have recorded videos of NPTEL course contents which will be useful for teacher training and through them improve the quality of students. For this purpose 10 computer systems with multimedia facilities are provided.

• TEACHING-LEARNING PROCESS

The College has 33 class rooms with ICT facility, 33 classes with wifi or LAN facility and four seminar halls with ICT facility.

Virtual labs are used to conduct labs through simulations.

The **PPTs** are enabled with animations and simulations to improve the effectiveness of the teaching-learning process.

Some of our faculties have their own **YouTube Channels** to deliver their lectures and many others are using the available channels to enhance the teaching-learning process.

Our Students are provided with a **Language lab** facility for training them in Phonetics.

The college is facilitated by **computers and laptops** that are accessible to the students as well as the teachers for academic and co-curricular purposes.

Lab manuals are shared online to students well in advance the experiment is performed.

E-journals including ASME, ASCE,IJSCE,CSIR,IJCER,E Books ect. are accessible on the college website and a total of 370 hardcopies of the journals are available in the library.

Previous year **University Question papers, Syllabus and Course Materials** are available for students as well as Faculties on the college website.

Info-graphics rich presentations,online classes,tutorials,videos and internet based activities are widely used

by the faculty in their classes to make the session interesting and effective.

Wi-Fi Campus

Wi-Fi is extended throughout the campus. All the computers are connected to LAN (wired/wireless). Students and faculty are given authenticity to access the internet. All classrooms, seminar halls and auditoriums are enabled for digital teaching methods.

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: 7:1

2.3.3.1 Number of mentors

Response: 84

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: 103.54

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

2.4.2 Average percentage of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)**Response:** 4.02**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**

2020-21	2019-20	2018-19	2017-18	2016-17
5	4	5	5	3

File Description	Document
List of number of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. and number of full time teachers for 5 years (Data Template)	View Document
Any additional information	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:** 5.38**2.4.3.1 Total experience of full-time teachers**

Response: 511

File Description	Document
List of Teachers including their PAN, designation, dept and experience details(Data Template)	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:****For the internal evaluation of theory courses the following guidelines are used:**

The Internal Examination Committee consisting of coordinators from each department, schedules, executes

and strictly monitors the evaluation process.

Internal Question paper evaluation Committee

Test papers are conducted in a centralized manner by the internal examination committee under the supervision of IQAC.

- The question paper is set, based on the pattern given in the syllabus and each question is mapped to the corresponding course outcome as well as to the Bloom's Taxonomy.
- The question paper of each course is scrutinised by the internal exam question paper evaluation committee and Head of the Department using **Question Paper Classifier** Software under the supervision of IQAC.
- The results of both tests are declared within two weeks after the examination and result analysis is done by the faculty adviser.
- The students can see their respective answer sheets and discuss their queries with concerned staff. Remedial classes are conducted for weak students based on the marks achieved in the internal exam.

Internal evaluation of other courses

- **Practical course:** The assessments of practical courses are done internally/externally by the college as per the University guidelines. Continuous assessment is done by considering regular laboratory work, regular class viva and end semester examination.
- **Design Project:** Three internal evaluations are mandatory for awarding the final grade
Comprehensive Examination: Oral examination is conducted by the college covering all the topics up to and including 5th semester.
- **Seminar and Project preliminary:** Each student shall identify a topic of current relevance and prepare own report and present in the class. Students should also form a project team and identify suitable projects relevant to the branch of study and social importance. There are two progress evaluations.
- **Project:** Evaluations are done by the project supervisor, and the assessment board including an external expert. Project team should submit their final report.

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

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

Response:

Our Institution is having a two-tier grievance redressal mechanism. The lower layer is on the college and the pinnacle degree is on the University.

Degree 1: College level

- An Examination grievance committee is fashioned for the acceptable conduct of internal assessments.
- If a pupil isn't always capable of attending the internal tests, when he/she has any genuine reason, that scholar can request for re-exam. Re-exam may be given for official motives with the approval from the major.
- Exam dates are rescheduled if students have any inconvenience at the scheduled date.
- After valuation the corrected reply scripts are given to students. The worried students will talk about the questions and its evaluation scheme with the subject handling faculty. If students want clarification or correction related to marks inside the reply script it is resolved straight away. It ensures the transparency and reliability of the internal contrast procedure. If the trouble isn't always resolved then students can meet the head of department.
- The consolidated assertion of marks after each internal examination is displayed on department notice boards and proven to parents at some factor of PTA meetings.
- A Grievances redressal committee functioning in the College allowing students to express their grievances regarding the conduct of internal examination as well as evaluation process.

Degree 2: University level

- Malpractices determined are noted to the examination committee through the invigilator. Examination committee will provoke an inquiry giving the involved pupil a chance to provide an explanation for the case. They put up an enquiry document to the principal and it is forwarded to the college. Final direction of motion is taken via the university.
- For grievances related to the content material of the question paper, the concerned faculty member writes a letter to the controller of exam upon getting approval from the head of department and the principal.
- After the external examination results are published, the students provide for revaluation or each on the cost of the prescribed fee. The revaluation fee may want to be truly refunded to the students.
- College students can additionally register their court cases or grievances related with examinations to the APJKTU university student portal. Kerala higher education minister's college student's grievance redressal portal is likewise functioning for the students to record their grievances. Each criticism should be rightly dealt with by means of nodal officers at the university and organization stages, and additionally will be closely monitored with the resources of the administrative center of the higher education minister.

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

2.6 Student Performance and Learning Outcomes

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

Response:

The programme outcomes, programme specific outcomes and course outcomes for all programmes constituted under the guidance of IQAC through the procedures and policies for Learning Assessment and are communicated to teachers and students by the following ways:

- The programme outcomes and programme specific outcomes are published in the department staff room.
- Programme outcomes(POs), programme specific outcomes(PSOs) and Programme Educational Objectives(PEOs) are published on the website.
- Course Outcomes,CO-PO mapping are Specified in the Syllabus and are published on the web site.
- The defined POs,PSOs and COs are disseminated to all stakeholders.
- During class committee meeting the attainment of COs and POs are discussed.
- COs Link in College Website: COURSE OUTCOMES.xlsx (mzce.ac.in)

File Description	Document
Upload COs for all Programmes (exemplars from Glossary)	View Document
Upload any additional information	View Document
Past link for Additional information	View Document

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

Response:

The programme outcomes, programme specific outcomes and course outcomes are constituted and implemented through the ‘**Amendment procedures and policies for Learning Assessment** December 2018’ of the Internal examination administration committee under IQAC and are evaluated from 2019 and steps are taken regularly to improve the level of attainment.

The academic achievement of the students is assessed and evaluated through a series of sequential outcomes generated from the beginning of the course in question by weighing collective, individual and

specific acquisition of learning levels.

- The internal assessment tools of assignments, tests, projects and seminars are given weightage based on their total marks.

- Each question in an internal assessment tool is mapped to the corresponding CO and the corresponding Bloom's Taxonomy levels using 'Question paper Classifier' software. But this process cannot be applied to end semester examinations as the question wise CO marks distribution is unavailable. The final grade obtained by students for a course in the end semester examination is used for direct assessment calculations.

- Our institution developed and implemented unique 'Question paper classifier' software for calculating Bloom's Taxonomy levels.**

The set target levels (percentage of marks) are variable for each direct assessment tool. Our Institution follows it as:

ASSESSMENT	TARGET OF ATTAINMENT
INTERNAL EXAMINATION	60%
ASSIGNMENT	80%

ATTAINMENT LEVELS

LEVELS	CORRELATION
1	50% students scored more than set target level
2	60% students scored more than set target level
3	70% students scored more than set target level

The direct assessment of a PO is calculated as the sum product of the CO-PO mapping and CO attainment of the course. The CO and PO attainments are used to propose corrective measures in the course level and program level respectively.

Steady and meticulous assessment of subjective accomplishment.

- Responsible, reactionary and critical remarks from one of the most potential stakeholders (faculty).
- Batch wise achievements of the students, endorsed by the university.
- Responsible, reactionary and critical remarks from one of the most potential stakeholders (parents).

Latest breakthrough in the comprehensive appraisal of schematic outcomes utilising steady and meticulous assessment of subjective accomplishment.

In order to achieve the highest accomplishments, plans have been formulated for learning assessments.

This is supplemented by another set of appraisal with regard to the realistic interactive tasks entrusted with the students whose personal presence within and without the campus is made mandatory for the said evaluation.

Batch wise achievements of the students, endorsed by the university. Collective, individual and specific achievements are weighted and graded in compliance with the results endorsed by the higher authorities (The University). Prompt and accurate preparation and announcement of the results finalised by the university are meticulously evaluated with a view to identifying anomalies (if any) and suggesting ways to address such issues. The University results are analysed in the departments by calculating the Course Outcome Attainment level.

File Description	Document
Upload any additional information	View Document
Paste link for Additional information	View Document

2.6.3 Average pass percentage of Students during last five years

Response: 60.3

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

2020-21	2019-20	2018-19	2017-18	2016-17
69	107	158	139	116

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

2020-21	2019-20	2018-19	2017-18	2016-17
140	172	191	262	214

File Description	Document
Upload list of Programmes and number of students passed and appeared in the final year examination (Data Template)	View Document
Upload any additional information	View Document
Paste link for the annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process	
Response: 3.76	
File Description	Document
Upload database of all currently enrolled students (Data Template)	View Document
Upload any additional information	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, Chairs in the institution during the last five years (INR in Lakhs)

Response: 0.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	0.2	0	0	0

File Description	Document
List of endowments / projects with details of grants	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 teachers recognized as research guides (latest completed academic year)

Response: 0

3.1.2.1 Number of teachers recognized as research guides

File Description	Document
Institutional data in prescribed format	View Document

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

Response: 5

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	2	0	0	0

3.1.3.2 Number of departments offering academic programmes

2020-21	2019-20	2018-19	2017-18	2016-17
8	8	8	8	8

File Description	Document
Supporting document from Funding Agency	View Document
List of research projects and funding details	View Document
Any additional information	View Document
Paste link to funding agency website	View Document

3.2 Innovation Ecosystem**3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge****Response:****1. IEDC:**

Our institution excels in envisaging an effective and innovative method for generating knowledge through epistemological standards and disseminating this knowledge to the right stakeholders in an ethically conducive and commercially viable entrepreneurial outlet without sabotaging existing tranquility of the milieu.

Aimed at the above enrichment programme we have formulated;

- 1.The introduction of schemes to develop entrepreneurial aspirations and ambitions among the students.
2. A well planned system of generating academic and intellectual insights with respect to electrical and electronic innovations to be made commercially viable and accessible to the general public.
3. Developmental schemes for entrepreneurial aspirations and ambitions.

The college enjoys a very comprehensive and valuable system for introducing developmental schemes to enrich the entrepreneurial ambitions of the main stakeholders of the course, especially the students and the corporate entities. The student community is dynamically engaged in the creation and sustenance of entrepreneurial projects aimed at maintaining the ecological equilibrium of the environment, the college premises and all the arenas of activities utilized by the stakeholders of the entire dispensation.

With a view to providing ample opportunities for the dynamic student community to be exposed to multiple talent tapping tasks by way of establishing new entrepreneurial ventures, the institution ensures the inflow of adequate funds from different sources. Substantial sums of capital are collected responsibly for enriching these entrepreneurial dreams and aspirations.

2. IEEE:

A well planned system of generating academic and intellectual insights with respect to electrical and electronic innovations to be made commercially viable and accessible to the general public. With the help of the Institute of Electrical and Electronic Engineers most prominent global body of intellectuals, academicians and entrepreneurial geniuses aimed at establishing successful ties with highly motivated and talented student community for the promotion of technological innovations and sophistications to be made easily accessible and available to the world at large, we have envisaged very effective academic, intellectual, technological and entrepreneurial interactions with our student force.

IEEE, being a purely unucrative and patronizing body of professional, academicians and intellectuals, ensures that its stakeholders receive maximum gain out of all the programmes being carries out with respect to a versatile intellectual and scientific spirit of enquiry into the multiple challenges unfolding themselves in the complicated world at large. Our institution has also utilized the similar insights achieved by our associate institutions engaged in tie-ups with IEEE.

Our institution has every right to announce to the general public and particularly to our academic fraternity that ever since we succeeded in attaining induction into the association of IEEE, a substantial and spectacular volume of professional interaction has been launched in a state of the art academic environment, thereby winning the approbation of all the stakeholders.

File Description	Document
Paste link for additional information	View Document

3.2.2 Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship during the last five years

Response: 14

3.2.2.1 Total number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
4	3	0	3	4

File Description	Document
Report of the event	View Document
List of workshops/seminars during last 5 years	View Document

3.3 Research Publications and Awards

3.3.1 Number of Ph.Ds registered per eligible teacher during the last five years	
Response: 0	
3.3.1.1 How many Ph.Ds registered per eligible teacher within last five years	
3.3.1.2 Number of teachers recognized as guides during the last five years	
File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the last five years											
Response: 0.73											
3.3.2.1 Number of research papers in the Journals notified on UGC website during the last five years.											
<table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>19</td> <td>21</td> <td>9</td> <td>22</td> </tr> </tbody> </table>		2020-21	2019-20	2018-19	2017-18	2016-17	13	19	21	9	22
2020-21	2019-20	2018-19	2017-18	2016-17							
13	19	21	9	22							
File Description	Document										
List of research papers by title, author, department, name and year of publication	View Document										
Any additional information	View Document										

3.3.3 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: 0.19	
3.3.3.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years	

2020-21	2019-20	2018-19	2017-18	2016-17
2	3	5	2	10

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

3.4 Extension Activities

3.4.1 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:

Augmentation procedures are launched in the vicinity of the institution familiarizing the students to realistic issues with a view to enhancing their ethical, moral sensibilities throughout the entire gamut of the course. An account of the influence the various augmentation procedures play in introducing the students to realistic social environment for the sake of enriching their moral responsibilities.

- Our institution boasts of having launched a well contemplated scheme of extensive activities seeking to react positively and sympathetically to the existing social challenges in the vicinity.
- With a view to enriching the social commitment of the students in an ethically and morally oriented environment we have chocked-out a well meditated plan to seek to address the social issues in the vicinity and render sustainable philanthropic service to the needy and marginalized citizens.
- Various social exigencies related to the routine life of the people in the neighborhoods' have been undertaken by the students with a strong sense of commitment to seek to address very urgent life saving situations.
- As no educational dispensation in the state can flourish without being influenced by environmental, ecological and natural conduciveness indispensable for the right discharge of intellectual responsibilities our institution has set up various collegiate and social council headed by the government in public interest to enrich the growth of afforestation by means of planting saplings, arranging medical aid to the needy and addressing other socio economic welfare schemes influencing the general public.
- Our students have volunteered in various programmes creating an enriching intellectual and technical awareness among a vast community of marginalized students in rural vicinities. In compliance with the various innovative schemes of the Central Government such as Swachh Bharat Mission our institution has envisaged to strengthen our augmentation procedures by directly

addressing many socio economic challenges of the marginalized citizens of the ruralized vicinities.

- During grave social exigencies where mans' precious life is at stake by means of natural calamities and catastrophes our students under the supervision of the faculty have rendered spectacular consolation aid to those in distress. As part of women empowerment programmes many projects aimed at the augmentation of proficiency of the women in the use of the most sophisticated facilities and gadgets conducive to the personal and professional life such as the internet, mobile phones etc have been launched.
- Philanthropic advancement to the most downtrodden and marginalized segments of the socio political and socio economic strata of the country is one of the most spectacular highlights and phenomena our college always boasts of. For the full accomplishment of this commitment our students pay periodic visits to the asylums and hospitals in the vicinity of the institution. Thus, the augmentation ventures of the institution play a vital role in the socio, economic and political spectrum of the state by which all the stakeholders accomplish their dreams and aspirations

File Description	Document
Upload any additional information	View Document

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

Response: 4

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	1	1	2

File Description	Document
Number of awards for extension activities in last 5 year	View Document
Any additional information	View Document

3.4.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years

Response: 100

3.4.3.1 Number of extension and outreach Programmes conducted in collaboration with industry, community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
17	18	25	29	11

File Description	Document
Reports of the event organized	View Document
Number of extension and outreach Programmes conducted with industry, community etc for the last five years	View Document

3.4.4 Average percentage of students participating in extension activities at 3.4.3. above during last five years

Response: 13.9

3.4.4.1 Total number of Students participating in extension activities conducted in collaboration with industry, community and Non- Government Organizations such as Swachh Bharat, AIDs awareness, Gender issue etc. year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
101	77	85	85	98

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

3.5 Collaboration

3.5.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year

Response: 31

3.5.1.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/

internship year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
6	1	7	7	10

File Description	Document
e-copies of related Document	View Document
Details of Collaborative activities with institutions/industries for research, Faculty exchange, Student exchange/ internship	View Document

3.5.2 Number of functional MoUs with institutions, other universities, industries, corporate houses etc. during the last five years**Response:** 13**3.5.2.1 Number of functional MoUs with Institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
7	2	2	1	1

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

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

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

Response:

The college, established in the year 2001 is located on a calm and quiet area with a sprawling campus spread over 10 acres with 15503 sq.m built-up area comprising all modern facilities for effective teaching-learning process. It offers 6 under graduate programmes and 4 post graduate programmes for which state of the art infrastructural facilities are provided. The College is situated in an area of 10 acres with a built up area of 15503 sq.mt

Classroom Facilities: Provision has been made for the availability of spacious and well-furnished classrooms creating ample enthusiasm, motivation and inspiration among the teachers and the teachers for exploring academic and intellectual horizons.

- Total 33 fully furnished classrooms with ICT facilities are available for lecturing, equipped with LCD projectors.
- All classrooms have Wi-Fi/LAN facilities to make an effective teaching learning process.
- Classrooms are well-ventilated, spacious and provided with white boards, and adequate furniture.
- 5 seminar halls, each having seating capacity of 100 max. with Wi-Fi/LAN and Audio Visual facilities.
- All departments have separate faculty rooms and are provided with a desktop, printer and LAN facility.
- 9 Tutorial rooms with WiFi/LAN facility are available.
- 1 drawing Hall
- All the faculty rooms are well-ventilated, spacious and provided with adequate furniture
- Separate space for all HODs, provided with desktop, printer and LAN facility.
- Examination halls are equipped with CCTV cameras.

Laboratories Facilities: The institution offers an effective system of research facilities to the students enthusiastic about nurturing their spirit of inquiry into unknown vistas of knowledge by way of experiments with modern insights. The laboratories are equipped with state-of-the-art equipment and laboratories with licensed software to conduct experiments as per APJKTU curriculum.

Department wise Laboratories

Sl.No	Departments	No. of Labs
1	Applied Electronics and Instrumentation Engineering	03
2	Aeronautical Engineering	09
3	Civil Engineering	05
4	Computer Science Engineering (UG/PG)	11
5	Electronics and Communication Engineering(UG/PG)	10
6	Mechanical Engineering	05
7	Master of Computer Application	08

Common Laboratories

Sl.No	Common Laboratories
1	Language Lab
2	Common Computing Center, Computer Lab
3	Basic Science Lab
4	Basic Engineering Workshops

Computer Facilities:-

- Total of 301 computers
- Internet leased lines of 52 mbps.

Other Facilities:-

- Conference room, Guest room.
- Separate rooms for IEDC,IIC,NPTEL, IEEE, NSS and for various clubs and cells.
- Each department have their own research laboratories.
- Separate space and office for university examination cell.
- One open air auditorium.
- Ramps and sanitary facilities for the benefit of PwDs.
- Canteen, cafeteria, stationary shop and transportation facilities with 10 buses for students and staff.
- Water filters and coolers in each floor of all blocks.

- Special room for the medical center.
- Separate hostels for boy's and girl's.
- Separate common room for boys and girls.
- UPS, diesel powered generators, solar power generation.
- IT Infrastructure maintenance wing with qualified personals.
- Properly rated fire extinguisher are available in campus and all buses. It is inspected and maintained by qualified technicians.

Professional bodies:-

- Institute of Electrical and Electronics Engineers (IEEE).
- The National Programme on Technology Enhanced Learning (NPTEL).

Technical cells:-

- Innovation and Entrepreneurship Development Center (IEDC).
- Institution's Innovation Council (IIC)
- United Nations Academic Impact (UNAI) & Action by Students to Promote Innovation and Reform through Education (ASPIRE).
- National Service Scheme (NSS).

Non-technical clubs:-

- Photography Club

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:

Apart from the academic and intellectual pursuits, our institution boasts of a very effective system providing opportunities for self-expression through various programs utilizing the personal, emotional, aesthetic, artistic, histrionic, versatility by way of pastimes and sportive exploits. The college has individual teams in men's basketball, cricket, football and badminton. The annual sports event of the college 'BRAHMA' gives the students the right opportunity to explore their talent. Interdepartmental competitions give exposure for students as well as staff members to engage in various sports events.

Outdoor Sports Facilities:-

- Basketball
- Football
- Volleyball
- Cricket
- Badminton

Indoor Sports Facilities:-

- Chess
- Carroms
- Table Tennis

Sl.No	Name of the Facility	Availability for the Usage (Nos)	No.of Students Utility	Area (Sq.m)
1	Basketball	1	12	420
2	Volleyball	1	14	162
3	Badminton	1	4	82
MULTI -PURPOSE PLAYGROUND				
1	Football	1	14	2100
2	Cricket	1	11	2100

Gymnasium

The college has a gymnasium which can accommodate 30 members at a time. It spreads over an area of 105 sq.m.

Yoga and meditation facilities:-

The college has a yoga and meditation hall, which can accommodate 100 members at a time. It spreads over an area of 218 sq.m.

Cultural Activities:

The college conducts Arts & Technical fests every year to promote and showcase talents of students in all cultural areas.. Apart from these academic fests, the college conducts women's day, onam celebration and christmas eve events. Various inter collegiate and intra-departmental competitions are held to provide a creative outlet for students to exhibit their artistic talents. Every year the Arts fests are conducted with new names 'CASSANDRA', 'VYUHA' and 'CASANDRA 2.0'.

'CASANDRA' is the technical fest conducted every year for B.Tech students and 'TECHZION' for post graduates, which gives a platform to showcase technical expertise of the student community. The fest gives a good technical exposure to students of the college as well as a large outside fraternity through technical events and expos.

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
Upload Number of classrooms and seminar halls with ICT enabled facilities (Data Template)	View Document

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

Response: 9.87

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

2020-21	2019-20	2018-19	2017-18	2016-17
23.29	15.54	1.67	2.84	4.75

File Description	Document
Upload Details of budget allocation, excluding salary during the last five years (Data Template)	View Document
Upload audited utilization statements	View Document
Upload any additional information	View Document

4.2 Library as a Learning Resource

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

Response:

The college library follows a set of norms laid by college authorities based on standards and guidelines formulated by AICTE. The college library is housed in a total area of 464.13 sq.m. Total of 33252 volumes are available. The books are categorized according to the Dewey Decimal Classification Scheme and stacked on racks as per call number. Our library is automated with leading library management software Koha, which gives a user friendly interface for searching resources in the library along with the position and availability status. A Library Advisory Committee analyse the requisition of the books and decide the purchase of new books for the upcoming academic year.

LIBRARY COLLECTION – Current Status

Total No.of Books	33252
Total No.of Titles	6673
Total No.of Journals	70
Total No. of Journals Back Volume	300
Total No.of Newspapers	7
· Malayalam	5
· English	2

Features of Koha:-

- Operating system – Ubuntu
- Web based interfaces
- Full MARC 21 and UNIMARC support for professional cataloging
- MultiLingual and Multi-user support
- Customized circulation system
- Stock verification
- Barcode generation and printing

- Export and import records, ISO 2709
- Customized Serials control
- Customized patrons management
- Customized report generation

Library Sections:-

- News House
- Property Counter
- Reference Section
- Periodical Section
- Reading Area
- OPAC
- Circulation Section
- Stack Area
- Career House
- Bound Volume Section
- Physical and Technical Processing Section

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
Details of subscriptions like e-journals, e-ShodhSindhu, Shodhganga Membership , Remote access to library resources, Web interface etc (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: 5.67

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)

2020-21	2019-20	2018-19	2017-18	2016-17
1.8	4.02	9.66	3.72	9.17

File Description	Document
Details of annual expenditure for purchase of books/e-books and journals/e- journals during the last five years (Data Template)	View Document
Audited statements of accounts	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 latest completed academic year

Response: 10.17

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

Response: 66

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:

Mount Zion College of Engineering is well equipped with an IT infrastructure facility. Institution frequently updates its IT facilities including Wi-Fi, Computer Systems, and other IT related equipment.

- The institution has Wired Network and Wi-Fi Network. The college has two internet 1:1 leased line connections, BSNL 2 mbps and JIO 50 mbps. Total 52 mbps.
- Wi-Fi is provided using D-Link/ubiquiti Link access points.
- The wired network is managed with 35 network switches.
- The Campus has a cyberoam firewall through which the internal network and external leased line are routed and shared to all the servers and computers.
- The campus is equipped with more than 301 desktop computers with core i3, dual core and core 2 duo processors with 8/4/2 GB RAM, 1TB/500 GB hard disk with 52Mbps LAN connectivity and printers.
- The whole campus is monitored through CCTV network
- The college has a dynamic website (developed in-house) and active in social media platforms.
- Koha Library Management Software.
- Biometric Authentication system like Fingerprint reader is used for recording staff attendance.

File Description	Document
Upload any additional information	View Document

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

Response: 2:1

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
Upload any additional Information	View 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: 6.29

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)

2020-21	2019-20	2018-19	2017-18	2016-17
1.93	0.94	11.84	21.52	29.61

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic support facilities (Data Templates)	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:

LABORATORY

A Technical Staff in-charge reports the repairs/ maintenance required to the Faculty in-charge. Technical staff in-charge checks whether the repair works can be done in laboratory itself using available expertise. If it cannot be done in house, Faculty in-charge tenders a submission to the Director through HOD and Principal stating the requirement and approximate estimate of charges proposed to be incurred.

COMPUTERS

Computers, Wi-Fi, Internet facilities and UPS are checked routinely by the System Engineer. The college has an in-house Maintenance team. Computing facilities are used optimally by staff and students for studies and research purposes.

CLASSROOM

All the classrooms are monitored through CCTV cameras and are equipped with LCD projectors and Wi-Fi connection for better teaching-learning interactions. Classrooms with good space are optimally utilized to provide healthy and hygienic study conditions to students and they remain occupied throughout the working hours for studies and related activities.

LIBRARY

Library maintenance includes continuous monitoring and inspection of the stack, display of new materials on display racks, and arrangement of books on racks. The stock verification is carried out by a team of members appointed by the Principal. Procurement of books is done by collecting the request from all the departments. Quotations are called for from leading suppliers. On the basis of quotations, a comparative statement is prepared and put up for approval from Principal. Books received using purchase orders are cross-checked and written in the accession register and library software, which are ready for use only after physical and technical processing. Damaged books are outsourced for binding. Circulation statistics of books and a report of daily transactions are maintained. Students are motivated to make use of library facility for their intellectual growth.

SPORTS COMPLEX

Extra measures are taken considering the safety and care of the staff and students. Regular check-ups are done on the machine strings to confirm the strength and balance. An extra protective coverage is constructed around the basketball post so as to protect the players from any injury. Annual pressure watering is done on the court surface. Regular check-ups are done to confirm the wellness of the area and if any crack or crevices are found, they are sealed immediately.

TRANSPORTATION FACILITY

The college bus incharge makes proposals and decisions taken by management are implemented. A driver is assigned to each bus and he reports all the maintenance related works to incharge. Preventive maintenance is performed which includes fuel and fluid level checks. Breakdown maintenance is also carried out for worn-out components by sending for repair or replacement. Vehicle records with all maintenance tasks performed and vehicle miles are maintained.

HOSTELS

Sperate hostel facility is available for both boy's and girl's which is under the control of Management. Student movement register is maintained.

AIR CONDITIONERS

Periodical check-up is done once in every month by the staff in-charge. Defects if any are reported to the concerned staff. The faults which are beyond our capacity are reported to the incharge and arrange the works through an external agency.

FIRE EXTINGUISHER

A qualified technician inspect all fire extinguishers and make arrangements for servicing / refilling. Any pressure drop, emptying and physical damages are reported to the safety officer by the concerned staff.

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: 12.62

5.1.1.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
68	74	86	88	95

File Description

Document

upload self attested letter with the list of students sanctioned scholarship

[View Document](#)

Upload any additional information Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years (Data Template)

[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: 7.74

5.1.2.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
70	55	42	40	37

File Description	Document
Upload any additional information	View Document
Number of students benefited by scholarships and freships institution / non- government agencies in last 5 years (Date Template)	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
Details of capability building and skills enhancement initiatives (Data Template)	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: 19.41

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

2020-21	2019-20	2018-19	2017-18	2016-17
60	143	98	114	213

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

5.1.5 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: 17.59

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

2020-21	2019-20	2018-19	2017-18	2016-17
30	37	42	26	28

File Description	Document
Upload any additional information	View Document
Self attested list of students placed	View Document
Details of student placement during the last five years (Data Template)	View Document

5.2.2 Average percentage of students progressing to higher education during the last five years

Response: 27.86

5.2.2.1 Number of outgoing student progression to higher education during last five years

Response: 39

File Description	Document
Upload supporting data for student/alumni	View Document
Details of student progression to higher education (Data Template)	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: IIT-JAM/CLAT/ NET/SLET/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations, etc.)

Response: 21.67

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

2020-21	2019-20	2018-19	2017-18	2016-17
1	1	4	0	0

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

2020-21	2019-20	2018-19	2017-18	2016-17
4	3	8	15	4

File Description	Document
Upload supporting data for the same	View Document
Number of students qualifying in state/ national/ international level examinations during the last five years (Data Template)	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: 7

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.

2020-21	2019-20	2018-19	2017-18	2016-17
0	3	3	1	0

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at university/state/ national/international level during the last five year	View Document
e-copies of award letters and certificates	View Document

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

Response:

The Student Council represents students of the College and it acts as a median between the students and the management. The College Students Committee consist of various sub committees such as,

- Students Welfare committee
- Anti Ragging Cell
- Disciplinary Action Committee
- Anti Ragging Squad
- Class Committee
- Course Committe
- Women Cell
- Grievance Appeal Committee

All committees consist of a Chairman(Senior Staff),Vice Chairman(Senior Staff) and Student and Staff representatives.

Student Council helps the administration in maintaining peace and harmony in the campus by helping the administration in smooth conduct of various academic and co-curricular activities. The

committees working along with the management ensures coordination and effective working of various Professional Society Chapters and Clubs of the College such as IEDC,IEEE, and NSS.

Students Council is also responsible for organizing various Extra Curricular activities such as College Arts, Technical Fest, Women's Day, Onam and Christmas Celebration, Teachers Day, World Environment Day, Water Day, Yoga Day, Engineers Day, World Food Day, World Disability Day, IEEE Day, NSS Day etc.

Students Council Members in the Anti Ragging Committee of the college are instrumental in prevention of ragging in the campus. To make students socially responsible, student council members along with NSS Volunteers organize a number of Social Welfare Programs.

The Students can drop their complaints in the Box kept in front of the Principal Room. The complaints from the Complaint Box will be handed over to the Grievance Appeal Committee. Each complaint is handled with special care to find a suitable solution with the decision made by an Enquiry Committee which consists of Senior Staff from all Departments of our College. While taking disciplinary action against students, suggestions from the Disciplinary Committee are also considered. Women Cell is formed to address the complaints of Sexual harassment against girls students/Women Staff in the College Campus. The Cell has to collect grievances from Women Staff and Students, examine and investigate the complaint and give feedback to the concerned .

Teacher's performance is being evaluated based on the feedback from the Class Committee and their suggestions are looked into. Based on the academic procedure every year industrial visit is permitted. Branch wise Sports events such as Football, Cricket, Volleyball etc are held every year in the guidance of the Sports Committee. Library, Internet and other facilities required for smooth conduct of the class are evaluated on the basis of the feedback from the Class Committee. Our college has an effective Advisory Committee to make improvement in the daily academic activity. The student's council always puts forward their suggestion to the Advisory Committee for improving the academic program.

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: 10.6

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

2020-21	2019-20	2018-19	2017-18	2016-17
7	12	14	11	9

File Description	Document
Upload any additional information	View Document
Report of the event	View Document
Number of sports and cultural events/competitions in which students of the Institution participated during last five years (organised by the institution/other institutions (Data Template)	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:

Mount Zion College Of Engineering Kadammanitta, Pathanamthitta, was established in 2001. The first batch passed out in 2005. An Alumni Association of Mount Zion College Of Engineering , was formed in 2007. The students formed the association with a view to maintain their warm bond with their campus. In 2020, the college decided to initiate the formal registration process of the Alumni Association. The Objectives of the Association To provide a forum to establish a link between the alumni, staff and students of the institute. To enable the alumni to participate in activities that would contribute to the general development of the institute and the society. To help the alumni with their technical and relocation problems. To try to find employment opportunities for students and fellow alumni members in need.

The main aim of Alumni committee are,

- To encourage and guide the students of the institute on self employment to become entrepreneurs.
- To mentor the students of the institute for higher education.
- To encourage the formation of regional chapters to increase participation of alumni.
- To provide medical support for students and staff of our college.
- The College Alumni Association provides financial assistance to students and staff of our college who are affected by the 2018 and 2019 flood.
- College Alumni Association has reconstructed the flood affected house of the 2019 batch student.
- To help the victims and victim areas of natural calamity and disasters like flood.
- During the COVID-19 pandemic our alumni association contributed LED TV's, Mobile Phones to economically backward students of our college locality.
- Providing food (monthly) in govt. hospital (SNEHAMRUTHAM) programme from 30/10/2012

To invest and deal with the funds of the association, to promote entrepreneurship & innovation among the students, to help the college for effective liaison to industry, we have registered our college alumni Association. President ,Secretary,Treasurer and Excecutive committee members were selected. All passed out students are enrolled in the Alumini association as per the rules deccribed in the By-Law.

So many students have been recommended and placed by the alumni to the companies in which they work.

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

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

Response: D. 1 Lakhs - 3 Lakhs

File Description	Document
Upload any additional information	View Document
Link for any additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

Mount Zion College of Engineering (MZCE) is run by Charitable Educational and Welfare Society.

Our Vision

Moulding socially conscious Technocrats.

Our Mission

Enabling the young generation to meet the challenges of the futuristic society by equipping them with the technological skills, sustainable values and everlasting ethos.

Our Motto

Every human endeavor for excellence demands a strong, spectacular, and sustainable and value based determination aimed at the fulfillment of a certain dream. Our institution enjoys the proclamation of a wonderful watchword or motto creating inspiration and motivation in the minds of all the stakeholders. Technology for evolution, revolution and involution is our watchword launched for arousing the spirit of enquiry.

Our Objectives

Our institution aims at excellence in every walk of life by means of launching, effective and realistic measures to achieve sustainable and holistically oriented progress in tune with all the natural, all-inclusive systems without sabotaging the environmental equilibrium.

Creating opportunities for sustainable career growth in strict compliance with intellectual and educational excellence. Embracing every opportunity to offer professional and entrepreneurial assistance to the students achieving meritorious accomplishments.

Governance

Governance mechanism with efficient management leadership and dedicated staff ensures that activities of institutions are allied with institute vision and mission.

Charitable Educational and Welfare Society.

The Board of Trustees frames directive principles, policies and is empowered with overall administration, management and control of affairs of the institution. Board of Trustees is responsible for overall administration.

chairman is the Overall authority and responsibility for all the function of the College

The Governing Body guides institutions in academics, research, student and faculty development.

Advisory Board with 12 members headed by chairman and Secretary of Trust as Secretary encourages progress in governance framework that enables sustainable development.

Director intimates and implements policies and programs of management and monitors administrative and academic activities. Director supervises annual evaluation of staff along with academic review committee, assess budget proposals from departments and initiates developmental activities in the institution

Principal responsible for monitoring and evaluating academic activities.

The College Council manages discipline of students, discusses new proposals and FDPs.

The Academic Council oversees the teaching learning process, result analysis and suggests corrective measures.

IQAC The Internal Quality Assurance Cell gives advice and guidelines to the administration to maintain high quality work in academics and administration. The cell monitors the quality aspects of all the academic and non-academic activities of the institution. To implement the Outcome Based Education in all the departments of the institution.

Faculty members are involved in various academic and administrative committees to improve quality of technical education and enhance employability of graduates.

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

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

Response:

Decentralization and participatory management.

For the effective and successful accomplishment of any objectives of ascertain dispensation, its managerial responsibilities have to be decentralized, delegated and distributed among all its stakeholders. Our institution is always engaged in exemplary innovations, be it in academics or administration. MZCE carries out absolute transparency in decision making process with Management and staff collectively involved in academic and administrative practices to fulfill vision and mission and to lead the institution on the growth path in line with the framed objectives

MZCE promotes a participative and decentralized work culture in the institution.

- **Principal, VicePrincipal, Deans and HoDs** assess performance of the institution and distribute various responsibilities to appropriate levels.
- **Administrative Officer** executes administrative matters in consultation with the Principal. Management has delegated financial power on Principal and HoDs.
- **HoD** evaluates performance assessment of staff, conducts meetings and reviews department work. HoD monitors annual academic activities, result analysis of internal and external examinations of the department.
- **Department Quality Assurance Cells (DQAC)** are formed at each department for implementation of policies/guidelines issued by IQAC as well as to ensure quality of various departmental activities.
- **The Department Advisory Committee (DAC)** is actively involved in the functioning of the department.
- **Faculty Advisor** assigned for each class, gives support to academic and non academic progress of students.
- **Class/ Course committee** formed with senior faculty, staff handling subjects and two students.
- **Mentorship** introduced in all departments, monitored by HoD and Principal.
- Examination work delegated to the **Exam Committee**.
- **Co-curricular & Extra-curricular activities** are assigned to faculty in-charge of various clubs.
- **Students under Student Council banner**, supervised by faculty to organize events in the institution

Various **cells and committees** headed by faculty are functioning in the Institute for conducting different activities to achieve the vision, mission and overall development of the institution.

- IQAC

- DQAC
- Academic Council
- AICTE
- NPTEL
- IEEE
- IEDC
- UN ASPIRE
- Arts, Sports
- Transportation committee
- Canteen committee
- NSS
- ECO Club
- Hostel committee
- APJAKTU
- Library committee
- NAAC Accreditation Performance Evaluation
- Waste Management Cell
- Staff Welfare
- Appraisal committee
- Students' Grievance Redressal committee
- Student Council
- Anti-Ragging committee
- Discipline committee
- Internal Exam Grievance committee

- Admission committee
- Recruitment committee
- Internal Exam committee
- Internal Exam question paper evaluation Committee
- internal Complaints Committee
- Women's Cell
- Red Ribbon club
- placement cell
- Minority cell
- Budget Committee
- Feedback Committee

File Description	Document
Upload any additional information	View Document

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic / Perspective plan is effectively deployed

Response:

Mount Zion of College of Engineering have a strategic plan for all the academic activities like

- Improving the teaching-learning process
- Enhancing the industry institute interaction
- Rendering successful entrepreneurs
- Providing personality development programs for students
- Achieving placement in reputed establishments
- Implementing e-governance in all areas

- Encouraging R & D by faculty and students
- Developing the campus to a clean and green one
- Implementing welfare measures for faculty members
- To provide holistic value based education
- To implant the value of 'Concern for the other'
- Other initiatives of the institution

Long term goals

- Our institution aims at autonomy in all the pedagogical pursuits.
- We aim at the accomplishment of a great and ambitious dream to be fulfilled by creating history in the educational dispensation of the state through international reputation as a center offering world class contribution.
- The institution seeks to capture opportunities where students can experiment with their skills, proficiency, potential, expertise and enthusiasm for achieving personal growth in their career.
- Enhancement of the individual and collective proficiency of the students and the staff with respect to the collegiate, administrative, social and professional workmanship. Another objective is the collection, analytical experimentation and dissemination of intellectual insight achieved through vigorous and aggressive exposure.

Short term goals

- In order to ensure strict compliance with the existing innovations in science and technology the students are encouraged to become updated with all the national and international experimentations.
- Our institution ensures career opportunities for every student by exposing them to rigorous academic, technical and professional challenges seeking augmentation of individual talent.
- Encouraging and preparing students for entrepreneurial pursuits. Aimed at the enhancement of interpersonal and intra institutional relationships, cordial rapport is established.
- Self-development programmes and training (augmentative pursuits) Rigorous and aggressive augmentative programmes are launched by which the teachers and the taught are dynamically engaged in discourses, dialogues, interactions, symposiums, workshops, group discussions and thelike.
- Aimed at academic excellence the faculty is encouraged to seek opportunities for further augmentation of their proficiency and academic brilliance.

File Description	Document
Upload any additional information	View Document
strategic Plan and deployment documents on the website	View Document

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

Response:

Any institution exposed to activities involving public interests in any discipline requires effectiveness and efficiency in the various functionalities of its different bodies setup for the smooth discharge of the power, authority and responsibility delegated to them.

MZCE has well defined policy guidelines that are perceptible in administrative setup, appointment, service rules and procedures etc.

Administrative Setup **Board of Trustees** is responsible for overall administration. **The Governing Body** with 11 members headed by chairman and Principal as Secretary assesses performance of institutions and guides in academics and R&D. Budget committee with 9 elected members from the Board administers overall development of the Institute. **Advisory Board** with 12 members headed by chairman and Secretary of Trust as Secretary encourages progress in governance framework that enables sustainable development. **Director** intimates and implements policies and programs of management and monitors administrative and academic activities. Director supervises annual evaluation of staff along with academic review committee, assess budget proposals from departments and initiates developmental activities in the institution. **Principal** heads the administrative setup and is the key decision maker in academic and administrative matters. The **College Council** with 17 members and **Academic Council** with 14 members are headed with Principal and Vice Principal as its Secretary. Vice Principal, College Council, Academic Council and IQAC together support the Principal to define and delegate various responsibilities in college. **Deans and HoDs** execute continuous review and assessment of academic and non academic programs. All departments have their own department offices headed by respective HoDs. **Administrative officer** coordinates administrative and accounting activities. Academic activities of the institute is well supported by various Cells and Committees like IQAC, R&D, Library committee, PTC, IEDC, IIC, Grievance Redressal Cell, Counseling Cell etc

Recruitment:

Vacancies arising from time to time are consolidated and notified in leading newspapers and institutional websites as decided by Management. Minimum qualifications for the post(s) is as per norms prescribed by AICTE and other competent authorities. Interviews are conducted by Appointment sub-committee constituted by Board of Trustees including Principal, HOD of concerned department and

external subject expert. Rank list is prepared based on assessment by board and selection of candidates shall be on merit.

Promotion:

Every regular staff appointed is considered for promotion as per AICTE regulations and subject to fulfillment of conditions laid down in promotion policy of Institution and amended by authority from time to time.

Service Rules:

All the staff working in the institution are bound to follow HR Policy of Management along with rules and regulations of AICTE and Government. Institution has its policies, applicable and binding on all members of teaching, technical and non-teaching staff that are in line with rules and regulations of AICTE and Government which are conveyed through Staff Manual. Rules and regulations of the university and details regarding discipline of the Institute are conveyed to students and staff, through Academic Schema.

File Description	Document
Upload any 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
ERP (Enterprise Resource Planning) Document	View Document
Details of implementation of e-governance in areas of operation, Administration etc	View Document

6.3 Faculty Empowerment Strategies

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

Response:

Non teaching Staff

The non teaching staff of our institution enjoy several benefits which will undoubtedly enhance their performance and pursuits. The benefits include:

- Provision for **Provident Fund**: 25% of the total salary, comprising 13% by the management and 12% by the non-teaching staff is pooled into the PF scheme.
- **ESI** benefits for the non-teaching staff.
- Effective **conveyance facility** to the non-teaching staff is another attraction of the institution.
- Issuance of **health service** facilitating effective medical care to the non-teaching staff is yet another gesture of compassion and consideration from the management ensuring personal and professional welfare.

Teaching staff

- **Appreciation** to faculty and staff for performing good work and completing the PhD program.
- Facility of **Group Medical accidental Insurance** for regular staff in the college.
- Provision of employer **Welfare Fund Savings Scheme** by Credit Co-operative Society.
- **Recognition /Promotions** for good work based on performance and outstanding contribution.
- **Extending facilities** for higher studies to faculty and staff.
- **Felicitate** faculty and staff for completing higher education and distinguished achievement.
- **Promotion** to higher post for faculty and staff.
- Faculties are provided with **TA and DA** for presenting technical papers in national and international conferences .
- **Admission to the ward of faculty** and staff on priority basis.
- Need based **advance against salary** for faculty and staff.
- **Granting of duty leave** to the teaching faculty members in order to participate in external, academic pursuits such as seminars, workshops and orientation programmes is an attractive feature of the package.
- **Medical Leave**
- Faculty members stationed in the hostel premises are provided with **free accommodation**.

- **College bus facilities** are available for the staff also.
- Provision of a substantial number of **casual leaves** to the teaching staff is a very appreciable gesture of virtue.
- Issuance of health service intended for medical care is a valuable benefit.

File Description	Document
Upload any additional information	View Document

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

Response: 3.9

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	5	5	9	4

File Description	Document
Upload any additional information	View Document
Details of teachers provided with financial support to attend conference, workshops etc during the last five years	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: 9.6

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

2020-21	2019-20	2018-19	2017-18	2016-17
13	9	10	7	9

File Description	Document
Upload any additional information	View Document
Details of professional development / administrative training Programmes organized by the University for teaching and non teaching staff	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: 96.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
110	91	97	119	128

File Description	Document
Upload any additional information	View Document
Details of teachers attending professional development programmes during the last five years	View Document

6.3.5 Institutions Performance Appraisal System for teaching and non-teaching staff

Response:

Any responsible educational center can smoothly flourish only when its various components are in a harmonious ambience executing their unique task towards a common cause. Academic intellectual and administrative competencies are the major criteria for considering to seek their service. However, periodic enrichment and augmentation of the various skills of the staff is a serious matter of concern with the administration and the management of the institution.

An effectively designed Performance Based Appraisal System (PBAS) is provided to every faculty. Appraisal plays an essential role in identifying training, development and career needs and ensuring that individual contribution is valued and recognized. In addition, the appraisal meeting enables staff and managers to discuss performance and provides a mechanism to give and receive constructive feedback. Performance appraisal should normally have a positive focus on issues such as staff development and staff achievements.

The performance appraisal is conducted at the end of every academic year and the Academic Performance

Index (API) score is calculated by the Appraisal Committee. The faculty are evaluated based on their teaching, co-curricular, professional development, research and academic contributions. Feedback of faculty from students is also given weightage in this appraisal form.

It has the following parts:

Part I– Teaching-Learning and Evaluation which includes scores for the number of days worked in each semester, result analysis, examination duties, additional creative teachings like remedial classes and tests, workshops, mentoring, documentation etc.

Part II – Co-curricular activities including institutional and departmental levels.

Part III–Publications and Research during the academic year.

Part IV– Faculty Development/Seminars, workshops including online, organized or attended.

Part V– Initiatives and innovative contributions in academics, institutional/departmental development, Research and consultancy

Separate appraisal forms are available for non-teaching staff. It includes percentage of attendance, details of records maintained, maintenance activities done, job performance and attitude towards students and others etc. Student feedback for non-teaching staff is also there and taken into account for API score.

Feedback analysis

The college has a well-organized and fully automated feedback mechanism which keeps track of students' feedback. A Google drive link or feedback form is provided to each student. By clicking the link the feedback page appears and students can submit the sheet. Through a questionnaire students can mark their feedback. The list of faculty taking each course in the class will be shown on screen. The data entered in the selected format was then converted into chart form and decoded for the proper comprehension of the matter and later it is handed over to the Head of Department with marks secured. In a semester, feedback is collected twice for all courses. In this due process, it is ensured that everyone is actively participating and the levels of feedback received are taken into account while evaluating the staff for promotion.

Corrective measures based on feedback analysis

A detailed discussion session will be held for each faculty member who has not obtained a good appraisal system with the HOD on how to improve the overall performance. Academic enrichment programs/counseling programs are conducted for the faculty for improving their performance. Twice in a semester, students are given chances to raise any kind of issues related to teaching learning process, facilities provided or any other relevant matter, through Class /Course committee meetings.

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

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

The institute ensures an internal financial audit of all its accounts. Our internal financial audits are done annually. Due to our meticulous legal process very few objections arises. All queries are resolved while internal audit is going on. The External Auditors verifies all the receipts, payments, cashbooks, bankbooks, vouchers, deadstocks, purchase registers, postage registers and expense bills of the financial year. The last internal audit of the Financial Year 2020-2021 was completed.

Mount Zion College of Engineering is a self-financing Engineering College run by Charitable Educational and Welfare Society. A very good internal check system is followed in the College. Each voucher generated by the section clerk is verified by the Accountant and Administrative Officer and approved by the Principal. Thereafter the payment is approved by the Management Representative Director.

The internal check system is again audited by an internal audit team and books of accounts are audited by a Chartered Accountant. The Internal Audit team comprises secretary of the Trust and a member of the Finance Committee. They check whether the finance related activities are in order and safeguard the interest of the Trust and its stakeholders. They verify the cash and Bank balances on a yearly basis and confirm that the transactions are in order. They also verify that the purchases are approved by the budget committee. The items purchased are properly entered in the stock register.

There are external financial audits of all the financial activities of the college. The income and expenditure of the institution is audited regularly by registered chartered accountants on an annual basis.

The objective of external audit is to obtain an assurance that the financial statements are correct and to issue a report that includes the auditor's opinion. Auditing also includes assessment of principles used for accounting and estimates made by the management. The overall financial statement is also evaluated.

It is a statutory audit and serves to provide a fair and accurate representation of the financial position of an institution.

Whenever an irregularity is identified by the auditor in the course of auditing the same is noted and reported to the concerned department for corrections and compliance. If the expenditure has incurred according to rules and regulations then it is explained to the auditor with substantiating evidence. Thus audit objections are settled.

File Description	Document
Upload any additional information	View Document
Paste link for 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: 2.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0.1	0	2

File Description	Document
Details of Funds / Grants received from of the non-government bodies, individuals, Philanthropers during the last five years	View Document
Any additional information	View Document
Annual statements of accounts	View Document

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

Response:

Sources for funding

The main sources for funding institutional requirements are:-

- Tuition fee collected from students.
- Interest from Fixed Deposits.
- Funded programs.
- Funds from parent trust

Optimal utilization of resources.

The institution has an efficient and effective procedure for mobilization of funds and the optimal utilization of resources.

- The institution has an annual budgeting system.
- Every department will prepare the budget before the commencement of the academic year.
- Department budget is prepared in terms of conducting activities of the department, obtaining lab equipment, maintaining laboratory facilities and upgrading computational facilities.
- The Department head and senior faculty serves as an information source and planning document for preparing department budgets.
- They list the plan of the activities of the department, association activities, professional body activities, seminars, expert talks, Faculty Development programs and training programs.
- The budget plans received from various departments are reviewed in a meeting composed of Director, Principal, Vice Principal, Deans and HODs.
- It is ensured that each department allocates enough funds for various Quality improvement programmes and training on recent technologies.
- Academic plans and budget proposals are presented by the Principal in the budget Committee meeting.
- The Budget Committee approves the proposed academic plan and budget after a thorough review in the meeting.
- The Budget Committee also mobilizes resources for the development of the institution, allocates funds for execution of academic plans and monitors the budget utilization.
- In case of emergencies or shortage additional funds are made available through management.
- The institution provides financial support to deserving students. Scholarships are awarded to meritorious students.

File Description	Document
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:

The IQAC of our institution is aimed to enhance the quality of education. It was established on 15/7/2019. Till 2019 the institution maintained quality by using department quality assurance cell (DQAC).

The objectives of IQAC are:

- The Internal Quality Assurance Cell gives advice and guidelines to the administration to maintain high quality work in academics and administration.
- The cell monitors the quality aspects of all the academic and non-academic activities of the institution.
- The cell works on various accreditation aspects.

- To implement the Outcome Based Education in all the departments of the institution

IQAC functions

- Development and application of quality benchmarks/parameters for the various academic and administrative activities of the Colleges;
- Facilitating the creation of a learner-centric environment conducive for quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;
- Arrangement for feedback responses from students, parents and other stakeholders on quality related institutional processes;
- Dissemination of information on the various quality parameters of higher education;
- Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles;
- Acting as a nodal agency of the college for coordinating quality-related activities, including adoption and dissemination of good practices

Response:

IQAC has established a well structured **Incubation clubs** and '**Mentoring System**'.

Example1: Mentoring system

The prime objective of the entire pedagogical pursuit is to see to it that the students enjoy acquisition of the various intellectual deliverables most effectively. If this accomplishment has to be achieved the students should be dealt with sympathetically and compassionately. It is here that the mentoring system or the guidance therapy works effectively. It is the duty of the faculty primarily to seek to identify the main issues confronting the students blocking their academic pursuits or personal freedom and contentment. A given faculty is entrusted with a certain number of students for mentoring or guiding through their entire activities of life including personal, academic, professional, emotional and social interactions. The strengths and weaknesses of the students are identified compassionately and a record of the same is maintained. The faculty who acts as the mentor or guide can be approached and relied on for any assistance whatsoever and sought after for suggesting solutions. This helps the students in enriching their entire personality in public and private affairs thereby creating a responsible, socially acceptable, professionally efficient and intellectually competent citizen of the country.

Example2: Incubations clubs (Nurturing programme)

As part of the pedagogical scheme to ensure the fullest development of each and every student who happens to be prime the stakeholder of the entire programme, an Incubation club that focus on the enrichment of the technical skills of the students is implemented in our institution. A special team

constituted by the faculty members from the various departments is formulated for discharging the technical deliverables in a very simple and lucid style and yet comprehensively thereby helping them to enjoy acquisition of the required skills.

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

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

The IQAC continuously monitors and takes necessary actions to improve the quality of the teaching learning process. IQAC has put efforts to promote academic excellence and overall performance for the continuous improvement of the institution. The Principal and HOD's conduct meetings regularly, to monitor the teaching learning process of the departments. HOD's in turn circulate the information to the teaching and non-teaching faculty of the department, through departmental meetings.

Best practices:

Example 1.Outcome Based Education (OBE)

OBE focuses on the knowledge, skills and attitude of the graduates as the most important aspect of education. Instead of output based education, OBE relies on outcomes which are assessed and enables students to achieve their goal. The quality assurance and accreditation practices of the institution are based on this practice.

The design of OBE starts by defining the vision and mission of the Institute and departments, POs defined by NBA, PEOs, PSOs and COs. Internal and external stakeholders, course coordinators, Program coordinators, Stream Coordinators, DQAC and IQAC are involved in this design phase.

The semester plan and course plan are prepared in advance with reference to the University Academic Calendar. The Course Diary, comprehensive information about the course is prepared by the Course

coordinator. Course Diary is then approved by class in charge DQAC coordinator and head of the department. Course objectives and outcomes are discussed at the beginning of each module. Internal Tests and Assignments questions are mapped to COs and Bloom's Taxonomy. The assessment tools considered are internal tests, assignments and University examinations. . The COs, POs, PSOs attainment calculations are in practice throughout the year. As the OBE system is in practice, all the quality improvement strategies proposed by the different academic bodies in the institute are well implemented. An in-house software developed is used for calculating Bloom's Taxonomy levels. The OBE system works towards continuous improvement of the students and proposes remedial actions; it also gives active participation and a better insight to all stakeholders to realize the vision of an institute.

Internal Assessment

- IQAC has introduced a new method of preparing question papers for every internal assessment in which course coordinator sets question papers, verified by DQAC coordinator and finally approved by HoD.
- Question paper setting is based on Bloom's Taxonomy and indicates course outcomes , Bloom's level and analysed by a question paper classifier software.
- Internal assessment tests are conducted in the prescribed format similar to the University examination.
- Invigilation for the same is done by faculty members. The test question paper is discussed in detail after every internal assessment. Marks obtained are uploaded in the college portal and displayed on the notice board.
- Weaker students are identified after each internal assessment and remedial classes and tests are given accordingly. Assignments are also given for students as per university regulations. Attainment is calculated based on internal test,assignments,attendance and University results.

Example2:Department Advisory Board

The college has set up a very effective and responsible internal review scheme to review the accomplished objectives of the pedagogical venture from time to time with a view to augmenting, enhancing, and enriching the various programmes aimed at reaching its avowed destination thereby fulfilling the dreams and aspirations of all the participants actively engaged in the scenario. The review scheme comprises the senior faculty members, DQAC Coordinator and the heads of the various departments who all have a common and unified goal to ensure quality to be the benchmark of the institution.

structure of DAC

- Chairman
- Head of Department
- External nominee
- 2-4 Three Senior Faculty members Asso/Asst Professors One nominated as Secretary One lab staff
As per requirement only
- Aluminea

- Class Advisors As per requirement only

Roles and responsibilities.

- Approval of vision and mission of the department
- Approval of programme educational objectives, programme outcome, programme specific outcomes.
- Approval of department assessment plan and semester plan.
- Augmentative plans through responses from students and faculties.
- Approval of revision and changes in the PSO vision and mission, if required.
- Recommending additional courses for filling the curriculum gaps.

File Description	Document
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: B. 3 of the above

File Description	Document
Upload e-copies of the accreditations and certifications	View Document
Upload details of Quality assurance initiatives of the institution	View Document
Upload any additional information	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

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

Gender equality is a very essential factor to be considered in this regard. If human personality can enjoy unlimited and infinite growth it should be done without any sort of disparity or differentiation with respect to gender, the possession of which is beyond one's control. In modern social and legal milieu gender equality is considered a subject of utmost sensitivity.

Safety and security

- **Safe and secure accommodation** catering to all the personal amenities has been set apart for the female students.
- MZCE maintains an active **Internal Complaints Committee**, which is a statutory entity charged with registering harassment complaints and pursuing official resolution.
- The **Women Cell** of the college have organised several women empowerment programmes and workshops for all students, teaching and non-teaching personnel.
- All the **modern sophisticated amenities** are made available for the safe and secure performance of their routine chores.
- Security devices such as **CCTV cameras** are provided within and without the campus.
- An effective and mandatory **register keeping records** of visitors is another attractive feature intended to maintain safety and security.
- In case of medical exigencies and health hazards prompt and effective service is offered by excellent health care providers with whom periodic and long term tie-ups are made.
- Possession of **identity cards** is another mandatory feature.
- Restricted and controlled entry into and exit from hostels.
- **Fitness Room** has also been provided in the college

- **Medical Room** with adequate facilities is available in the campus.
- Last but not the least, installation of **fire extinguishers** at strategic points to prevent hazardous episodes from taking place.

Counseling

With a view to enriching the academic performance of every student of the college, some schemes have been formulated for the strict monitoring of their routine interactions with regard to their lessons. Those students confronted with challenging environments are specially taken care of by the counseling unit which addresses their issues sympathetically, researches ways to suggest solutions and provide a realistic, motivational and inspirational input. Those students lagging behind seriously are dealt with very rigorously in terms of their academic and intellectual incompetency.

- Another spectacular highlight of the scheme is to seek motivational assistance from external agencies who can address the issues more objectively and impartially without being influenced by subjective interests.
- The college offers a potential opportunity to respond to the emotionally, physically, psychologically, socially, economically and intellectually challenged students suffering from physical disabilities, depression, traumatic situations, gender issues, financial burden etc.
- Sufficient and effective solutions are offered by the council. Faculty also is ready to discharge their duties to address these issues.
- Effective service from professional counseling units, reputed and popular in social environments, is promptly sought to assist in grave cases.

Common room

- The provision of adequate space where the students can exchange pleasantries and engage in recreational discussions is provided in the institution.
- Provision of separate comfort rooms for men and women is also provided.

Thus, the institution enjoys excellent approbation for maintaining an effective system of gender equity.

File Description	Document
Link for 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
Link for 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:

In the modern dispensation waste disposal is one of the most exhausting and demanding essentials. Considering the recent natural calamities and catastrophes and the outbreak of the pandemic and epidemics, hygienic upkeep of the environment in an eco-friendly manner is inevitable. The waste material generated on a daily basis within and without the campus has to be disposed of effectively in such a way that it does not disturb the natural and environmental equanimity and equilibrium. Our college and management have launched a very effective system of managing two types of waste materials incurred within and without the campus, solid waste and E-waste.

1. Solid Waste Management

- An MoU has been signed with SH Traders ,Adhikkattukulangara, Nooranadu for the disposal of Solid waste generated in our campus.
- Separate color-coded containers for different sorts of trash are strategically placed throughout campus at key vantage points to ensure appropriate garbage collection and segregation.
- From the solid waste biodegradable materials are filtered out for recycling purposes, thereby generating a substantial amount of biogas.
- The leftover of the recycled waste is utilized for transforming it into manure and fertilizer to be used in horticultural activities.
- The routine waste disposal is carried out by housekeeping personnel who handle the separation of recyclable material from the disposable ones and sell the same to scrap vendors periodically.

2. Biomedical Waste management.

Biomedical waste, sanitary napkins and waste from the first aid room are disposed of by the incinerator installed in the campus.

3. E-waste management.

- An MoU has been signed with Mattathil Traders, Kottayam for the disposal of E-Waste generated in our campus.
- The effective and regular repair of computers and other electronic accessories ensures low e-waste generation. Due to heavy metal poisoning, E-wastes are treated separately by specialised personnel.
- Our institution has chocked out a very successful plan to deal with this dangerous scenario by disposing it off through scrap dealers.

4. Waste Recycling System

The items like plastics, metals, glasses etc are collected in separate bins kept in each block are taken by authorized agencies and recycled.

6. Hazardous chemicals and radioactive waste management

Hazardous wastes such as dangerous chemicals are packed appropriately, transported and are handed over to authorized agencies for safe disposal. No radioactive waste is generated in the campus.

File Description	Document
Any other relevant information	View Document
Link for Relevant documents like agreements/MoUs with Government and other approved agencies	View Document
Link for Geotagged photographs of the facilities	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
Link for 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: A. Any 4 or All of the above

File Description	Document
Various policy documents / decisions circulated for implementation	View Document
Geotagged photos / videos of the facilities	View Document
Any other relevant documents	View Document
Link for any other relevant information	View Document

7.1.6 Quality audits on environment and energy are 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
Link for 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. Divyangjan friendly washrooms
3. Signage including tactile path, lights, display boards and signposts
4. Assistive technology and facilities for 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
Details of the Software procured for providing the assistance	View Document
Any other relevant information	View Document
Link for any other relevant information	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:

Students from different regions, castes, and religions are enrolled without being discriminated against at the institution due to its belief in equal treatment of all cultures and traditions. In spite of the institution's diverse socio-cultural backgrounds, we do not tolerate any intolerance towards cultural, regional, linguistic, community-based socio-economic, or other differences.

Because we believe in Unity in Diversity, our students respect different religions, languages, and cultures. We consider the college to be our second home, and each faculty member to be a member of our extended family. We welcome and wish each other at various festivals and invite them to a feast to become acquainted with one another's culture in order to maintain harmonious relationship and religious, social, and communal harmony.

The college conducts numerous activities to build an environment for ethical, cultural, and spiritual values among students and staff in order to build a nation of youth who are morally responsible and noble in attitude. Students and faculty celebrate commemorative days on the campus with the support of the management to develop emotional and religious feelings among them while generating a sense of unity and social harmony in addition to recreational and amusing purposes.

The college and its teacher and staff jointly celebrate the cultural and regional festivals, like New-year's Day, Fresher Day, Teacher's day, orientation and farewell program, Induction program, Youth day, Women's day, Yoga day, festivals like Onam celebration, Holi celebration, Christmas Day Celebration, New Year celebration, etc. religious ritual activities are performed in the campus.

We arrange motivational talks from eminent persons in the field to enhance the total development of students, in terms of their personalities, as well as to help them develop into responsible citizens, guided by the national values of social harmony, communal harmony and national integration. Thus, the institute provides an inclusive environment for everyone with tolerance and harmony towards differences in cultural, linguistic, racial, ethnic, socioeconomic, and other aspects.

File Description	Document
Link for 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:

The Constitution governs and guides a nation made up of people of diverse backgrounds viz., social, economic, linguistic, and ethnic diversities irrespective of caste, religion, race, and gender.

Students and employees at Mount Zion College of Engineering are educated about constitutional rights, duties, and responsibilities so that they may carry out their duties as responsible citizens.

By offering an effective, supportive, safe, accessible, and affordable learning environment, students will be equipped with the knowledge, skills, and values required to maintain a healthy balance between work and life. The collegiate community's value system incorporates these aspects.

Students are stimulated by renowned persons who participate in numerous programmes on culture, traditions, values, obligations, and responsibilities. Students were involved in awareness initiatives about

the green campus, cleanliness, Swachh Bharat, and other topics.

The college creates policies that are based on its basic beliefs. For students and employees, a code of behaviour has been created, and everyone is expected to follow the standards. As a minor start toward instilling constitutional commitments among students, the affiliating University curriculum includes required courses such as Professional ethics and human values, Constitution of India, etc.

The college arranges guest lectures and workshops where eminent personalities speak about ethics, values, duties, and responsibilities, as well as environmental preservation. Students are enlisted in elocution, debates, and class presentations to discuss ethical values, rights, duties, and responsibilities.

File Description	Document
Link for details of activities that inculcate values necessary to render students in to responsible citizens	View Document
Link for any other relevant information	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:

Teachers day

Students from National Service Scheme and faculty members participated in the programme. The function was inaugurated by Dr.K Mathew and a vote of thanks was given by Asst.Prof.Vineeth M.V at the Zion Computer Labs 3 & 4 in 2018 and at the College Auditorium in 2017, where 100 students from NSS and 25 faculty members attended.

NSS day

Almost 10 faculty members and 150 students from NSS participated in the programme at the college auditorium. Prof. Thomas George presided over the inauguration and flag raising, while Asst.Prof M.S.Arun delivered the NSS message and a student volunteer cast the vote of thanks.

Women's day

The women staffs of our institution are specially honored with precious notes of appreciation. Women's Day programme was held in 2020. In a seminar on women's empowerment, Brahmashree Sindhu (Amritanadamayi Madom, Pathanamthitta) took part. Mrs. Ambili Haridas, Vice President of the Naranganam Grama Panchayat, kicked off the event. It was organised in 2019 by Neethu Susan Idiculay, the coordinator of the women's forum. Smt. Susamma Mathew, Chairperson, Pathanamthitta District Child Welfare Committee, led a session on Women's Empowerment Program.

Gandhi Jayanthi

Our institution conducts jubilant celebrations on this auspicious day commemorating one of the greatest philanthropists the world has ever seen. Students from National Service Scheme (NSS) Unit Nos: 220, 204, and 548. Mr. Vineeth M.V., NSS Programme Officer, gave the invocation, and Asst.Prof. Tinsa gave the vote of thanks at Seminar Hall. Students and faculty members of our college attended the celebration in Gandhi Bhavan, Pathanapuram, Pathanamthitta. Approximately 50 students from NSS and 3 faculty members participated.

Independence day

Students and faculty members of our college enthusiastically attended the programme at the college grounds. The Flag was hosted by an ex-service man, following the National Anthem by Asst. Prof. Arun Kumar A.R.

Republic day

Our college is jubilant with many festivities arranged in strict abidance by patriotic and nationalistic awareness. A patriotic rendition of the National anthem marks a great sense of unity among the citizens.

International Yoga Day

Students from National Service Scheme (NSS) Unit No: 220, 204, and 548 attended the celebration at Seminar Hall. Nearly 50 students have participated. The function was inaugurated by Dr. K Mathew. The speech and yoga sessions were taken by Prof M. Yogesh and Mr. Rahul Pathanamthitta in 2017 and 2019 respectively.

World Food Day

Our college's students and faculty members attended the event in Omalloor's Aswasa Bhavan. Nearly 100 NSS students and six faculty members took part in the event.

World Water Day

The World Water Day 2017 programme was held in the Seminar Hall of Mount Zion College of Engineering, Kadammanitta, on March 21st, 2017. Shri.N.K. Sukumaran Nair was the chief guest at the event (Retd. Engineer-KSEB, Pamba Pariraksha Samithi-State Gen. Secretary).

World Environment Day

On the college grounds, about 50 NSS students and 20 faculty members took part in the activity. Dr. K Mathew gave the opening remarks. Following that, the principal, vice principal, and NSS volunteers planted trees on the college campus.

File Description	Document
Link for Geotagged photographs of some of the events	View Document
Link for 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:

Best Practice: 1

SNEHAMRUTHAM – A Social Outreach Program

“Manava Seva, Madhava Seva” – “Service to Mankind is Service to God”.

Any society's destiny is determined by the character and competency of its youth. Young people require supervision to help them develop character and competence by giving them direction and a feeling of purpose. They require partnerships that exemplify and convey high expectations. They must participate in activities that are both difficult and motivating, as well as educational. Many of the conditions for young people's development of character and competence have deteriorated in recent years. Young people frequently face inattention, low expectations, cynicism, or communal strife. If we want to establish a

society where young people may reach their greatest potential, we must improve all of these conditions. Considering this, our College initiated a social outreach programme called **SNEHAMRUTHAM**.

Programs under SNEHAMRUTHAM

1. ZION FOOD DONATION

ZION FOOD DONATION is a monthly project, under **SNEHAMRUTHAM**, of supplying food for almost 500 patients and bystanders at Government Hospital Pathanamthitta in association with Divine Karunalayam Charitable Trust. The project was inaugurated by Hon'ble Municipal Chairman Mr. Suresh Kumar. Volunteers felt so happy when they got a chance to feed the helpless patients. Since 2017, the project was going on without fail and many were fed by our College.

1. ZION WIDOW PENSION

Widowhood, for women, remains the most common marital transition, and for women from minority groups, such as those who have never worked or whose husbands spent their lives in manual labour with low incomes and episodic work histories, economic insecurity has always been a fact of life, and widowhood has only added to their misery.

Considering the above said fact and as a part of delivering holistic value based education to our students and fulfilling our responsibility and commitment towards the society, we initiated a pension scheme for the widows in 2015, called **ZION WIDOW PENSION**. This scheme covers widows residing in and around Kadammanitta, Pathanamthitta. Since the inception of **ZION WIDOW PENSION**, we have been offering a monthly pension to 17 widows residing in Kadammanitta.

Objective:

As an educational institution, MOUNT ZION tries to impart the idea of 'Concern for the other' to our students, for we believe that the ultimate aim of education is the harmonious coexistence of all living beings.

The objectives of the initiative "**SNEHAMRUTHAM**" is:

1. To donate food to worthy people or organisations in order to counter poverty and hunger.
2. To alleviate food insecurity among the weaker sections of the society.
3. To provide financial assistance to the widows residing in and around Kadammanitta.
4. To improve the livelihood of the widows who are from socially and economically backward section.
5. To cultivate social responsibility among the youth of the nation.
6. To impart the value of 'concern for the other' among the students.
7. To implant an empathetic and socially responsible attitude among the students.

Context:

The Institution's goal and objective include providing value-based education. The College's institutional social responsibility aids in the development of social relationships. Our students have the chance to make a difference in the lives of those who are less fortunate in society through **SNEHAMRUTHAM** initiatives. The College aims to implant qualities of sharing and caring for members of backward sections and disadvantaged of the society. Students' organisational abilities develop as they actively participate in planning and coordinating various efforts. Since the ultimate aim of education is the co-existence of mankind, it is inevitable to deliver holistic value education to the upcoming generation. **SNAHAMRUTHAM** scheme provides a platform for the students to interact with the weaker sections and to understand the real life social and economic parameters of the community.

Practice:

Under **ZION FOOD DONATION**, MZC supplies food for almost 500 patients and bystanders at Govt. Hospital, Pathanamthitta, in association with Divine Karunalayam Charitable Trust. This paves a way to bring about student community interaction into practice which in turn contributes much towards the overall development of students. Students get an opportunity to realize the value of money and they came to know that how the money they spent on luxury could be used effectively for the society.

Under **ZION WIDOW PENSION**, students are encouraged and motivated to interact with people the people in the local area and identify eligible women for the scheme. 17 widows residing in Kadammanitta are getting benefited under 'Zion Widow Pension' since 2015. The dispersal of the pension amount is made on monthly basis and the uncollected pension amount of a particular month, if any, is carried forward to the next month. A register is maintained at the office for the purpose in which the amount dispersed and the initial of the beneficiary is entered.

Evidence of Success:

1. Students could be implanted with an empathetic and socially responsible attitude which is considered to be a core element of true education.
2. Students could interact well with the weaker section of the society which enabled us to impart practical value based education to them.
3. Since the inception of SNEHAMRUTHAM in 2012, more than 35000 patients and bystanders could be fed and served by the students and 17 widows residing in Kadammanitta could be added under the beneficiaries list.

Number of beneficiaries under SNEHAMRUTHAM

Year	Scheme	Number of beneficiaries	
2012	Food Donation	4200	
2013	Food Donation	4200	
2014	Food Donation	4200	

2015	Food Donation	4200	
	Widow Pension	16	
2016	Food Donation	4000	
	Widow Pension	17	
2017	Food Donation	3800	
	Widow Pension	17	
2018	Food Donation	4000	
	Widow Pension	15	
2019	Food Donation	3400	
	Widow Pension	15	
2020	Food Donation	Nil	
	Widow Pension	14	
2021	Widow Pension	13	

Problems Encountered:

1. It's difficult to motivate and involve a big number of pupils in these activities.
2. Maintaining student discipline outside of the College campus is a big job.
3. The staff and student volunteers are constrained by the semester pattern of examinations.
4. Funds/resources are limited.
5. It's difficult to identify eligible widows.

Best Practice: 2

Title: "MQAT" - MOUNT ZION QUALITY ASSURANCE TOOL – An Academic Excellence Programme.

Objective:

The objective of MQAT is 'Quality in Education', so Operation MQAT strive to raise responsible

good professionals by providing platforms that offer quality checking and evaluation as well as reporting. **MQAT** endeavours in imparting value based education which is enshrined in the vision and mission of the Mount Zion College of Engineering, Kadammanitta, Pathanamthitta.

Context:

As a new quality assurance system to classify examination questions which is based on Blooms Taxonomy by considering different program outcomes and course outcomes was introduced by the APJ Abdul Kalam Technological University. MCA department of Mount Zion College of Engineering, Kadammanitta, launched a mission called “**Operation MQAT**” for developing a software framework to evaluate question papers and to classify them based on their quality according to the quality standards recommended by KTU as well as to provide a report.

As part of **Operation MQAT**, a quick confab to finalise a possible design and framework of MQAT was carried out. Participants used that occasion to ventilate their propositions and more earth shattering ideas were cropped up. Different levels of selection procedures were carried out to select a prime developer from the student’s side. Finally Miss Anjali Raj who was listed as one of the advanced learners of MCA department has been selected as a backbone of operation MQAT.

The operation MQAT was instigated with the leadership of Mss Anjali Raj with the support and guidelines of faculty members of MCA department, finally the software MQAT was developed. Different levels of testing and trial runs made it suitable to be deployed in different departments to augment it to the list of their commodity software’s.

Practice:

Various departments of Mount Zion College of Engineering, Kadammanitta, started using MQAT in Internal Examinations for classifying questions and to ensure quality in question paper preparation. Practice shows that MQAT is a good tool to classify questions. The report generated by it is suitable to update the questions and rebuild the structure of the questions.

Evidence of Success:

Since the advent of Operation MQAT, it is evident that the students with all intellectual traits of Mount Zion College of Engineering could confront their examinations with more confidence and less fear. This, in turn, reflected in the overall learning attitude of the students of the College.

Problems Faced:

The entire project team meets monthly to review progress and any problems encountered. From the experience of the past history of usage of MQAT, it found that any significant problems have not been encountered so far.

File Description	Document
Link for 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:

“CAMPUS HOPE” – A Social Outreach Program

“CAMPUS HOPE” is a chapter opened in our college inspired by HOPE Charitable Trust, in October 2010. Since the advent of this chapter we have been conducting a series of social outreach activities under CAMPUS HOPE movement.

Activities under Campus Hope include:

“ZION WIDOW PENSION”

Widowhood, for women, remains the most common marital transition, and for women from minority groups, such as those who have never worked or whose husbands spent their lives in manual labour with low incomes and episodic work histories, economic insecurity in has always been a fact of life, and widowhood has only added to their misery.

Considering the above said fact and as a part of delivering holistic value based education to our students and fulfilling our responsibility and commitment towards the society, we initiated a pension scheme for the widows in 2015, called **ZION WIDOW PENSION**. This scheme covers widows residing in and around Kadammanitta, Pathanamthitta. Since the inception of **ZION WIDOW PENSION**, we have been offering a monthly pension to 17 widows residing in Kadammanitta.

“SAHAPAADIKKORU VEEDU” – A HOME FOR CLASSMATE

Due to exceptionally high rainfall during the monsoon season, major floods hit the south Indian state of Kerala on August 16, 2018. Over 483 people were killed, with 15 still missing. It is Kerala's biggest flood since the Great Flood of 99, which occurred in 1924. Many have lost their houses completely.

Kadammanitta alumnus from Mount Zion College of Engineering completed a home for the 2019 Homeless Project. The recipient was Vaishnavi S from the Civil Engineering Department 2016- 2020 Batch, who lost her home in the 2018 floods. With help from the college, Vice Principal Prof. Thomas George coordinated the project. The project was aided by Assistant Professor Arun M. S., Association InCharge, and Lab Instructor Anish K U. The Alumni of Applied Electronics & Instrumentation gave an approximate value of Rs 3 lakh.

SERVING TRIBAL COLONY

Mount Zion College of Engineering has been serving 20 families of Malai Pandaram community of a Tribal Colony in Laha. On occasion, the college provides lunch to the families. Many training and development sessions are also being made available to them on a regular basis.

GENERAL HOSPITAL MAINTENANCE (PUNARJJANI)

As a part of the Punarjjani Project, the NSS unit of the college visits General Hospital, Pathanamthitta and does the cleaning and maintenance work. They also engage in creation of assets for the hospital.

SNEHAMRUTHAM

A monthly project of supplying food for almost 500 patients and bystanders at Government Hospital Pathanamthitta in association with Divine Karunalayam Charitable Trust. For our birthday celebrations and functions we will spend lot money on luxury and most of them will later be wastage only. Students got an opportunity to realize the value of money and they came to know that how the money they spent on luxury could be used effectively for the society. The project was inaugurated by Hon'ble Municipal Chairman Mr. Suresh Kumar. Volunteers felt so happy when they got a chance to feed the helpless patients. Since 2017, the project was going on without fail and may were fed by our College.

ANGANWADI RENOVATION PROJECT

Maintenance and beautification of the selected anganwadis were done on December 22nd , 2020. Students actively participated in the renovation of Valiyakulam , Tharabhagam and Kakkandiyil

SAGY –VIKASANA SEMINAR AND REPORT SUBMISSION

Students, faculty members of Mount Zion College of Engineering and Naranammoozhy Panchayat members attended the Vikasana Seminar on 12th January,2018. The function was cordinated by Asst.Prof.Vineeth M.V and Asst.Prof.M.S.Arun. The programme was inaugurated by Naranammoozhy Panchayat President. Sri Mohan Raj Jacob. The report was handovered to Sri.P.J Kurien , M P by Dr.K Mathew ,Principal. The function was coordinated by Asst .Prof.Vineeth M.V and Asst.Prof.Tinsa Jose.

BLOOD DONATION

NSS Units of Mount Zion college of Engineering, Kadammanitta organised several Blood donation camps at Mount Zion College of Engineering, kadammanitta. Doctors and Nurses from Government Hospital, Pathanamthitta provided their service for blood collection and for blood group identification.

DRINKING WATER PROJECT

The college facilitated the availability of drinking water for 120 families in Naranganam Panchayat in the year 2017. The college spent Rs.65,000/- for the purchase of a water pumping motor and for the setting up.

OLD-AGE HOME AND ORPHANAGE VISITS

A group of students and faculty visit old age homes and orphanages on special days and celebrate the day with them. Materials are collected from faculty, non-teaching staff and students in the college and the visiting team would distribute the same to them.

PROVIDING TELEVISION FOR STUDENTS FOR ONLINE CLASS

On June 24, 2020, alumni members of Mount Zion College of Engineering, Kadammanitta, funded television for students from economically disadvantaged backgrounds amid the pandemic emergency. The TV was presented to the MLA of Pathanamthitta district by the principal, vice-principal, and alumni members.

CLEANING HEALTH CENTRE

The NSS volunteers from the college cleaned the surrounds of the main health centre in Kaleelil as part of Gandhi Jayanthi. The NSS staff organiser was in charge of organising the event.

MEDICAL CAMP AT ENATHU

A free medical camp is organized by Campus Hope and NSS Unit of Mount Zion College of engineering, Kadammanitta camp at Eminent Play School Enathu on 4th March, 2017. Doctors from Mount Zion Medical college Chaylode provided their service for the camp. Honourable Adoor MLA Sree Chitayam Gopakumar inaugurated the Camp. Almost 500 People were the beneficiaries.

FLOOD RELIEF ACTIVITY

In September 2018, NSS volunteers from our college participated in a survey of flood-stricken homes and regions, which was organised by the Pathanamthitta District Collectorate, and collected information regarding damaged things in the home as well as how the flood affected the residents' mental health. NSS volunteers and faculty from our college collected food, cleaning supplies, and other necessities for a home, and students assisted in the packing of essentials at the Rajiv Gandhi Indoor Stadium in Pramdom, which was organised by the Pathanamthitta District Collectorate.

File Description	Document
Link for appropriate web in the Institutional website	View Document
Link for any other relevant information	View Document

5. CONCLUSION

Additional Information :

The Mount Zion College of Engineering campus, spread over 10 acres provides a panoramic view of the valleys in all its splendor. Institution have good governance practice which plays a pivotal role in practicing excellent teaching learning process which leads to successfully meet their vision and mission.

Institution provided scholarship to meritorious and economically deprived students to achieve their dream to become successful engineer.

Concluding Remarks :

The objective of education is the development of the whole man in relationship to the "whole". Therefore, for every scholar, nothing is as exciting as learning. To ensure that every student here has a holistic development, we will strive to improve the quality of the education and prepare them to be industry-ready, empowering them rather than simply assisting them in finding employment. Mount Zion College of engineering takes a keen interest in selecting well-enhanced faculties and trainers as they are the most important tool that moulds the students.

The institution has been producing successful new-age engineers and young entrepreneurs with professional ethics by introducing core values and beliefs. The institute provides a technology-enabled, congenial and eco-friendly environment for both students and faculty to face challenges.