Progress Report for the Academic Year 2022-2023

(01 July 2022 to 30 June 2023)

Submitted to

ज्ञान-विज्ञान विमुक्तये

UNIVERSITY GRANTS COMMISSION

Government of India

By

MAR BASELIOS COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous College affiliated to APJ Abdul Kalam Technological University)

Mar Ivanios Vidyanagar, Nalanchira, Thiruvananthapuram-695 015, Kerala

September 2023

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1. About the College, Vision, Mission

Mar Baselios College of Engineering and Technology (MBCET), Thiruvananthapuram, Kerala was founded in 2002 by His Beatitude Moran Mor Cyril Baselios Catholicos. College is administered by the Malankara Catholic Educational Society of the Archdiocese of Trivandrum of the Syro Malankara Catholic Church, which is under the Holy See. The college has been established with the noble objective of providing quality technical education that would epitomize the noble values as well. The College is autonomous and is affiliated to the APJ Abdul Kalam Technological University. UGC has conferred the college with the Autonomous status in July 2020 by Order No. F.22-1/2017(AC) dated 15.07.2020. APJ Abdul Kalam Technological University has notified the same in September 2020, vide Notification No.KTU/SO(ADMIN)/2904/2019 dated 18.09.2020. The College is accredited by NAAC with 'A' Grade (CGPA: 3.13) since 2016 and is valid till 31 December 2025. Five B. Tech Programmes (CE, CS, EC, EE and ME) are accredited by NBA since 2016 and will be valid till June 2025.

During the year under report (2022-2023), the College has offered seven B. Tech Programmes under the five major disciplines of CE, CS, EC, EE and ME. Seven M. Tech Programmes are also offered in the currently relevant specializations. The College is an approved Research Centre under the affiliating University. There were around 2000 students enrolled for the various Programmes spread across the Departments during the year under report.

Vision:
To be an Institution moulding globally competent Professionals as epitomes of Noble Values.

Mission:
To transform the Youth as technically competent, ethically sound and socially committed Professionals, by providing a vibrant learning ambience, for the welfare of humanity.

2. About Autonomous Status

UGC has conferred the Autonomous Status in July 2020. APJ Abdul Kalam Technological University has notified the conferment of Autonomous Status in September 2020. The Autonomy was granted by the UGC for a period of 10 years (2020-21 to 2029-30). The College is looking at Autonomy as an opportunity to offer the Programmes with greater flexibility and relevance, with a view to further improve the quality of education and for achieving academic excellence. The College continues to be affiliated to the APJ Abdul Kalam Technological University. So, the degrees will be awarded to the students by the University based on the recommendation of the College. The name of the College will be mentioned in the Degree Certificates. The College Management has constituted the statutory bodies like Governing Body, Academic Council, and the Boards of Studies as per the extant rules and regulations, in October 2020. The meetings of these bodies have been

conducted regularly as per the UGC Regulations. In 2022-2023, college has admitted the third batch of students under autonomy to the B. Tech and M. Tech programmes through the approved admission process and the classes were started in October 2022. 507 students are admitted for B Tech and 18 were admitted in the MTech. The second autonomy batch was admitted in October-November 2021. The first autonomy batch of M. Tech students under autonomy has graduated in 2021-2022 and the second batch of M.Tech students has graduated in 2022-2023.

3. Academic activities undertaken:

3.1 Results 2018-2022 B. Tech Batch

The B. Tech students have performed well in academics. The 2018-2022 batch(non-autonomous) has graduated during the year under report. The following Table A shows the overall pass in the five B.Tech Programmes.

Table A Pass Percentage of the 2018-2022 B. Tech Batch

Branch	Total Number of Students appeared	Number of Students Passed in First attempt	Pass Percentage
CED	101	52	51.48%
CSE	117	89	76.06%
ECE	86	53	68.60%
EEE	70	55	78.57%
MED	109	69	63.3%
Overall Pass	**483**	**323/318**	**65.83%**

3.2 Curriculum Design and Development

In 2020-2021, after becoming autonomous, College has adopted the first B.Tech curriculum from the running 2019 curriculum and scheme of the affiliating University with minor revisions in the syllabus of some of the courses. The M.Tech curriculum and scheme were also adopted from the University. A fully re-designed new curriculum for the M. Tech Programme was implemented in 2022-2023. In the year 2023-2024, a substantial revision of the B. Tech Curriculum and Scheme with innovations is envisaged so as to bring in the upcoming topics and make the students more employable. Also, there is plan to align with NEP 2020. We would like to evaluate our plans by seeking opinion from our stakeholders, academicians and industrial experts.

In the framework of the upcoming B. Tech Curriculum 2023, one student may have to earn 163 credits in the 8 (eight) semesters so as to become eligible for the Degree.This shall be aligned with that of the affiliating University to avoid any legal entanglements. 160 credits will be from the academic learning

through the classroom activity, as existing, while the three value added credits have to be earned from the co-academic and extra academic activities outside the classroom, and through the learning/certification outside the Curriculum. This will also lead to the recognition of the efforts undertaken by the student through such extra activities to complement/supplement their learning, without losing the rigour of the core engineering education, envisaged in the curriculum.

We are also pursuing the means for incorporating best practices by keeping the policy directions given in the National Education Policy 2020 in perspective. This will enable and facilitate multi-disciplinary learning, as expected in NEP, so that the engineering students will become more innovative and better employable in their future life.

In addition to the basic mandatory 163 credits, there will be options for Minor Degree and Honours similar to what is available in the running Curriculum. The credits to be earned is proposed to be kept in the range 15 to 20 and will be finally aligned with the requirements, if any, to be specified by the affiliating University.

To make it more clear, the option for Minor has been introduced for enabling cross-disciplinary specialization and that way making the students fit for the 21st century jobs. Under these provisions, a student studying in Civil Engineering, Mechanical Engineering or Electrical Engineering Degree Programmes will be able to get a Minor degree in topics like Artificial Intelligence, Machine Learning, Electronics Engineering, etc. All the branches have this provision for interdisciplinary studies for cross fertilizing the knowledge and skills. This is in addition to the electives offered in the basic credit requirements. The Minor specialization, however, requires additional credits to be earned by the student over and above the basic mandatory credits within the four years and maintain good academic progress.

On the other hand, Honours is a provision for deeper specialization in one's own discipline. For example, a student in Computer Science and Engineering can specialize in Image Processing, which can be extended to any engineering domains in their career or higher studies or specialty studies. This specialization also requires additional credits to be earned by the student over and above the basic mandatory requirements. Also, the student will have to progress without failure in any course. There is a tremendous benefit for those who secure the B. Tech with Honours in terms of higher and better placement and the opportunities for higher studies because of the extra credits earned.

We trust that the revision, which is on the anvil, will be a value-added structure to include the options for learning one's discipline in a more engaged and integrated manner and also get enriched by the multi-disciplinary knowledge as well, on the go. The "skill" component which spans across the multiple dimensions like social skills, technical skills, IT skills, interpersonal skills and so on are expected to be developed through self-driven and supervised/proctored activities within and outside the classroom.

We intend to bring in more active teaching-learning mechanisms like lab integrated courses, project-based learning and the work integrated learning like internships, etc. in the new curriculum. The design will be finalized through extensive consultations and discussions with the experts and our stakeholders. We are also open to suggestions and feedback from all the other stakeholders and well-wishers, who are

otherwise not directly involved in the curriculum related discussions on campus.

3.3 Students' Achievements

Under the guidance of the faculty, our students have performed well in academics, co-curricular and extracurricular activities. Following Table B shows the enumerated achievements.

Table B- Achievements of the Students

Sl No	Department	Number of Achievements
1.	CED	16
2.	CSE	22
3.	ECE	30
4.	EEE	29
5.	MED	14

4. Research activities undertaken

4.1 Funded Projects

Academic research is promoted in multiple ways so as to synergize the research interests of both faculty and the students. The Management has instituted an intramural funding scheme for seeding the research and it is still continuing. The scheme is intended to promote a culture of research among faculty. The scheme is known as **In-house R&D projects**, which have the potential to be developed for further research and development activities so that the faculty can go for extramural funding from the funding agencies. Funds for six projects from various departments with a total budget of Rs 5,94,000/- have been sanctioned during the year 2022-2023 and are tabulated in Table C below.

Table C -In-house R&D Projects sanctioned during 2022-2023

#	Name of the Principal Investigator/ Co Investigator (if applicable)	Title of the Project	Dept. of PI and Co-PI	Year of Award	Funds provided (INR)	Duration of the project
1	Dr. Shalu George K Asso. Professor; Ms. Shyju Susan Mathew, Asst. Professor	Design of a controller for rotary inverted pendulum	EEE	September 2022	30,000	1 year
2	Mr. Jijo Jose, Asst. Professor	5 DOF 3D Printed Robotic Arm	ECE	September 2022	1,33,000	1 year

#	Name of the Principal Investigator / Co Investigator (if applicable)	Title of the Project	Dept. of PI and Co-PI	Year of Award	Funds provided (INR)	Duration of the project
3	Ms. Prathibha S Nair, Asst. Professor; Ms. Vijitha Robinson, Asst. Professor	Automated DOA Measurement using Multiple EEG Features and Artificial Neural Network	CSE	September 2022	30,500	1 year
4	Mr. Arun K, Asst. Professor; Mr. Praveen J S, Asst. Professor	Question Paper Management System	CSE	September 2022	99,000	1 year
5	Mr. Mobin M Mathew, Asst. Professor; Dr. Deepak G Dilip, Asst. Professor	Non -Rigid Dirigible Multifeatured Airship	MED	September 2022	1,33,500	1 year
6	Mr. Vaisakh S Nair Assistant Professor; Dr. Premchand V P, Asst. Professor	Experimental and numerical investigations on geometrical influence of sea shore structures on flood risk management	MED	September 2022	1,68,000	1 year

Table D List of In-House Student Projects

Funds for six projects from various departments of our institution are allocated with a total budget of Rs 1,81,400/-

#	Name of the Principal Investigator/ Co Investigator (if applicable)	Title of the Project	Dept. of PI and Co-PI	Year of Award	Funds provided (INR)	Duration of the project
1	Ms Soumya A V; Mr. Aswin R B and students	Dhwani-Sound system in class	EEE	Completed	3,600	3 months
2	Ms. Soumya A V; Mr. Aswin R B and students	Cleaning robot	EEE	Ongoing	20,000	1 year

3	Ms. Surasmi N L, Ms. Shilpa George and Students	Landslide detection and Warning System	EEE	Completed	10,726	6 months
4	Dr. Dishore S V,	Design and Development of a Modular Rescue System for saving child from borewell	EEE	Completed	21,720	6 months
5	Ms. Anu Susan Philip and Mr. Shiras S N and 2019-23 ECE students	Autonomous Railway Track Crack detection and Alert Drone-Rover	ECE	2022-23	1,00,000	6 months
6	Dr. J Jayakumari and students of 2019-23 ECE	Development of Transit signal priority module with integrated AI assistant.	ECE	2022-23	25,354	6 months

Table E List of In-House Internships Completed during 2022-2023

Sl. No.	Name of the PI/Co-PI	Title of the Project	Name of interns	Year of Award	Duration of the Project
1	Dr. Jisha S V (CE), Dr M. Satyakumar (CE)	Performance evaluation of ultra-thin white topping overlays	Christeena Mariya Sebastian (CE), Gowri Nandana S S (CE)	2022-2023	1 year
2	Ms. Jisha Jose (CS)	An IoT based secure smart farming	Jeena Sharon Philip (CS), Jibi Ann Mathew (CS), Jini Johnson (CS), Kashyap Snal (CS), Megha K Saji (CS), Melvin Joseph K (CS)	2022-2023	1 year
3	Ms. Poorna B R (CS), Dr Jesna Mohan (CS)	Drug Recommendation system	Aaaron B Daniel (CS), Aneeta Binu Philip (CS), Gowri P (CS) Jephin John Kutty (CS), Roshan Roy (CS), Susan Jacob (CS)	2022-2023	1 year

A number of proposals have been submitted for funding from external Funding agencies and organizations. 14 research projects worth a total amount of Rs 31.9 Lakhs have been sanctioned. The majority of the funding is provided by the organizations such as DST, KSCSTE and CERD. In addition, a number of projects are funded by the affiliating University (APJKTU) also. The grants from the funding agencies are limited to the funds for the research projects of the students and faculty.

Under the perspective plan for the period 2022-2027, the College shall endeavor to establish Centres of Excellence for promoting focused R&D. Collaborations with the Industries shall also be explored for the areas like Artificial Intelligence, IoT, Electric Vehicles, Advanced Manufacturing, etc. The details of the funds received for the project works are tabulated below.

Table F List of Externally funded Projects in progress during 2022-2023

#	Name of the Principal Investigator/ Co Investigator (if applicable)	Name of the project/Endowment/Chair	Name of the Funding agency	Type (Government/Non-Government)	Department of Principal Investigator/ Co Investigator	Month & Year of Award	Funds provided (INR in lakhs)	Duration of the project
1	Dr. Neethu Roy	Development of Cement Treated Subbase (CTSB) Mix having Partial Replacement of Coarse Aggregates with Construction Demolition Waste for Optimum permeability and strength	APJKTU	Government	CED	2023	0.28	1 year
2	Dr. Jisha S V	Mitigation measures using Soil bioengineering in rainfall induced landslide prone areas	APJKTU	Government	CED	2023	0.335	1 year
3	Dr. Jisha S V	Sismic performance of postfire retrofitted reinforced	DST	Government	CED	Nov 2022	18.3	3 years

Mar Baselios College of Engineering and Technology

#	Name of the Principal Investigator/ Co Investigator (if applicable)	Name of the project/Endowment/Chair	Name of the Funding agency	Type (Government/Non-Government)	Department of Principal Investigator/ Co Investigator	Month & Year of Award	Funds provided (INR in lakhs)	Duration of the project
		concrete beamed column joints.						
4	Dr. Jaya S PILLAI	Wastewater treatment combined with CO2 biofixation and biofuel production using indigenous microalgae	APJKTU	Government	CED	2023	0.5	1 year
5	Poorna B R	Healthcare recommender system using hybrid filtering technique	CERD-APJKTU	Government	CSE	2022	1	1 year
6	Poorna B R	Augmented Reality Integrated Smart Math Solver	KSCSTE	Government	CSE	April 2023	0.1	1 year
7	JISHA JOSE	Animal Trespassing Detection System	KSCSTE	Government	CSE	April 2023	0.1	1 year
8	Dr. Jisha John	Parkinsons Hand Stabilization Device	CeDS	Government	CSE	March 2023	0.4	6 MONTHS
9	Dhanya L.K	Implementation of an Intelligent Chatbot using Deep Reinforcement Learning	KSCSTE	Government	CSE	April 2023	0.1	1 year
10	Dr. Jayakumari J	Development of Transit signal priority module with integrated AI assistant	APJKTU	Government	ECE	2023	0.255	1 year
11	Dr. Jayakumari J, Ms.Sreedevi	Intelligent Reflecting surfwsce assisted mm -	UTM	Universiti Teknologi Malaysia	ECE	April 2023	2.06478	2 years(extended

#	Name of the Principal Investigator/ Co Investigator (if applicable)	Name of the project/Endowment/Chair	Name of the Funding agency	Type (Government/Non-Government)	Department of Principal Investigator/ Co Investigator	Month & Year of Award	Funds provided (INR in lakhs)	Duration of the project
	P,Ms.Teena, Shiras	wave communication for 6G						till 2024)
12	Amrita B. J	Electric Wheelchair with Sip and Puff Technology, for quadriplegic/ALS patients	APJKTU	Government	ECE	2023	0.29	1 year
13	Aswin R B, Dr Dishore S V	Retrofitting conventional vehicle to EV	EMC	Government	EEE	2023	5	1 year
14	Dr Nisha G K, Ms Sandhya P	Two-wheeler EV with regenerative braking and V2X technology	APJKTU	Government		2023	0.275	1 year

Some more faculty members from the various Departments have received approval as PhD Supervisors under the affiliating University. Currently there are 19 Research Supervisors from different departments, guiding 24 PhD scholars.

4.2 Publications

College has been promoting publication of the research results by granting incentives like, reimbursement of registration fee, travel support, cash awards for publications in peer reviewed journals with good citation indices, etc., With such an increasing focus on research, the faculty from the departments have published 66 research papers during the academic year under report that include both reputed Journals and International Conferences. The numbers of publications by departments are as follows. See Table E:

Table G- Department wise Research Publications

Sl No	Department	Number of Publications
1	CED	14
2	CSE	18
3	ECE	10
4	EEE	10
5	MED	18
6.	S&H	5

4.3 Institute-Industry Relations

The College is situated in the capital city of the State and is well accessible due to the excellent connectivity by road, rail and air. Also, the campus has a history in education of about seven to eight decades. The high reputation leads to the linkages with Industries quite easily. The College maintains the associations with the industries through multiple ways and modalities, namely

a) Industry personnel in the Governing Body, Academic Council and BoS as stipulated under the UGC Guidelines
b) Presence of Industry experts in the Department Advisory Boards
c) Industry sponsored projects and internships for students
d) Invited lectures by Industry personnel
e) Campus Placements
f) Focused R&D and internship activities through MoU
g) Faculty Training and Research funding

Table F below shows the list of industries with whom the MoUs have been established afresh and the existing MoUs have been renewed during 2022-2023.

Table H List of active MoUs with Industries

Sl No	Name of the Industry/Agency with whom the MoU is signed with	Date / Month /Year	Duration	Initiated by
1.	L&T EduTech for facilitating industry interaction	27th July, 2022	3 years	CED
2.	ICCONS	26th June 2023	3 years	CSE
3.	UST	9th May,2023	1 year	CSE
4.	Ajman University, UAE	18th July 2022	3 years	CSE
5.	Accubits	June 2021	3 years	CSE
6.	INTEL and AUK Computing	November 1st, 2022	until termination	ECE
7.	SCTIMST- TIMed	9th January 2023	2 years	ECE
8.	MetroScan	6th April 2023	until termination	ECE
9.	Vinvish	Sept 2021	until termination	ECE
10.	ACSIA	Dec 2021	2 years	ECE

11.	Maven silicon	April 2022	3 years	ECE
12.	NISH	March 2022	3 years	ECE
13.	NISH I-YwD	July 2022	2 years	ECE, EEE
14.	Tata Elxsi	9/2/2022	3 years	EEE, CSE
15.	CDAC	21 Jun 2023	2 Years	EEE, CSE
16.	Energy Management Centre (EMC)	6/1/2023	5 years	EEE
17.	Vydyuti Energy Services (VES)	3/12/2020	until termination	EEE
18.	THE SPACELAB	5/7/2022	2 years	EEE
19.	University of Mara	14/7/2022	3 years	MED
20.	Naaden Agro Pvt Ltd	18-04-2023	2 Years	Corporate Relations
21.	BIMLABS	23-05-23	1 Year	Corporate Relations
22.	ICCONS	26 Jun 2023	3 Years	CSE
23.	SCTIMST	19 Jun 2023	5 Years	CSE

4.4 Research Facilities

With the aim of providing quality education and research facilities,

(A) Department of Civil Engineering has added Softwares and Instruments to the CADD, Transportation Engineering and Geotechnical Engineering laboratories.
(B) Department of ECE has initiated and started a new Industry sponsored Lab named Intel Unnati Data Centric Lab on AI and IoT.
(C) Department of EEE has initiated the EV lab.
(D) Department of MED has added systems to the CAD Lab and
(E) Department of CSE has set up an AI lab in collaboration with UST.

4.5 Collaborative/Interdisciplinary Research Works and other Projects
The College has, all along, been promoting interdisciplinary research. These are given a new focus under the realm of autonomy, so that more innovative solutions could be developed and would entail higher academic quality. The activities undertaken during the reporting year.

Collaborative Research Activities

1. Dr. Shini Renjith, Asst. Professor, Dept. of CSE, has been invited for a formal **International Research Collaboration** with the Information Processing Group (IPG) at the Oregon State University (OSU), Oregon, USA. The post-doctoral research work will be carried out in the IPG's research

interests in neural engineering along with the allied fields of Data Analytics, Information Retrieval, ML, DL etc.

2. A MoA was signed between the UNIVERSITI TEKNOLOGI MALAYSIA and MBCET on 26th April 2023 for the Project titled Intelligent Reflecting Surface Assisted Millimetre Wave Communication for 6G

3. An NDA was signed between SCTIMST, Trivandrum and MBCET for research collaboration on the 'Development of a sleep monitoring device (including hardware and software, prototype designing, testing and validation)' on 19th June 2023.

4. Dr. Jisha S V has received the Teachers Associateship for Research Excellence (TARE) fellowship TAR/2022/000386, from Department of Science and Technology for the project titled "Seismic Performance of Post Fire Retrofitted Reinforced Concrete Beam-Column Joints" on 06-10-2022.

Interdisciplinary Research Activities

1. Intel Unnati AI Lab Inauguration: Dr. Rajeev Chandrasekhar, Hon'ble Union Minister of State for Electronics and Information Technology, Skill Development and Entrepreneurship, Govt. of India inaugurated the Intel® Unnati AI IoT Lab on 13 June 2023 in the presence of H.B. Moran Mor Baselios Cardinal Cleemis Catholicos, the Major Archbishop of Trivandrum and the Patron and Manager of the College. This facility has been used for the skill development of the students. Faculty of various departments facilitate and mentor selected students for internship programs under the Intel® Unnati scheme. Dr. J Jayakumari, HoD ECE is the chairperson for the Lab. Dr. Swapna P S, Associate Professor and Mr. Jijo Jose, Assistant Professor, ECE are the Coordinator and Associate Coordinator respectively. Mr. Jijo Jose, AP, ECE and Mr. Shibu V. S., AP, CSE are the internal mentors for the internship programmes.

2. The Department of Computer Science and Engineering has initiated a Collaborative research work with the Institute for Communicative and Cognitive Neuro Sciences for developing and Assistive Aid for Autism under the guidance of Dr. Tessy Mathew, Ms. Deepa P.L, Dr. Jesna Mohan and Dr. Jisha John.

4.6 Industry-Institute collaboration

4.6.1 Government Collaborations

#	Title of the collaborative activity	Name of the collaborating agency	Faculty-in charge with Dept.	Date
1.	Member of the project advisory group of NATPAC for the project titled "Experimental investigation on Porous Asphalt Mix" by Sri. Jegan Bharat Kumar A.,	NATPAC	Dr. Neethu Roy, CED	Since May 2020

	Scientist NATPAC.			
2.	Technical committee member of Project Management Team, Rebuild Kerala Initiative	LSGD	Dr. Neethu Roy, CED	Since 19/06/2020
3.	Making prototype of Anakkampoyil-Kalladi-Meppadi Twin Tube Road Tunnel	Konkan Railway Corporation Ltd, KIIFB, PWD	Dr. Jayasree S, CED	May 2023
4.	Soil Investigation: Thiruvalla (Hospital Building)	PWD	Dr. Praveen P S, CED	July 2022
5.	Soil Investigation: Ranni (ITI Building)	PWD	Mr. Jobin Joy, CED	July 2022
6.	Soil Investigation: Kochuveli (Library Building)	PWD	Dr. Jayasree S, CED	September 2022
7.	Soil Investigation: Kizhvaipur (School Building)	PWD	Dr. Jayasree S, CED	September 2022
8.	Soil Investigation: Chavara Bhavan to Mundakal bridge	KIIFB	Dr. Jayasree S, CED	October 2022
9.	GPS Survey: Chavara Bhavan to Mundakal bridge	KIIFB	Mr. Nitin S, Mr. Govind U P and Dr. Amal Raj of CED	October 2022
10.	Soil Investigation at Pallipadam (Harippad)	KIIFB	Mr. Nitin S and Mr. Sreeju Nair S B and Mr. Govind U P of CED	Oct 2022 and Nov 2022
11.	Soil Investigation: Mukkad	KIIFB	Dr. Jayasree S, CED	Oct 2022 and Nov 2022
12.	Soil Investigation: Varkala	KIIFB	Dr. Jayasree S, CED	Nov 2022
13.	GPS Survey: Adoor Ring Road	KIIFB	Mr. Nitin S, Mr. Govind U P, Mr. Sreeju Nair S B and Dr. Amal Raj of CED	Nov 2022
14.	Topographic Survey: Alappuzha (Pallathuruthy kizhakkan bypass)	KIIFB	Mr. Nitin S, Mr. Govind U P, Mr. Sreeju Nair S B and Dr. Amal Raj of CED	Nov 2022 and Dec 2022
15.	Soil Investigation: Pachaloor	KWA	Mr. Sreeju Nair S B, CED	March 2023
16.	Soil Investigation: Madhupalam	KWA	Dr. Jayasree S, CED	March 2023

17.	Collaborative work on AI and ML and signed an NDA for data sharing.	CDAC	Mr. Raju K Gopal, Dr. Tessy Mathew, Dr. Jesna Mohan and Ms. Prathibha S. Nair of CSE	21st June 2023

4.6.2 Consultancy Work (Testing)

1. Testing of concrete cubes, Concrete Paver Block and Testing of Steel was done by the faculty members of CED. Soil Investigation works were done by the faculty members for the PWD, Govt. of Kerala.
2. Testing of small packages of VSSC-SATEL in MBCET. Staff from ECE and EEE are involved.
3. The Department of EEE completed the Consultancy project titled "Orbital Debris Propagation and Proximity Awareness" funded by THESPACELABS, Trivandrum (research grant of Rs 2,00,000) with Dr S Usha Kumari as the Principal Investigator, Ms. Elizabeth Varghese and Mr. Aswin RB as Co-Investigators and Ms. Amala Justin as Research Assistant.

   Objectives of the Project:
   1. Orbital debris propagation modelling
   2. Conjunction analysis
   3. Collision avoidance analysis
   4. Reentry Analysis
   5. Proximity analysis
4. In the Department of Mechanical Engineering the following Consultancy work has been undertaken using Exhaust gas analyser. A research team conducted exhaust and performance analysis of their biofuel sample. Also, a Cast Iron Recycling Unit has been established at the Mechanical Engineering Workshop, MBCET. The unit aims at recycling the scrap cast iron generated inside the campus.

5. Administrative activities including meetings of Statutory Bodies

The Governing Body, Academic Council and the Boards of Studies, and other statutory bodies of the College have been meeting on a regular basis. The College Council meet more frequently to address the day-to-day matters.

The various committees and the advisory boards at the Department level meet regularly to address various matters related to curriculum, examinations, research, networking and so on. A quick overview for the reporting year is given below.

5.1 Governing Body - Meetings and Members & Co-opted members

   URL: https://mbcet.ac.in/governing-body/

Dates of Meetings

Governing Body Meetings- Dates with Time	
1	02.09.2022, 10 am
2	25-10-2022, 3.30pm
3	27-3-2023, 10 am

5.2 Academic Council - Meetings and Members & Co-opted members

URL: https://mbcet.ac.in/academic-council/

Dates of Meetings

Academic Council Meetings - Dates with Time	
1	29.08.2022, 10 am
2	21.11.2022, 10 am
3	20.03.2023, 10 am

5.3 Board of Studies - Meetings and Members & Co-opted members

(i) **Department of Civil Engineering**

URL: **https://mbcet.ac.in/departments/civil-engineering/bos/**

Dates of Meetings

1.	05.08.2022, 3 pm
2.	28.02.2023, 3 pm

(ii) Department of Computer Science and Engineering

URL: **https://mbcet.ac.in/departments/computer-science-engineering/bos/**

Dates of Meetings

1.	16.08.2022, 11 am
2.	28.02.23, 2:30pm

(iii) Department of Electrical and Electronics Engineering

URL: **https://mbcet.ac.in/departments/electrical-electronics-engineering/bos/**

Dates of Meetings

1.	10.08.2022, 10:15 am
2.	22.02.2023, 10:30 am

(iv) Department of Electronics and Communication Engineering

URL: **https://mbcet.ac.in/departments/electronics-communication-engineering/bos/**

Dates of Meetings

1.	11.08.2022, 2pm
2.	24:02:2023, 10.30am

(v) Department of Mechanical Engineering

URL: **https://mbcet.ac.in/departments/mechanical-engineering/bos/**

Dates of Meetings

1.	11.08.2022, 3pm
2.	23.02.2023, 3pm

(vi) Department of Science and Humanities

URL: https://mbcet.ac.in/departments/science-humanities/bos/

Dates of Meetings

1.	19.08.2022, 3 pm

5.4 Finance Committee - Meetings and Members

URL: https://mbcet.ac.in/finance-committee/

Dates of Meetings

1.	11.03.2022, 3 pm
2.	26.08.2022, 9.45 am
3.	24-3-2023, 3.30 pm

5.5 Details of the Meetings of the Other Committees

5.5.1 Internal Quality Assurance Cell

We have imbibed that the exercise of *Quality Assurance* is essential for sustaining institutional excellence. IQAC was first formed in 2015. With an increased focus on quality under autonomy and to meet the statutory requirements of the University and of the UGC under the autonomy regime, College has reconstituted the IQAC in October 2020, in the first meeting of the Governing Body, immediately after becoming autonomous. Academic audit is regularly conducted and the reports are furnished to the University. Annual submission of the Academic Quality Assurance report (AQAR) to the NAAC is also under the purview of the IQAC. During the reporting year also, IQAC has systematically made interventions in the academic and administrative processes to assure the quality. Internal Academic Audit, Internal Administrative Audit. Academic audit as per the University's norms, External Audits (Academic and Administrative audits) by a peer team comprising the leading academicians were conducted. The details of the IQAC activities are given below.

IQAC meeting 1 was conducted on 26.07.2022 with internal members to finalize the AQAR 2022. Prepared the Annual Quality Assurance Report 2021-2022 (AQAR) of the HEI based on the quality parameters / assessment criteria developed by NAAC in the prescribed format and was approved by IQAC during the meeting held on July 26.07.2022(Internal members only) and submitted on December 17th 2022. Submitted the KSHEC (Kerala State Higher Education Council) Survey 2022 of IT Infrastructure facilities on 15-8-2022. Submitted the details of IIC (Institute Innovation Council) activities in the MHRD portal which in turn was reflected for Atal Ranking of Institutions on Innovation Achievements (ARIIA2022). ARIIA data was submitted on 30th September 2022. Started working on the data towards the preparation of AQAR 2022-2023. The website audit 1 for the academic year 2022-2023 was conducted from 10-10-2022 to 26-10-2022 and the suggestions were mailed to Staff in charge, webmaster, HoDs and department coordinators. NBA Internal Audits were conducted from 10th October 2022 to 22nd October 2022. NBA Peer team visit was on 28th, 29th and 30th October 2022.The exit meeting was on 30th October 2022. All the five Programmes (CED, CSE, ECE, EEE and MED) are re-accredited. Internal Academic Audit – 2022-2023 Odd Sem 1 was conducted on 9-11-2022, 10-11-2022, 11-11-2022 and 14-11-2022. The drafts of the reports were forwarded by the auditors (Internal Audit cell members, and NBA Program coordinators) to IQAC Coordinator after the audit. The IQAC Coordinator mailed the reports to HoDs

for remarks. After receiving the remarks from HoDs, the reports were forwarded to higher authorities for further action. The External Academic Audit by the APJ Abdul Kalam Technological University was conducted on 22-11-2022 by the External Auditors Dr Jayasudha J.S. and Dr Abhilash S.S. who were appointed by the University. Collected the details during December -January 202 and submitted the same for The National Institutional Ranking Framework (NIRF) on 12th January 2023. IQAC - Core and subcommittee were reconstituted on 20-1-2023. Submitted details for Si India Survey during February 2023. MBCET ranked 31st in All India level and 8th in South India. Feedback on Faculty and Course Exit Surveys were coordinated for S1, S3, S5 and S7 (odd semester of 2022-2023). More than 80% of the students from each class have voted. AQAR- Data Collection (June 2022 – Nov 2022) was completed by March 31st 2023. Internal Academic Audit – 2022-2023 Odd Sem2 was done internally in the department by the Internal Academic Audit team members of the concerned department (Internal Audit Cell member, Program Coordinator of NBA and Department Coordinator of NAAC). After verification HoDs had sent a mail to IQAC Coordinator with comments by April 20th 2023. AICTE EoA 2023-2024 was submitted and the payment was made on 17th April 2023. **IQAC meeting 2** was conducted on 24th April 2023 in Hybrid mode. External members joined online. Internal Academic Audit and NBA Internal Audit – 2022-2023 Odd Sem2 and 2023-2024 even Sem1 was done on 17th,18th, 19th and 22nd of April 2023. The drafts of the reports were forwarded by the auditors (Internal Audit cell members, NBA Program coordinators and NAAC Department coordinators) to IQAC Coordinator after the audit. The IQAC Coordinator mailed the reports to HoDs for remarks. After receiving the remarks from HoDs, the reports were forwarded to higher authorities for further action. The Internal Administrative Audit was scheduled from May 10 to May 30 2023. The Stock verification of labs and website audit 2 was conducted along with the internal administrative audit. The report was presented and forwarded to higher authorities for further action. Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes for the year 2022-2023 were initiated during May 2023.Feedback from Stakeholders (Students(S6) and Parents (of S6 students), Alumni (4 years back), Employers and Teachers) were circulated and collected. Annual reports are mailed by HoDs to the Principal and IQAC Coordinator.

Meetings and Members of IQAC

URL: https://mbcet.ac.in/orders/
URL: https://mbcet.ac.in/reports/
URL:https://mbcet.ac.in/feedback/

5.5.2 College Council - Meetings

College Council meets very frequently, even with urgent notice, to consider the matters and take decisions through extensive discussions.

URL: **https://mbcet.ac.in/college-council-2/**

5.5.3 Research Promotion Committee - Meetings and Members

Institute level Research Promotion Committee Constitution (RPC) is chaired by Principal and the constitution is as follows:

1. Principal
2. Vice Principal
3. Dean (Research and Consultancy)

4. Dean (PG Studies and Research)
5. Heads of Departments

Department Research Promotion Committees (DRPC)
1. Head of the Department
2. Assistant HoD
3. Professor in the Department
4. Subject experts from the Department (based on the research agenda of the meeting)

The mandate of the RPCs is to enable research and also to monitor the progress of the research activities.

Dates of Meetings:
1. 28 March 2023, 3 pm at Senatus Hall
2. 14 March 2022, 3pm at Principal's Conference Room
3. 15 May 2021, 3.00 pm - Online through Google meet   07 May 2021, 3.00 pm - Online through Google meet

6. Extension and Outreach activities undertaken

#	Department/Unit	Number of Activities
1	CED	5
2	CSE	2
3	ECE	5
4	EEE	6
5	MED	5
6	UBA	1
7	NSS	17

6.1 Scholarships

#	Name of Scholarships	CED	CSE	ECE	EEE	MED	CT
1	Tuition Fee Waiver Scheme	20	23	22	18	18	
2	Management Scholarship	6	1	3	5	2	
3	Merit Scholarship	2	32	5	2	2	3
4	BPL Scholarship	5	5	7	5	7	

7. Financial report

The College is solely funded by its own resources on a self-financing mode.

Table J Financial Report for the FY 2022-2023

Item	Unutilized Grant available from Previous year	Resources generated through fees and other sources	Grant received from UGC other funding agencies during the year	Expenditure during the year	Unspent balance	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Building				51,75,561.00		
Guest Faculty						
Orientation of Teachers				68,100.00		
Redesigning of courses				55,000.00		
Workshop/Seminars				3,89,906.00		
Others				6,04,38,033.06		
Office/Teaching				12,37,46,386.00		
Laboratory Equipment		21,22,77,574		2,01,66,192.00		
Furniture				5,23,740.00		
Library				30,81,546.00		
Meeting etc.				1,89,668.00		

		21,22,77,574		21,38,34,132.06		
Total						

8. Others

8.1 Campus Placements

For the 2019-2023 B. Tech Batch

Regardless of the global economic slowdown and the national inflation, 22 companies have visited the campus online/offline and made 325 offers through the campus interviews conducted online as well as offline. With more opportunities, including core ME and CE companies in the pipeline, it is an encouraging sign. The major recruiters include TCS, Acsia Technologies, TATA Elxsi, QBurst, Cognizant, HCL, Federal Bank, Quest Global, and Speridian. Others who have made offers include Bimlabs, Allianz, Aurinpro, Bluebinaries, Experion Technologies, IBS, H & R Block, Envestnet, EY, Terrific Minds, NeST, Vinvish Technologies, and Zoho Corporation. Around 180 students have been placed by the time the final semester has come to an end. Internship opportunities in a few companies were facilitated through Training and Placement Unit, which were then converted to placements in the same company.

8.2 Student Internships as a quality assurance measure

Internships for the UG Programmes are integrated in the Curriculum by way of the Activity points. Students will be awarded Activity points when they complete the internships and submit the evidences for the same. Following tabulations show the accomplishments of the graduating batches in terms of their participation in the internship/industrial training during the tenure of study in the College.

Table K Internship attended by 2019-2023 Batch

Sl No.	Department	Total Number of students	Number of students attended	Percentage of students attended
1	CED	125	72	57.60%
2	CSE	126	107	84.92%
3	ECE	111	93	83.78%
4	EEE	84	76	90.47%
5	MED	97	50	51.54%

8.3 Activities under Corporate Relations

The need for good quality is fundamental to our life. In order to apply technology to the cultivation of safe-to-eat vegetable, an MoU was signed with **Naaden Agro Pvt Ltd** for collaboration and technology development for high tech farming and Agro Innovations and Internships. College has initiated a technical discussion with **Pulse Hospital** for technical problem statements, innovations and Internships. As part of the MoU with Acsia Technologies, 16 students from MBCET completed the Internships in REST open

source with the objective to build special talents and skills in emerging automotive software.

For the better MSME connectivity, the Institute membership of CII was reactivated. Initiated and exchanged MOU with BIM labs for exclusive placements and imparting skills in emerging BIM technology with a focus on the students of MED, CED and EEE. 17 students were offered placements as part of the collaboration. A project on 'Artificial Intelligence enabled alternative Augmentative Communication' which was initiated by CSE Department in collaboration ICCONS was connected with MERP Systems (MERP), the US-based digital transformation services and software development organization for exploring the technical, financial, and commercialization support.

Senior personnel of **dSPACE**, Germany one of the world's leading providers of tools for developing units visited MBCET on Friday, 22nd July 2022, and interacted with the College Management, Deans, Heads of the Department and with the students. The team consisted of **Mr. Harald Bender**, Chief Financial Officer, **Mr**. **Joachim Stroop**, Head of Partner Management and Acquisitions, **Mr**. **Elmar Schmitz**, Head of Software Department and **Ms**.**Manju Mary George**, Product Owner.

Launched an exclusive placement **drive for Differently Abled** Engineering students in Kerala in association Acsia Technology and KTU on 24th January 2024.

Ms. Suganya Tamalapadi, the Regional Officer, **DAAD Information Point**, Bangalore visited the college and interacted with students on Master Studies in Germany on 18th October 2023. The selected 91 UG students of MBCET from different streams who expressed interest pursue higher studies opportunities in Germany participated in the session.

The first-ever model of **internships with stipend** at MBCET powered by **Tata Elxsi**, the Project Collaboration turned out well with 41 students securing final placements after the completion of their internship and project.

With regard to promoting EV in the common man's transit, the project on EV Rikshaws was started. Under the scheme of the Energy Management Centre(EMC) of Kerala Government will support by providing the economically viable kit to the existing IC engine end users/ Rikshaw drivers. EMC sanctioned an amount of Rs. 5 lakhs for the EV retrofit and development. The E-rikshaw converted through the project was displayed in the exhibition conducted by EMC-ANERT, Govt. of Kerala from 30 May-1 Jun 2023 in Thiruvananthapuram.

In the first time ever travel to Kerala, Mr. Stefan Juraschek, the Vice President of development of Electric-Powertrain at BMW Germany visited MBCET. The VVIP visit was organized by the CR department in association with Acsia Technologies. The objective of the visit was to understand the automotive software ecosystem that prevails in India and the support extended by the academic institutions to it. The visit helped to add momentum to the already initiated activities in the domain of automotive software engineering by the college.

8.4 Skill development Programmes:

CED

1. An industrial training program is conducted for the fourth semester civil engineering students on "Essentials in civil engineering" from 24/4/2023 to 28/04/2023 (5 days).
2. S8, S6 and S4 students have successfully completed various courses such as Building Information Modelling, Project Management for Engineers, Airport and Seaport Engineering etc. provided by L&T Educ Tech.

CSE

Following skill development programmes were organized
1. For S4 students SDP on Cloud Computing and Data Science was conducted
2. SDP on Full stack development and Web programming was conducted for S5 students.
3. SDP on Python Programming was organized for S3 students. This included hands-on sessions in basic concepts in Python
4. SDP on "Arduino Programming" was organized for the first-year students of CSE.

EEE

1. SDP on "Essential circuit analysis using LT Spice" was conducted for 72 students of S5 EEE 1 and 2. LT Spice is a powerful simulation software that allows students to analyze electronic circuits effectively. By incorporating this tool into the program, students gained hands-on experience in designing various circuits like PN diode characteristics, Zener diode characteristics, voltage divider circuit, current divider circuit, clipper and clamper circuits, BJT characteristics, full bridge and half bridge rectifiers, and logic gates.

   Through practical exercises, students learnt to simulate circuits, observe waveforms, and analyze circuit behavior, which deepened their understanding of electronics and circuit analysis. Furthermore, they were able to troubleshoot the designs and experiment with different circuit configurations, fostering creativity and problem-solving skills. The program focused on guiding students through the fundamentals of LT Spice, circuit simulation techniques, and interpreting simulation results. By combining theoretical knowledge with practical applications, students became proficient in circuit analysis and developed a strong foundation in Electrical and Electronics Engineering. Overall, incorporating LT Spice into the Skill Development Program has undoubtedly enhanced the learning experience and prepared students for real-world challenges in the field of electronics.

2. SDP on "Basics of Python Programming" was organized for S3 students of EED. A total of 53 students attended this Skill Development Program. The course covered essential Python concepts, empowering students to develop foundational coding skills. Through engaging lectures and hands-on exercises, the students gained a solid understanding of programming principles, setting them on a path towards becoming proficient Python developers.

3. SDP on "Arduino" was organized for the first-year students of both EE and EL branches (95 students). The program provided an exposure to the students to use Arduino platform to develop prototypes,

to give them basic idea of how to design electronic circuits using tinker cad and give them an idea of the function of electronic sensors. The students were given hands on training in designing the electronic circuits using Arduino UNO board. They were also given training on simulating the designs in Tinkercad also.

4. SDP on "MATLAB/Simulink "was organized for S6 EE1 and EE2 (70 students). The course covered essential foundation to design and model rectifier circuits, filter circuits and PWM techniques to trigger converter circuits. Through these hands-on sessions, students were able to design and model buck boost converters. PV array systems were modelled with different MPPT techniques.

ECE

The following Skill Development Programs were organized

1. SDP on "Arduino Programming" was organized for the first-year students of ECE. The students were given hands on training in designing the electronic circuits using Arduino UNO board.
2. SDP on "Python Programming" was organized for third semester students of ECE. The course covered essential Python concepts, empowering students to develop foundational coding skills.
3. SDP On Prototype Development using STM32 was organised for the fourth semester students of ECE dept to prepare the students to propose solutions to real world problems using STM32 based boards.
4. SDP on "System design using Simulink and PCB designing" was organized for the fifth semester students of ECE. Students were exposed to designing using simulink and PCB layouts using KiCAD.
5. SDP on "Sensors and Data Acquisition for IoT Applications" was organized for the sixth semester students of ECE. The students were given hands-on training in developing IoT solutions using various sensors and ESP8266 development board. Data storage and analytics using different cloud platforms were also included in the programme.

MED

1. MATLAB - S4 students (51 students)
   It was offered throughout the semester including 2 certificate courses and covering basic coding of MATLAB. The students gained vital understanding of programming principles, setting them towards better software usage in terms of projects and future works.
2. Application of Computational Fluid flow in Flow Analysis: - S6 students (80 students)
   Organized for S6. The course covered essential understanding of CFD to simplify fluid flow systems and play an important role in gauging the parameters that go into creating feasible products and solutions.

8.5 Entrepreneurship Development activities by IEDC and Departments

17 activities were conducted by the IEDC in the year 2022-2023. 26 students and 11 faculty members were there. Kerala Startup Mission grant received was fully utilized. The College has been

conducting the Hackathons, Bootcamps, Alumni meet, Talks by successful Entrepreneurs, etc. to make the students aware of their capacity as an innovator/entrepreneur.

9 Faculty Training and Development

9.1 Teaching and Learning Centre (TLC)

The Teaching Learning Centre (TLC) has been established by the College for focusing on the training and development of the teachers for delivering the instructional contents effectively and for their continuous professional development. It also set the ecosystem for making the learning more experiential and immersive for the students by the suitable adoption of the teaching media. Training of the teachers are regularly conducted. The induction of newly appointed teachers, their training, etc. are also pursued by the TLC. Following paragraphs give a gist of the activities during 2022-2023.

(A) Orientation Programme for new Faculty

TLC organized a session on OBE on April 28.2023 to the new faculty Members of all departments. Dr S. Viswanatha Rao, Dean Academics was the resource person.

25 faculty members from all departments attended the sessions.

(B) A session on Strategies for Effective Classroom management.

This was organized by TLC to the faculty having less than 2 years of experience.

25 faculty members from all departments attended the sessions.

(C) A session on CO-PO assessment under OBE

TLC organised a workshop on 27 May 2023 to the faculty of all departments on the CO PO assessment under OBE. Dr Neethu Roy, Dean Research and Consultancy and NBA coordinator was the resource person.20 faculty members from all departments attended the sessions.

9.2 Faculty Development Programmes Conducted

Dept	**Odd sem** - Name of FDP	No: of Days
CED	Training in Building Information Modeling (BIM) and Primevera	5
CSE	Security in Computing	5
ECE	Machine Learning, Deep learning and LTE to 5G using MATLAB	3
	AI with Computer Vision	2
	Intel Unnati Train The Trainer Workshop (Even sem)	5
EEE	Smart Grid Technologies (Even sem)	6

Even semester will be over by July 26th 2023. The FDPs to be conducted by a few departments are included in the activity plan.

9.3 **FDPs attended by the faculty members**

#	Department	Number of Faculty members attended FDPs during Academic Year 2022-2023
1	CED	**22**
2	CSE	**19**
3	ECE	**22**
4	EEE	**19**
5	MED	**6**
6	S&H	**8**

9.4 Faculty Achievements

#	Department	No: of Achievements in 2022-2023	No of PhDs in 2022-2023
1	CED	1	1
2	CSE	5	1
3	ECE	5	3
4	EEE	9	NIL
5	MED	8	NIL

9.5 No: of PhD hands, Guides, Research Scholars and faculty registered for PhD

#	Department	Total No of PhD hands in the Department	Total No of PhD Guides in the Departments	Total Number of Research scholars	Total No of Faculty pursuing PhD
1	CED	11	3	6	4
2	CSE	5	4	1	15
3	ECE	11	2	7	10
4	EEE	6	4	2	15
5	MED	8	5	NIL	7
6	S&H	7	NIL	NA	8

10. Students' Professional Development and the Professional Bodies

College is very prompt in making its contributions for instilling proper values and morals in the students. Practice of professional ethics is also promoted through various activities of the Department level Associations, the Clubs for the Cocurricular activities, Chapters of the

professional bodies, etc. Highlights of the various initiatives taken during the reporting year are given below.

10.1 Elected Student Body at the College Level

The Senate, being the elected Student body, its constitution was preceded by the democratic election process, broadly following the University guidelines and the Lyngdoh Committee Report. The Senate 2022-2023 was constituted on 5 Dec 2022 and the participation of UG and PG students in the Senate was ensured through the elected representatives. Office bearers have taken oath and assumed their office duly on completion of the election process. The Senate oversees the conduct of student activities.14 students and 2 faculty advisors are there in the Senate.

10.2 Professional Activities

In spite of the prevailing pandemic conditions, all the Professional bodies (Local Chapters, Student Branches) were very active throughout the year. Thanks to the online technologies, a number of events were organized by the student branches in the virtual mode. A summary of the number of activities conducted under various banners is given below.

(A)**IEEE SB** and the different IEEE societies PES, EMBS, SPS, CS, RAS and WIE organised a total number of **29** events that includes technical as well as activities of social relevance. The number of activities by the societies and affinity groups are WIE-2; RAS-2; EMBS-5; SP-1; CS- 2; PES-14; SIGHT-1; Common-2.

Number of student members-105   Number of faculty members (Office Bearers) -8

Number of Faculty members with IEEE membership– 14

(B) The IET MBCET On Campus

The IET MBCET On Campus Chapter has conducted 14 Activities
 The Chapter has received Best Faculty Advisor and KKLN Premium on campus award
Number of student members-38   Number of Faculty members – 1

(C)The ISTE MBCET Student and Faculty Chapters

The ISTE MBCET Student Chapter has organized 24 Activities

The ISTE MBCET Faculty Chapter has organized 10 Activities
Number of student members-170
Number of faculty members (Office Bearers) -13
Number of Faculty members with ISTE membership - 68

(D)**ASME MBCET Chapter**
Conducted 1 Activity
Number of student members- 25   Number of Faculty member – 1
(E) **ISHRAE MBCET Chapter**
Conducted 5 Activities
Number of student members-30   Number of Faculty member – 1
(F) **SAE**
Conducted 2 activities
Number of student members- 90 (2021-22) Number of Faculty member - 2

(G) **CSI MBCET Chapter**

Conducted 11 activities

Number of student members- 203 (2021-22) Number of Faculty member - 1

(H) ASCE – American Society of Civil Engineers MBCET Chapter

Conducted 14 activities

Number of student members- 304   Number of Faculty members – 3

10.3 Institute Innovation Council (IIC)

IIC MBET has secured 3.5 Star rating for the year 2021-2022

 The activities conducted by the IIC MBCET till June 2023 for the Quarter 4 ,Quarters 1 & 2 are listed as follows

Quarter 4 [2021-22]

IIC Calendar Activity: 3

MIC Driven Activity :4

Self Driven Activity: 3

Celebration Day Activity: 2

Quarter 1 [2022-23]

IIC Calendar Activity: 3

MIC Driven Activity :1

Self Driven Activity: 3

Celebration Day Activity: 0

Quarter 2 [2022-23]

IIC Calendar Activity: 4

MIC Driven Activity :1

Self Driven Activity: 3

Celebration Day Activity: 2

Number of Student members: 6   Number of Faculty Members: 13

No of External Members: 5

10.4 Invited Lectures

#	Department	Number of Invited Lectures	Number of External Lectures by MBCET Faculty
1	CED	5	3
2	CSE	10	17
3	ECE	4	10
4	EEE	12	8
5	MED	NIL	10
6	S & H	NIL	3

10.5 Dept Association Activities, Tech fest and Newsletters

#	Dept.	Name of the Association	Name of the fest and Date	Number of events conducted	Number of Newsletters released
1	CED	Civil Engineering Students Association (CESA)	Utbhav, 17/02/23	8	Nil
2	CSE	Association for Computer Engineers	Hash (5/11/22, 6/11/22)	10	1(Bimonthly Newsletter)
3	ECE	e-NIX	Adharva'23, 10/2/2023	6	1(e-Wave)
4	EEE	Illumina	Trydan'23, 17/12/2022	13	Annually (Vibgyor)
5	MED	AUTOMATA	VORTECHX'22 2/11/2022	8	1 (ANNUAL)

11. Campus Community- Activities conducted by MBCET Staff Club

The Staff Club 2022-23 at MBCET had a successful year filled with various engaging activities and events. The Executive Committee, elected during the General Body meeting on 5th August 2022, was led by President Mr. Akhil Chandran from the Mechanical Engineering department, Secretary Dr. Suvith V.S. from Science and Humanities, and Treasurer Mr. Edwin Roy from Civil Engineering. The committee, along with other executive members, organized a range of exciting activities. The Club commenced with the Onam Celebrations on 1st September 2022, featuring an Athappookalam inauguration by Fr. John Varghese, Bursar, and a grand 'Onam Sadya' followed by Various entertainment programs by the staff. In honor of Kerala Piravi, the club distributed sweet packets to staff members on 1st November 2022. The Christmas Day celebrations on 20th December 2022 were graced by His Beatitude Moran Mor Baselios Cardinal Cleemis Catholicos, the Patron and Chairman, Governing Body, who delivered the Benedictory X'mas Message. The club also recognized the contribution of former Principals, Faculty, and Staff who have been part of MBCET since its establishment in 2002. The club had honored the faculties who completed 20 years of service. Additionally, we had handed over an amount of Rs. 10 Lakhs for the Charity Fund. The event included awards for children of staff members who secured top positions in Class X and XII. The All-Kerala Staff Cricket Tournament on 28th January 2023 saw UKF College of Engineering and Technology,

Paripally, lift the trophy, while Illahia Engineering College, Muvattupuzha, secured the Runner's Trophy. The Staff Sports Meet from 9th to 19th March 2023 had exciting competitions like Volleyball, Throwball, Carroms, Chess, Badminton, Table Tennis, Basketball, Football, Cricket, and Athletics, with Mr. Akhil Sudheesh B. (ECE) and Dr. Minu Ann Peter (CE) emerging as men's and women's champions, respectively. The Department of Civil Engineering won the overall championship. Farewells were given to the staff members Ms. Anjali C. from the CSE department, Mrs. Sherin Mathew, Mr. Shijin Kumar R. V., from the Civil Engineering department, for their commendable performance. The Staff Club showed immense compassion by supporting Ms. Helena S., a housekeeping staff member, with financial assistance of Rs. 1,50,000 during her difficult times. Also, we handed over kids' umbrellas to the housekeeping staff on 13th June 2023. The highlight of the year was the one-day pleasure trip to GO GO LAND RESORT AND ADVENTUROUS SPORTS, Poovar, on 8th July 2023, where a team of 40 staff and their family members enjoyed a range of adventurous activities and boating to Poovar Island. Mr. Sabeesh T., Library, efficiently coordinated the tour. The Staff Club proved to be a vibrant and caring community, fostering a sense of togetherness among MBCET staff members.

12. Students' Sports and Games

Six students took admission under sports quota and four students are availing scholarship.
The following Inter collegiate tournaments are organised by MBCET

- Mar Baselios trophy (Basketball tournament)
- Volleyball tournament
- Chess tournament

Annual Athletic meet of the institution was held on 24-01-2023. New facilities introduced are Volleyball (2 courts) and stems are purchased for Lawn tennis. Students had participated in All Kerala, Inter University and South zone tournaments.

13. Alumni Affairs

Mar Baselios College of Engineering and Technology Alumni Association, or MBCETAA is the alumni association of MBCET. The alumni association is registered as a society in accordance with the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act, 1955, Registration number: TVM/TC/684/2020 on 21/12/2020. MBCETAA supports the institution in fields of curriculum development, placement and training, social obligations, among others. MBCETAA provides financial support to programmes intended for alumni/student development. For the year 2022-2023 the contribution by MBCETAA is Rs. 8,48,276/-. In addition to the usual contributions to Tech fests, a student of M. Tech Power Control & Drives (2020-2022) was sponsored by MBCETAA due to his financial issues. Also, a student of B. Tech Civil Engineering (2019-2023) was sponsored by MBCETAA to clear his fee dues. His father fell down from top of his house during covid time and broke his shoulder bone.

14. Conclusion

The College has passed through the third year of its journey in the Autonomy regime very smoothly. Earnest efforts were made to adhere to the Academic Calendar with a plan that each batch graduate within the stipulated duration of their study programme (4 years for B. Tech and 2 years for M. Tech). The accomplishments in terms of the progress and quality in the academic and research domain have been possible only because of the guidance and support from the stakeholders, Management and the well-wishers, including the Affiliating University and the Government.

We hereby submit the Annual Report for the year 2022-2023 to UGC as part of the compliance to the guidelines. But that also helps us to review our activities and the outcomes and also apply the checks and measures for setting the processes right.

We are grateful to the UGC for giving us the chance to improve the caliber of our processes and fine tune the academic programmes.

By signing this document, we certify that the data in this report is accurate to the best of our knowledge and belief.

Signature:................................
Dr. M.J. Jayashree
IQAC Coordinator

Place: Trivandrum
Date: 01.09.2023

Signature:................01/09/2023
Dr. Abraham T Mathew,
Principal
Dr. Abraham T. Mathew
Principal
Mar Baselios College of
Engineering & Technology
(Autonomous)
Mar Ivanios Vidyanagar
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