PROGRESS REPORT FOR THE ACADEMIC YEAR 2025-2026

(01 July 2025 to 30 June 2026)

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

OCTOBER 2026

PROGRESS REPORT FOR THE ACADEMIC YEAR 2025-2026

(01 July 2025 to 30 June 2026)

TABLE OF CONTENTS

Sl No:		Title	Page No
1.		**About the College, Vision, Mission**	1
2.		**About Autonomous Status**	1
3.		**Academic Activities Undertaken**	2
	3.1	2021-2025 Batch Results & 2022-2026 Batch Results	2
	3.2	Curriculum Design and Development	3
	3.3	Students' Achievements	6
4.		**Research Activities Undertaken**	6
	4.1	Funded Projects	6
	4.2	Publications	8
	4.3	Institute-Industry Relations	9
	4.4	Research Facilities	11
	4.5	Collaborative/Interdisciplinary Research Works and other Projects	12
	4.6	Industry-Institute Collaboration	15
	4.6.1	Collaborations	15
	4.6.2	Consultancy Work (Testing)	17
	4.7	Patent Details	18
5.		**Administrative Activities Including Meetings of Statutory Bodies**	19
	5.1	Governing Body - Meetings and Members & Co-opted members	19
	5.2	Academic Council - Meetings and Members & Co-opted members	19
	5.3	Board of Studies - Meetings and Members & Co-opted members	19
	5.4	Finance Committee - Meetings and Members	20
	5.5	Details of the Meetings of the Other Committees	20
	5.5.1	Internal Quality Assurance Cell - Meetings and Members	20
	5.5.2	College Council - Meetings and Members	20
	5.5.3	Research Promotion Committee - Meetings and Members	21
6.		**Extension and Outreach activities undertaken**	21
7.		**Financial Report**	22
	7.1	Scholarships	22
8.		**Others**	23
	8.1	Campus Placements	23
	8.2	Student Internships as a Quality Assurance Measure	24
	8.3	Activities under Corporate Relations	25
	8.3.1	Meeting with TANSAM	25
	8.3.2	Meeting with HYKON INDIA PVT LTD	25
	8.3.3	REPA Organized Special Summit	28
	8.3.4	NASSCOM SME CONFLUENCE	28
	8.3.5	Industry Expert Session titled "Engineering the Game: Sports Technology and Careers of Tomorrow"	28
	8.3.6	Visit to EMC	29
	8.3.7	Visit to IIIC	29
	8.3.8	Visit to iCore Pioneer Solutions	29
	8.3.9	Visit to Bio 360 Life Sciences Park	29
	8.3.10	Cubesat Bootcamp	30
	8.3.11	Technical talk on AI and IOT Innovations in Agriculture	30
	8.3.12	One Day workshop by Hykon Electric	30
	8.3.13	Inauguration of Safe to Eat Technology	30

	8.4	Skill development Programmes	30
	8.5	Entrepreneurship Development activities by IEDC and Departments	31
9.		**Faculty Training and Development**	35
	9.1	Teaching and Learning Centre	35
	9.2	Faculty Development Programs conducted	38
	9.3	FDPs attended by the faculty members	43
	9.4	Faculty Achievements	44
	9.5	No: of PhD hands, Guides, Research Scholars and faculty registered for PhD	46
10.		**Students' Professional Development and Professional Bodies**	46
	10.1	Elected Student Body at the College Level	46
	10.2	Professional Activities	47
	10.3	Institute Innovation Council	48
	10.4	Invited Lectures	49
	10.5	Dept Association Activities, Tech fest and Newsletters	49
11.		**Activities by MBCET Staff Club**	49
12.		**Students' Sports and Games**	50
13.		**Alumni Affairs**	51
14.		**Conclusion**	52

PROGRESS REPORT FOR THE ACADEMIC YEAR 2025-2026
(01 July 2025 to 30 June 2026)

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 has been 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 (2025-2026), 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 2432 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 2025-2026, the college has admitted the fifth batch of students under autonomy to the B. Tech and M. Tech programmes through the approved admission process and the classes were started in August 2026. 651 students were admitted for B Tech and 40 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 third batch of M.Tech students has graduated in 2025-2026.

3. Academic Activities Undertaken

3.1 Results 2021-2025 B. Tech Batch & 2022-2026 B Tech Batch

The BTech students have performed well in academics. The 2021-2025 batch(non-autonomous) has graduated during the year under report. The following Table A shows the overall pass in the five BTech Programmes.

Table A: Pass Percentage of the 2021-2025 B Tech Batch

Branch	Total Number of Students appeared	Number of Students Passed		Pass% Regular Exam	Pass% Supplementary Exam
		Regular (First attempt in all semesters)	**Supplementary** Total pass (In stipulated time after clearing backlogs)		
CED	89	34	77	38.2	86.52
CSE	121	59	114	48.76	94.21
ECE	115	40	106	34.78	92.17
EEE	50	18	41	36	82
MED	50	11	44	22	88
Overall Pass	**425**	**162**	**382**	**38.12**	**89.88**

* Results shown after the supplementary examination

Table A1: Pass Percentage of the 2022-2026 B Tech Batch

Branch	Total Number of Students appeared	Number of Students Passed		Pass% Regular Exam	Pass% Supplementary Exam
		Regular (First attempt in all semesters)	**Supplementary** Total pass (In stipulated time after clearing backlogs)		
CED	75	26	55	34.67	73.33
CSE	121	65	101	54.55	83.47
CT	57	29	44	50.88	77.19
ECE	107	66	88	61.68	82.24
EEE	47	20	27	42.55	57.45
EL	43	18	32	41.86	74.42
MED	39	7	21	17.95	53.85
Overall Pass	**489**	**231**	**368**	**47.24**	**75.26**

3.2 Curriculum Design and Development

In 2020-2021, after becoming autonomous, College has adopted the first BTech curriculum from the running 2019 curriculum and scheme of the affiliating University with minor revisions in the syllabus of some of the courses. The MTech 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 2025-2026, 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 170 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. 167 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 rigor 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 170 credits, there will be options for Minor Degree and Honours similar to what is available in the running Curriculum. The credits to be earned are 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 clearer, 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

as shown in Table B, 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.

Table B: Minor Courses

Sl. No.	Department	Semester	Name of Minor Courses
1.	CED		Nil
2.	CSE	S6	1. Deep Learning
		S7	1. Mini Project
		S5	1. Natural Language Processing 2. Concepts in Software Engineering 3. Concepts in Deep Learning 4. Introduction to Block chain Technologies
		S3	1. Statistics for Data Science and Time Forecasting 2. Object Oriented Programming 3. Basics of Computer Systems
3.	ECE	S4	1. Microcontrollers 2. Machine Learning for Data Processing 3. Introduction to Industrial Automation 4. Assistive Technologies
		S7	1. Mini Project
		S3	1. Introduction to Multidimensional Data 2. Fundamentals of Robotics 3. Fundamentals of Biomedical Engineering 4. Electronic Circuits
4.	EED	S4	1. Hardware Interfacing using Arduino C 2. Power Electronics and Energy Storage devices
		S7	1. Mini Project
		S3	1. Electric Machinery 2. Microcontrollers and Embedded Systems
5.	MED	S6	1. Fabrication and Testing of UAV 2. Optimisation Techniques
		S5	1. Design and Simulation of UAV 2. Computational Mechanics
6.	S & H	S4	1. Entrepreneurship Development and Small Business Enterprise
		S7	1. Functional Analysis
		S3	1. Financial Management

3.3 Students' Achievements

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

Table C: Achievements of the Students

Sl. No.	Department	Academic	Co-curricular/Extra Curricular	Number of Student Achievements
1	CED	9	16	25
2	CSE	32	50	82
3	ECE	1	28	29
4	EEE	35	18	53
5	MED	5	12	17

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 four projects from various departments with a total budget of Rs. 6,00,950/- have been sanctioned during the year 2025-2026 and are tabulated in Table D below.

Table D: In-house R&D Projects sanctioned during 2025-2026

Sl. No.	Name of the Principal Investigator/ Co-Investigator	Title of the Project	Dept. of PI and Co-PI	Year of Award	Funds provided (Rs)	Duration of the project
1.	Dr. Anupama Krishna D, AP, CED	Post fire behaviour and strength prediction of concrete beams reinforced with GFRP bars	CE	January 2026	1,28,600/-	1 year
2.	Dr. Minu Ann Peter	Experimental and numerical study on Composite Steel Tube	CE	January 2026	46,800/-	1 year

		Columns				
3.	Ms. Ansu Mathew	Performance evaluation of GFRP tubes with different concrete infills- An experimental and numerical investigation	CE	January 2026	60,000/-	1 year
4.	Ms. Rini Vijayan, AP, CSE & Ms. Neethi Narayanan, AP CSE	Framework for synthetic face presentation attack detection in biometric systems	CS	13.04.2026	70,000/-	1 year
5.	Ms. Lakshmi J L	FPGA Based Hardware Accelerator for Physical Layer Processing using Polar Coding and OFDM with SDR Validation	EC	April 2026	1,00,000/-	2 years
6.	Mr. Midhun G, Dr. Soumya A V, Ms. C. Sojy Rajan	SoC Estimation of Li-Ion Batteries using Hybrid CC-OCV and ML assisted 2RC Model	EE	21/03/2026	1,00,000/-	1 year
7.	Dr. Sheryl Arulini, Mr.Rejish Babu F R	Block Chain Enabled P2P Energy Trading and Automated Net Metering for Campus based Solar Surplus Distribution	EE	21/03/2026	2,15,000/-	1 year
8.	PI- Mr. Vaishak S Nair Co-PI-Dr. Rajesh T N	Design and development of a subsonic wind tunnel for studies on aerodynamic characteristics of 4412 Airfoil	MED	20/01/2025	2,45,000/-	1.5 years

9.	Dr. Renjini M Nair Dr. Lakshmi J S	Development of a low temperature Sintered ceramic substrate for 6 G Antennas with advanced conducting materials	S&H	13/04/2026	97,600/-	1 year
10.	Dr. Preethi P C, Dr. Suvith V S	Development of an Engineered ZIF -90-based metal organic framework for the ultra sensitive detection of bio markers	S&H	13/04/2026	1,27, 800/-	1 year

Table E: List of In-House Internships Completed during 2025-2026

Sl. No.	Name of the PI/Co-PI	Title of the Project	Name of interns	Year of Award	Duration of the Project
1.	Dr. Krishnamohan G. P. Department of S&H	Numerov Python Package (V2) - a Spline based Numerov Method to solve generic one dimensional Schrodinger equations.	Anusree P (MSc intern), Aiswarya K R (MSc intern)	2026 July	1 year
2.	Dr. Krishnamohan G. P. Department of S&H	Quantum capacitance of graphene (and other 2D materials) from the DFT-based density of states data	Chris Nijo, Charu Easwer, Abhijith S, Shalga (through IEDC)	2026 June	1 month

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.

Table F: Department wise Research Publications

Sl. No	Department	Journals	Conference	Number of Publications
1	CED	SCOPUS-2	Conference: 6 (5 international, 1 national) Book chapters: 2	**10**
2	CSE	SCI – 1 SCOPUS- 1 Others-1	Conference:14 Book chapters:4	**21**
3	ECE	SCIE – 2 ESCI-1 SCOPUS- 2	Conference: 10 Book chapters: 2	**17**
4	EEE	SCI – 4	Conference: 10 Book chapters: 2	**16**
5	MED	SCI – 4 SCIE –2	Conference: 3	**9**
6	S&H	SCI – 1 SCOPUS-7 SCIE – 1 Springer-2	Conference: 1 Book chapters: 2	**14**

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

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

Table G below shows the list of industries with whom the MoUs have been established afresh and the existing MoUs have been renewed during 2025-2026.

Table G: List of active MoUs with Industries

Sl. No	Name of the Industry/Agency with whom the MoU is signed	Date	Duration	Purpose	Initiated by
1.	LITMUS 7	08/06/2026	Until Termination	Internship	All Department
2.	Puthran & Associates	10/04/2026	Until Termination	Patent	All Department

3.	Dawnell industries Pvt. Ltd.	02/03/2026	11 months	Research	EC
4.	Thrust Tech India Private Limited	20/02/2026	1 year	Workshop	EE
5.	University of Mara	16/01/2026	3 years	Invited Talks/ Conference/ Student Mobility Programme	ME
6.	Alibi Global	03/04/2025	3 years	Invited Talk	CS
7.	ASAP	April 2025	3 years	Expert Talk	CS
8.	AiDrone Private Limited	05/02/2025	3 Years	Workshop	ME
9.	CDAC	28/05/2025	3 Years	Boot camp, Project	EE, EC, CS
10.	Simple Logic Solutions	03/02/2025	1 Year	Project	CS
11.	SCTIMST- TIMed	09/01/2025	2 years	Project	EC
12.	Engineers Federation of Kerala Water Authority (EFKWA)	18/03/2025	1 year	Practical Exposure to water and waste water infrastructure project	CE
13.	Ultra Tech Cements Ltd	29/01/2025	5 years	Training programme	CE
14.	University Teknologi Mara (UiTM)	02/10/2025	4 years	Research, Student Exchange Programming	All Department
15.	Universti Teknologi Malaysia	10/10/2025	3 years	Research, Conference	EC
16.	International IoT Communication Technologies Private Limited (IICT)	26/05/2025	5 years	5G Training	EC
17.	Child Development Centre	17/12/2025	3 years	Project	EC
18.	Infosys Limited	09/06/2025	1 Year	Internship, Placement	CS
19.	Intemational Centre for Free and open Source Solutions (ICFOSS)	03/07/2025	3 years	Project & Lab	ME
20.	Offenso Hackers Academy	26/09/2025	1 year	Workshop, Seminars, Training	EE
21.	NISH	27/10/2025	3 years	Project	EC
22.	icore pioneer	12/11/2025	3 years	Workshop, Seminar	Corporate Relations

23.	TrEST Satellite Centre	19/05/2025	5 Years	Project, Internship	Corporate Relations
24.	MERPS Systems	12/06/2024	3 years	Workshop	CS
25.	SMART CITY	30/12/2024	3 Years	Project	CE, CS
26.	HEX20 LABS India Private Limited	22/07/2024	5 Years	Project, Internship	EC, EE
27.	Builders Association of India	10/10/2024	3 years	Research and Project work	CE
28.	Credence Hospital Pvt Ltd, Tvm	01/12/2024	2 years	Medical Assistance	All Department
29.	CRPF Pallipuram (RCWA)	07/06/2024	5 Years	Project	Corporate Relations
30.	Bowie State University	01/01/2024	10 Years	Workshop, Research	CS
31.	ICAR/CTCRI	22/07/2023	3 years	Internship/ Placement	Corporate Relations
32.	ICOONS	June 2023	3 years	Project	CS
33.	Energy Management Centre (EMC)	06/01/2023	5 years	EV Research Project, FDP resource persons	EE
34.	BSNL(Autonomous)	07/11/2023	3 Years	Internship	EC
35.	NISSAN DIGITAL INDIA LLP	02/09/2023	5 Years	Internship	EC
36.	Hykon India limited	09/09/2023	5 Years	Internship, Placement, Project	EE
37.	ICAR	22/07/2023	3 Years	Internship/ Placement	CE
38.	SCTIMST, Trivandrum	19/06/2023	5 Years	Paper publication	CS
39.	INTEL	01/11/2022	Until termination	Workshops/ Internship	EC
40.	Larsen & Toubro Limited (L&T)	27/07/2022	3 years	L&T College Connect Program, Placement	CE
41.	Ajman University, UAE	18/07/2022	3 years	Conference	CS
42.	Vinvish Technologies Pvt. Ltd.	30/09/2021	Until termination	Internship	EC
43.	Vydyuthi Energy Services (VES)	03/12/2020	Until termination	Internship, Project	EE

4.4 Research Facilities

With the aim of providing quality education and research facilities, (During the year July 2025 to June 2026)

- The Department of Civil Engineering has added Ultra tech centre of excellence for Sustainable Construction Practices in collaboration with Ultra Tech Ltd. Activities comprising of training programmes, technical talks, competitions, quizzes will conduct through this collaboration.
- The Department of CSE has set up UST Sponsored AI lab & K-DISC Sponsored Software lab in collaboration with UST & K-DISC (ASP). Activities involved are set up of AI Lab (Rs. 2.5 lakhs) and Rs. 1 lakh for DEFINE Hackathon & Rs. 7.34 lakhs: set up of student training software lab facility - Interactive panel, UPS, 20 laptops, CISCO tele-presence ceiling microphone.
- The Department of ECE has initiated and started Advanced Data Centric Lab in collaboration with Intel. Activity conducted is O Level Certification Programme of duration 5 days (24 internal participants).
- The Department of EEE has initiated the EV lab in collaboration with VES & Hykon India Ltd in activity of Internships, Placements, Project Support, Technical Talks. Activity conducted in EV lab are Charging Station in campus, Industry Expert Talks.
- The Department of MED has added Vaimanika Lab in collaboration with AI Drone Pvt Ltd and ICFOSS. Activity conducted are In house Project: Design and Development of a subsonic wind tunnel for studies on aero dynamic characteristics of NACA4412 air foil and Talk on Emerging technologies in Drone- 5/08/2025.

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.

i) Collaborative Research Activities: CS Dept.

- **SMART CITY:** Completed project on "Illegal Trash Dumping detection by vehicles and alerting system"
- **CDAC Collaboration:**Paper published on August 2025
  Real-Time Network Intrusion Detection System Using Machine Learning. In: Yang, M., Mohanty, S.N., Satpathy, S., Hu, S. Demystifying AI and ML for Cyber–Threat Intelligence. Information Systems Engineering and Management, vol 43. Springer, Cham. https://doi.org/10.1007/978-3-031-90723-4_6.
- **ICOONS:**
  Dhwani App developed and completed (Funded Project)
- **Riken University Collaboration: MBCET–RIKEN Partnership**

The partnership between Mar Baselios College of Engineering and Technology (MBCET) and the RIKEN laboratory enables joint experimental research and data analysis, with a focus on AI-supported learning and graph-based research methodologies. Through this collaboration, students gain valuable exposure to international research practices and advanced analytical approaches.

A key pillar of the partnership is knowledge dissemination and capacity building. It effectively bridges global research and classroom learning by integrating RIKEN-aligned themes into student mentorship and internship programmes. The sustainability of the collaboration is reinforced through various institutional engagement and review mechanisms.

The on-site visit of Professor Koiti Hasida from the RIKEN laboratory in 2025 strengthened the partnership by enabling direct validation of research outcomes and comprehensive progress assessments. This continuous feedback loop provides strategic direction for future initiatives in transnational research and innovation.

Student project & Internship completed

ii) Collaborative Research Activities: EC Dept.

The project titled "Digital speech-language assessment app with adaptive testing and evaluation" in collaboration with CDC, Medical College.

Outcome: Presented and published a paper in IEEE conference Proceedings of the 7th International Conference on Mobile Computing and Sustainable Informatics (ICMCSI-2026), January 7,2026

iii) Collaborative Research Activities: CE Dept.

- **NATPAC:** KSCSTE - National Transportation Planning and Research Centre (NATPAC), an institution under Kerala State Council for Science, Technology and Environment (KSCSTE) is a premier R & D institution in the country which works on multi – modal system of transportation covering road, rail, water, air etc. The final year BTech students have done the following research project at NATPAC.

  1.Feasibility study of Modal shift from land to water: Case study of Cochin and Kottayam ports

- **SMART CITY:** Smart City Thiruvananthapuram Limited is a Special Purpose Vehicle (SPV) set up for implementation of Smart City Mission of Government of India with a project overlay of Rs. 1538 Cr. Thiruvananthapuram was selected in the third round of Smart City Selection and secured first rank in the Smart City Challenge in

2017. A few final year BTech students of Department of Civil Engineering, MBCET are associated with Smart City in the following projects on "Design of The New Building for Rehabilitation of Vendors in Palayam Market".

- **KHRA:** Associated with the project on "Improving the Performance Og Rap Mixes Using Water- Hyacinth Derived Rejuvenator",
- **KSCSTE:** Associated with the project on "Development of Low-Cost Microbial Carbon-Capture Cell for Simultaneous Wastewater Treatment, Electricity Generation and Algal Biomass Production."
- **KWA:** Associated with the project on **"**Smart Monitoring of Water Leaks in Residential and Commercial Buildings".

iv) Collaborative Research Activities: EEE Dept.

B. Tech in Electrical and Computer Engineering

- **Shade Energy, Kollam:** Associated with the project on **"**Advanced SOC, SOH, and RUL Estimation with Active Balancing for Next-Generation Battery Management Systems".
- **Central Plantation Crops Research Institute (CPCRI), TVPM:** Associated with the project on" Smart Agricultural Robot for Plant Disease Prediction".
- **ANERT:** Associated with the project on "AI Integrated Solar Performance Optimization".
- **NYTT Analytes Pvt. Ltd."** Associated with the project on "Industrial IoT with an ML based solution for CNC and Metal Manufacturing Machines".
- **Teeside University, UK:** Associated with the project on "AI-driven Predictive Maintenance system for Smart Energy grids using Industrial IoT and Embedded platforms".

B. Tech in Electrical and Electronics Engineering

- **C-DAC, Trivandrum:** Associated with the project on "Static Wireless Charger for Light Electric Vehicles".
- **Hindustan Aeronautics Limited (HAL), Bangalore:** Associated with the project on "Mathematical Modeling, Simulation and Testing of a Conventional Helicopter using MATLAB/SIMULINK".
- **InQbe Innovations Private Limited, Kochi:** Associated with the project on
  - "A Bidirectional DC-DC Converter with Solar PV Integration Using Isolated Dual Active Bridge".
  - "Regenerative Braking with Supercapacitor Energy Recovery for E-Bikes".

- " PSFB Converter in Universal Electric Vehicle Charging".
- "Power Factor Correction Circuit in EV Chargers"

- **Zonergia Services Pvt. Ltd. (External Guide: Dr. Ajith Gopi):** Associated with the project on"Load Optimization and Forecasting in a Microgrid".

Faculty Project

- **Kerala State Electricity Regulatory Commission Vellayambalam Trivandrum:** Associated with the project on "Development of an AI based analytical tool for truing up of annual accounts".

v) Collaborative Research Activities: ME Dept.

Studies on characterization of Marine Fender Composite. Marine fender rubber composite characterization plays a critical role in ensuring port safety, infrastructure longevity, and vessel protection. Materials received from UITM are tested and curated. Literature demonstrates that mechanical properties, fatigue resistance, filler dispersion, and environmental durability significantly influence performance. A rubber composite obtained has been studied and subjected to FTRI, XRI and SEM. The elemental percentage also has been obtained. The objective is to study Evaluate energy absorption capability, assess fatigue resistance under cyclic compression, Study environmental degradation (saltwater, UV, ozone), Analyze filler dispersion and interfacial bonding. The strength and durability are studied under weathering and unweathered conditions as studied in this work.

4.6 Industry-Institute Collaboration

4.6.1 Collaborations

Table H List of Collaborative Activity

Sl. No.	Title of the collaborative activity	Name of the collaborating agency	Faculty-in charge with Dept.	Start Date	Duration
1.	Design of The New Building for Rehabilitation of Vendors in Palayam Market	SMART CITY	Ms. Bindu Biju	July 2025	1 year
2.	Improving The Performance Og Rap Mixes Using Water-Hyacinth Derived Rejuvenator	KHRA	Ms. Radhika P	July 2025	1 year
3.	Development of Low-Cost Microbial Carbon-Capture Cell for Simultaneous	KSCSTE	Ms. Amritha Singh	July 2025	1 year

	Wastewater Treatment, Electricity Generation and Algal Biomass Production				
4.	Smart Monitoring of Water Leaks in Residential And Commercial Buildings	KWA	1. Ms. Indu Luke (guide), 2. Ms. Sangeetha Sajeev (Co-guide)	July 2025	1 year
5.	Feasibility study of Modal shift from land to water: Case study of Cochin and Kottayam ports	NATPAC	Dr. Amal Raj	July 2025	1 year
6.	Sustainable Oil Spill Remediation Using Biochar Based Materials	Natural Research in Scientific Technology Kaniyapuram	1. Ms. Nimisha Anna Jacob (Guide) 2. Dr. Jaya S.Pillai (Co-Guide)	July 2025	1 year
7.	Collaborative Project and paper publication - RIKEN	RIKEN	Dr. Tessy Mathew	August 2025	1 year
8.	Collaborative student project and paper publication	CDAC-TVPM	Dr. Jisha John	12.07.2025	1 year
9.	Student Projects	Shade Energy, CPCRI, ANERT, NYTT, Teeside University, C-DAC, HAL, InQbe Innovations, Zonergia Services Faculty Project-KSERC	**Electrical and Computer Engineering** 1. Dr. Sheryl Arulini A 2. Ms. Surasmi N L 3. Mr.Ayush Vijayan 4. Ms. Vandana P 5. Mr. Rejish Babu F **Electrical and Electronics Engineering** 1. Dr. Dishore S. V. 2. Mr. Aswin R. B. 3. Dr. R S	July 2025	9 months (March 2026)

			Praveen Raj 4. Ms. C. Sojy Rajan 5. Ms. Neetha Chandran 6. Ms. Revathy K P 7. Dr. Soumya A. V		
10.	Energy harvesting in Space Station using Nitrile rubber based triboelectric nanogenerators (TENGs)	VSSC	1. PI: Dr. Vivek V kamal, 2. Co-PI: Dr. Adarsh S J (proposal submitted)	Feb 2026	8 Months
11.	Investigation of the Influence of Isogrid/Waffle Rib Geometry on Pressurant Gas Requirement and Thermal Behaviour in Cryogenic Propellant Tanks	VSSC	1. Dr jishnu chandran 2. Dr.Arun M G (proposal submitted)	Feb 2026	8 Months
12.	Google Cloud based high performance computing', Dr. G.P. Krishna Mohan, Henok Anil Anton (S5- CS)	Elixr Labs Tech. Pvt Ltd, Technopark	Dr. G.P. Krishnamohan	01-01-2026 to 01-07-2026	6 months

4.6.2 Consultancy Work (Testing)

Table I List of Consultancy Work

Sl. No	Project Title	Name of Faculty	Funding Agency	Amount (Rs.)	Duration
1.	Material testing	Dr. Anupama Krishna	Different private consultancy works - cube testing	24,505/-	1 year
2.	Testing	1. Mrs. Bindu Biju 2. Dr. Minu Ann Peter	Different private consultancy works - cube testing	11,800/- 19,320/-	1 day
3.	Government Consultancy	1. Dr. Jayasree S 2. Ms. Diana Alice Sugunan	Soil Testing	3,66,004/-	15 days
4.	Government Consultancy	Dr. Jayasree S	Structural design	4,00,000/-	6 months

5.	Experienced recruitment through campuses through MoU with Simple Logic Solutions Pvt. Ltd.	1. Ms. Prathibha S Nair, AP, CSE 2. Dr. Priya Mariam Raju, AP, CSE	Simple Logic Solutions Pvt. Ltd.	15,000/-	1 year
6.	SATEL	Mr. Anoop K Johnson	ISRO	39,000/-	Annual
7.	Space Avionics Test & Evaluation Laboratory	Mr. Sajan S S (Technical Staff)	ISRO	16,000/-	Annual
8.	Design and Development of an Ultrasonic cutter for rubber cutting	Dr. Vinod V	CDAC	Nil	1 year
9.	Elixr Lab Technologies PVT LTD	Dr. Krishna Mohan G P	ELIXR	25,000/-	6 Months (1st May 2026 - 31st October 2026)

4.7 Patent Details

Table J List of Patent Details

Sl. No	Patent Title	Type of Patent	Name of Faculty involved	Application Number	Date of Grant
1.	Real time traffic signal control	Design registration	Dr. Jesna Mohan	463301-001	24-06-2025
2.	Two terminal variable resistance rheostat	Design registration	Dr. Bindhiya P S	484123-001	25.02.2026
3.	A waste collection system for water bodies	Utility patent	Dr. Anne Dickson	202641044576	Applied
4.	Remote Health Monitoring System using AI	Design registration	Dr. Tessy Mathew	In process	Applied
5.	A wearable seizure identification classification and recording system using S-EMG and fabric electrodes with an ML algorithm	Utility patent	Aswin R B Dr Soumya A V	KSCSTE/660/2024-PF-PIC	Applied
6.	Design and Fabrication of Diaper Recycling	Utility patent	Dr Nidhi M B	KSCSTE-IPRICK - 117	Applied

	Device				

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 meets more frequently to address 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.	**06-10-2025 @ 11 am**
2.	**05-03-2026 @ 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.	**13.08.2025 @ 2.30pm**
2.	**02.03.2026 @ 2.00 pm**
3.	**12.03.2026 @ 2.00pm**
4.	**12.06.2026 @ 2.00pm**

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

URL: https://mbcet.ac.in/minutes-of-meeting/

- ***Department of Civil Engineering*:**

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

  Dates of Meeting

  1. 16-02-2026 @ 2pm

- ***Department of Computer Science and Engineering***

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

  Dates of Meetings

  1. 19-02-2026 @ 3pm
  2. 23-02-2026 @ 3pm

- ***Department of Electrical and Electronics Engineering***

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

Dates of Meeting

1. 25-02-2026 @ 2pm

- ***Department of Electronics and Communication Engineering***

URL:https://mbcet.ac.in/departments/electronics-communicationengineering/bos/

Dates of Meetings

1. 26-02-2026 @ 10 am
2. 27-02-2026 @ 10 am

- ***Department of Mechanical Engineering***

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

Dates of Meetings

1. 23-02-2026 @ 2.30pm

- ***Department of Science and Humanities***

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

Dates of Meetings

1. 12-02-2026 @ 2pm

5.4 Finance Committee - Meetings and Members

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

Dates of Meetings

Finance Committee Meetings- Dates with Time	
1	**04.03.2026 @ 11.30 am**
2	**20.02.2026 @ 10.30 am**
3	**27.01.2026 @ 11.30 am**

5.5 Details of the Meetings of the Other Committees

5.5.1 Internal Quality Assurance Cell

IQAC Meetings- Dates with Time	
1	**12.05.2026 @ 10.15 am**
2	**11.11.2025 @ 9.30 am**

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:

- Principal
- Dean (Research and Consultancy)
- Dean (PG Studies and Research)
- Heads of Departments

✓ **Department Research Promotion Committees (DRPC):**

- Head of the Department
- Assistant HoD
- Professor in the Department
- 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:

RPC Meetings - Dates with Time	
1	**07.01.2026 @ 3.00 pm**
2	**09.06.2026 @ 9.30 am**

6. Extension and Outreach Activities Undertaken

Table K List of Extension and Outreach Activities

Sl. No.	Department/Unit	Number of Activities
1	CED	**3**
2	CSE	**2**
3	ECE	**2**
4	EEE	**2**
5	MED	**3**
6	S&H	**1**
7	NSS	**18**

7. Financial Report

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

Table L Financial Report for the FY 2025-2026

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
Building				37,85,995		
Guest Faculty						
Orientation of Teachers				1,88,973		
Redesigning of courses				2,85,000		
Workshop/ Seminars				9,68,693		
Others		29,09,70,456		3,80,26,553		
Office/ Teaching				14,54,82,286		
Laboratory Equipment				1,18,43,412		
Furniture				2,23,849		
Library				36,86,894		
Meeting etc				1,38,970		
Total		**29,09,70,456/-**		**20,46,30,624/-**		

7.1 Scholarships

Table M List of Scholarship Details

#	Name of Scholarships	CED	CSE	ECE	EEE	MED	CT	EL
1	Tuition Fee Waiver Scheme	1855500	2031000	2005500	828000	1179000	828000	828000
2	Management Scholarship	813090	912665	887030	575000	800500	432030	425500

3	Merit Scholarship	2937500	6248200	1947250	1837500	286270	2033275	100000
4	BPL Scholarship	182150	103800	619930		124780	37090	

8. Others

8.1 Campus Placements

For the 2021-2025 B. Tech Batch

1. **Total Offers :234**

Job offers 130

Internship / Job Offers104

2. **Total Internships: 41**

Completed 26

Converted 6

Ongoing 9

3. **Total Placed: 197**

Department	ELIGIBLE (No Backlog)	PLACED	INELIGIBLE (with backlog)	PLACED	TOTAL	PLACEMENT PERCENTGE (Eligible)
CE	30	8	25	3	11	8/30=27
CS	104	63	22	11	74	61
CT	44	32	13	9	41	73
ECE	86	22	20	8	30	26
EEE	23	2	22	7	9	9
EL	32	8	10	5	13	25
ME	18	5	15	11	16	28
M TECH	6	3	8		3	50

4. **Total Company Visited**

Department	Number of Companies Visited
Civil Engineering	**31**
Computer Science Engineering	**47**
Computer Science and Artificial Science Engineering	**46**
Electronics and Communication Engineering	**37**
Electrical and Electronics Engineering	**37**

Electrical and Computer Science Engineering	**38**
Mechanical Engineering	**35**
M Tech	**15**

5. Salary Package

Department	Highest	Lowest	Average
Civil Engineering	**6 LPA**	**1.8 LPA**	**3.9 LPA**
Computer Science Engineering	**15 LPA**	**3.5 LPA**	**9.3 LPA**
Computer Science and Artificial Science Engineering	**15 LPA**	**3.5 LPA**	**9.3 LPA**
Electronics and Communication Engineering	**15 LPA**	**3 LPA**	**9.0 LPA**
Electrical and Electronics Engineering	**5 LPA**	**3 LPA**	**4.0 LPA**
Electrical and Computer Science Engineering	**6 LPA**	**1.8 LPA**	**3.9 LPA**
Mechanical Engineering	**3 LPA**	**1.8 LPA**	**2.4 LPA**
M Tech	**3 LPA**	**3 LPA**	**3.0 LPA**

6. Core Companies

Department	Number of Core Companies
Civil Engineering	**9**
Computer Science Engineering	**33**
Computer Science and Artificial Science Engineering	**33**
Electronics and Communication Engineering	**12**
Electrical and Electronics Engineering	**9**
Electrical and Computer Science Engineering	**24**
Mechanical Engineering	**8**
M Tech	**7**

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 evidence 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 N: Internship attended by 2021-2025 Batch

Sl No	Department	Total Number of students	Number of students attended	Percentage of students attended
1	**CE**	90	68	75.5%
2	**CSE**	118	118	100%

3	**ECE**	115	114	99.13%
4	**EEE**	50	48	96.0%
5	**MED**	51	50	98%

8.3 Activities under Corporate Relations

Table O: Activities under Corporate Relations

Sl. No.	Activities
1.	Meeting with TANSAM
2.	Meeting with HYKON INDIA PVT LTD
3.	REPA Organized Special Summit
4.	NASSCOM SME CONFLUENCE
5.	Industry Expert Session titled "Engineering the Game: Sports Technology and Careers of Tomorrow"
6.	Visit to EMC
7.	Visit to IIIC
8.	Visit to iCore Pioneer Solutions
9.	Visit to Bio 360 Life Sciences Park
10.	Cubesat Bootcamp
11.	Technical talk on AI and IOT Innovations in Agriculture
12.	One Day workshop by Hykon Electric
13.	Inauguration of Safe to Eat Technology

8.3.1 Meeting With Tansam - 25-Mar-2026

The representatives of Mar Baselios College of Engineering and Technology and TANSAM held an offline meeting to discuss collaborative opportunities in the areas of student training, internships, and placements. During the meeting, both parties discussed the possibility of organizing industry-relevant training programs to enhance students' technical and employability skills. Internship opportunities for students across various engineering disciplines were also explored, with a focus on providing practical industry exposure. In addition, potential placement collaboration and future joint initiatives were discussed to improve career opportunities for students. The meeting concluded with a mutual interest in working together to create structured training, internship, and placement opportunities that would benefit students and help bridge the gap between industry and academia.

8.3.2 Meeting With Hykon India Pvt Ltd-18-Mar-2026

The visit was undertaken as part of the initiative to establish a **Centre for Energy Studies** under the Department of Electrical and Electronics Engineering at MBCET. The Centre aims to promote advanced research and skill development in electric mobility, energy storage systems, and modern power electronic technologies. The visit was conducted in continuation of the existing MoU between MBCET and Hykon India Pvt. Ltd. Since an EV laboratory is already functional in the college, the purpose of the visit was to explore possibilities for expanding the lab into a comprehensive research-oriented facility. The discussions focused on strengthening industry–academia collaboration and identifying key research areas aligned with industry needs.

8.3.2.1 Discussion on Centre for Energy Studies

Hykon representatives welcomed the initiative to establish a Centre for Energy Studies at MBCET. They emphasized that such a Centre could play a significant role in bridging the gap between academic learning and industry requirements. It was discussed that the Centre should focus not only on training and skill development but also on high-impact research activities in electric vehicles, power electronics, and energy systems. The industry experts suggested that the Centre could act as a collaborative platform for prototype development, system-level testing, and joint research projects between academia and industry.

8.3.2.2 Enhancement of Existing EV Laboratory

The existing EV laboratory facilities at MBCET were reviewed. It was suggested that the lab be upgraded to support advanced research activities. The focus should shift from a training-oriented setup to a research-driven facility capable of handling testing, validation, and prototype development in EV and energy systems.

8.3.2.3 Identification of Advanced Research Areas

Hykon highlighted several emerging research domains. Special emphasis was given to **grid-forming inverter technology**, which is critical for modern grid stability and renewable energy integration. Additional areas discussed included Battery Energy Storage Systems (BESS), EV–grid interaction, and smart charging technologies. Opportunities for joint research, consultancy, and publications were explored.

8.3.2.4 Technical Collaboration Opportunities

The meeting identified multiple areas for technical collaboration. Faculty members can engage in activities such as on-board charger development, DC–DC converter design, and EV powertrain analysis. Hykon expressed willingness to provide technical support for prototype development and experimental validation.

8.3.2.5 Internship and Skill Development

Internship opportunities for students were discussed, with Hykon offering industrial training programs. These internships are intended to provide practical exposure to EV systems, power electronics, and energy storage technologies. The possibility of skill development programs and certification in EV-related domains was also highlighted.

8.3.2.6 Industry Practices and EV Technologies

Hykon shared insights into their ongoing developments, including 3 kW chargers, fast charging systems for three-wheelers, and 48V PMSM-based motor systems. Their work in battery assembly, powertrain integration, and charger manufacturing was discussed, along with compliance with IP65 battery standards and their production capacity.

8.3.2.7 Laboratory Infrastructure Requirements

To support advanced research, several infrastructure requirements were identified. These include a DC power source of approximately 10 kW (48V) or an equivalent battery-based setup, testing equipment such as an eddy current dynamometer, motor-controller systems, and wiring harness testing facilities. Adequate instrumentation, safety systems, and dedicated laboratory space were also emphasized.

8.3.2.8 Motor and Controller Testing

The discussion covered testing methodologies for motors and controllers under varying load conditions. Performance evaluation parameters such as peak current, efficiency, and power delivery were considered. The use of CAN-based communication protocols for monitoring and control was also discussed.

8.3.2.9 Energy Storage and System Integration

The importance of Battery Energy Storage Systems in modern energy applications was discussed. Both lab-scale and scalable systems were considered, with particular emphasis on integrating storage with grid-forming inverter systems and

renewable energy sources for advanced research.

8.3.2.10 Cost Considerations

Indicative cost estimates for laboratory setups were discussed. Suggestions were made to adopt cost-effective approaches such as battery-inverter configurations and solar-integrated setups for experimental purposes.

8.3.2.11 Support for Vehicle Testing

Hykon India Pvt. Ltd. agreed to provide a **three-wheeler electric vehicle (E-auto)** to MBCET. This vehicle will be used for testing, validation, student projects, and research activities, enabling real-time performance analysis and hands-on learning.

8.3.3 REPA Organized Special Summit-06-Mar-2026

This summit exclusively focused on critical minerals, rare earth elements and renewable energy happening in the capital city of kerala. The participants got a chance to connect with leaders across industry and academia to drive R&D and advanced processing in critical minerals for renewable energy. As kerala moves forward with the proposed Rare Earth and critical minerals corridor, this is a premier opportunity for stakeholders to foster collaborations and capitalize on the states emerging industrial landscape.

8.3.4 NASSCOM SME CONFLUENCE-05-Mar-2026

The NASSCOM SME Confluence (Regional Connect) was held in Trivandrum on 5 March 2026 with the theme "Building Secure, Market-Ready & Scalable Tech SMEs." The event brought together industry experts and business leaders to discuss key aspects of technology business growth, including project delivery excellence, go-to-market strategies, AI security and compliance, and business development through partnerships and industry networks. The sessions provided valuable insights into scaling technology enterprises, enhancing customer trust through security and compliance, expanding into global markets, and leveraging ecosystem collaborations for sustainable growth. The event served as a platform for knowledge sharing, networking, and strengthening the SME technology ecosystem.

8.3.5 Industry Expert Session titled "Engineering the Game: Sports Technology and Careers of Tomorrow-22-Jan-2026

Industry Expert Session titled "Engineering the Game: Sports Technology and Careers of Tomorrow" was conducted on 22nd January 2026 at 9:00 AM in Room H207, Mar Baselios College of Engineering & Technology (Autonomous), organized

under the Institute Elective Sports Engineering and Management. The session was led by Prof. George Thomas, Principal Consultant at Zeetius Technologies, who has over 25 years of experience across engineering, management, education, and strategy. The session focused on the scope of sports technology, highlighting the rapidly growing sports technology industry and the various domains and roles in which engineers can contribute, including sports analytics, performance analysis, technology-driven training systems, decision-support applications and the wide range of career opportunities available for engineers in the sports technology ecosystem.

8.3.6 Visit to EMC-09-Jan-2026

The meeting was held in continuation of the institutional discussions initiated at the KSERC interactive meeting and in alignment with the proposal of Department of EEE, MBCET to establish a Centre for Energy Studies as a nodal platform for sustained collaboration with KSERC and EMC. The discussion focused on identifying thematic areas, implementation pathways, and academic–industry–regulatory linkages to be housed under the proposed Centre, in accordance with the existing MoU with EMC.

8.3.7 Visit to Iiic- 16-Dec-2025

To explore the possibility of establishing an MoU that will enhance the placement opportunities of students who complete the Skill Development Programmes offered by IIIC.

8.3.8 Visit to iCore Pioneer Solutions-11-Dec-2025

On 11 December 2025, at 2:00 PM, faculty and students visited to iCore Solutions as part of our academic–industry interaction initiative. The purpose of the visit was to explore project opportunities in Sports Technology Solutions and to provide students with practical exposure to industry-oriented problem-solving. During the meeting, company representatives introduced various challenges in the sports technology domain and discussed how these could be developed into meaningful academic projects. The students interacted with the team, clarified their questions, and gained insights into industry expectations. Two project teams were formed, each consisting of four students, and each team was assigned a specific problem definition for their upcoming project. The visit was productive and helped students better understand the real-world context of their project ideas.

8.3.9 Visit to Bio 360 Life Sciences Park-26-Nov-2025

The CII has convened a meeting of educators, industries and the Life Science Park

Authorities from 2.30 pm on 26.11.2025. The meeting was attended by about 50 participants from industries, research organisations and academics.

8.3.10 Cubesat Bootcamp-16-Sep-2025

The Space Club of MBCET organized a one-day workshop on Cubesat Bootcamp: From Design to Deployment on 16th September 2025 at Shannon Hall. The workshop included sessions on Spacecraft Design, Analysis and Testing, FlatSat Demonstration, Antenna Deployment Demonstration, Telemetry Demonstration, Spacecraft modes and mode management. The sessions were handled by industry experts from Hex20, a space startup located in Technopark, Trivandrum.

8.3.11 Technical talk on AI and IOT Innovations in Agriculture-26-Aug-2025

Illumina, association of the Department of EEE organized a talk on "AI and IOT innovations in Agriculture" on 26-August-2025 from 11 am to 1 pm for final year EEE and EL students at Faraday Hall.

8.3.12 One Day workshop by Hykon Electric

As part of the extended activities of Hykon R&D Centre at MBCET, the company offered a one-day workshop on Electric Vehicles and Power Electronics for the selected S4 and S6 Students of Electrical Engineering Department. The event was initiated by the Corporate Relations Division and coordinated by the Department of Electric and Electronics Engineering Department.

8.3.13 Inauguration of Safe to Eat Technology

For the first time in Kerala, a Traceable System that enables consumers to access the source of agricultural products produced by farmers, using "Safe to Eat" (Pesticide-Residue-Free Vegetable) technology.

8.4 Skill development Programmes:

I) CED-7

- ***Design of Multistoreyed building (S8)***
  - Number of hours: 9 days
  - Number of students: 05
- ***BIM for smart construction (S8)***
  - Number of hours: 02 days
  - Number of students: 40
- ***Construction Scheduling and Project Management (S6)***
  - Number of hours: 5 days
  - Number of students: 35
- ***BIM for Beginners*** (S2)
  - Number of hours: 5 days
  - Number of students: 41
- ***Placement Talks – 3***

II) CSE-6

- *IIC lab (Ideate Innovate create) (S4) (CS)*
  - Number of hours: 30
  - Number of students: 126
- *Ideat Innovate and Create lab (S4) (CT)*
  - Number of hours: 30
  - Number of students: 63
- *Placement Talks – 3*
- *Placement Training by Career Avenues – 1*

III) ECE-7

- *SDP on Vega Processors (S6)*
  - Number of hours taken: 30
  - Number of participants: EC1-60 EC2-61

SDP on Simulink and PCB design (S5)

- Number of hours taken: 30
- Number of participants: EC1-58 EC2-59

- *Prototype Development using Raspberry Pi/ STM (S4)*
  - Number of hours taken: 30
  - Number of participants: EC1-58 EC2-59
- *Placement Cell Talk: 4*

IV) EEE-8

- *MOOC Course provided(S6) (EE)*
- *LT Spice-Skill Development Programme (S4) (EE)*
  - Number of hours:24
  - Number of participants:55
- *Python Certification (S2) (EE)*
- *LTSpice- Skill Development Programme (S4) (EL)*
  - Number of hours: 24
  - Number of students: 59
- *MATLAB Simulations on Electrical Machines (S5) (EE)*
  - Number of hours: 56
  - Number of students: 14
- *Talk- 1 (EE)*
- *GATE 2026 (EL)*
- *Career in soft skills (EL)*

V) MED-1

- *ADAMS Software- Skill Development Programme (S6)*
  - Number of hours: 37
  - Number of students: 63

8.5 Entrepreneurship Development activities by IEDC and Departments

Catalyst IEDC conducted various initiatives to promote entrepreneurship, innovation, and leadership among students. Evening Cafe 3.0 – Gaming: The Scope and Breakthroughs, featuring Nikhil Chandran, Founder of TiltLabs, explored opportunities in game development, while Evening Cafe 4.0 – Finance in Entrepreneurship, led by Dr. Baiju Ramachandran, Founder and Chairman of BRAC's Group, focused on startup finance and business growth.

- ✓ The flagship startup bootcamp Inceptra VIII provided students with insights into entrepreneurship and startup development. Relevant 2026, the IEDC Execom selection event, and AGM 2026 facilitated leadership transition and planning for the new tenure.
- ✓ Key programs included SALT (StartUp Awareness and Leadership Training) for school students in collaboration with alumni Vishnu P Kumar and Meenakshy B S, Dare2Build pitching event in partnership with Innov8orX, and Tink-Her-Hack 4.0 MBCET Edition with TinkerHub, encouraging innovation and women participation in technology.
- ✓ Catalyst IEDC also organized the IEDC Cluster Level Ideathon – Campus Track under KSUM Startup Summit 2026 and Catalyst Conquest, an entrepreneurship quiz for first-year students. These initiatives strengthened the entrepreneurial ecosystem by providing students with platforms for learning, ideation, collaboration, and innovation.

Table P: Key Workshops and Events

Sl No.	Name of Event	Start Date	End Date
1.	Evening Cafe Edition 3 Episode 1	16/09/2025	16/09/2025
2.	Inceptra VIII	27/09/2025	28/09/2025
3.	Dare2 Build	6/12/2025	8/12/2025
4.	Startup Awareness and Leadership Training Event (SALT) 2025	6/12/2025	6/12/2025
5.	Tink-Her-Hack 4.0 MBCET Edition	20/02/2026	21/02/2026
6.	IEDC College level Ideathon	18/02/26	20/02/26
7.	IEDC Trivandrum Cluster Level Ideathon	24/02/2026	25/02/2026
8.	Iedc Startup Summit - attended	06/03/2026	07/03/2026
9.	Evening Cafe Edition 4 Episode 1	19/03/2026	19/03/2026

8.5.1 Evening Cafe Edition 3 Episode 1

The first episode of the Evening Cafe – 3rd Edition, organized by Catalyst IEDC on 16th September 2025, featured Mr. Nikhil Chandran, Founder & CEO of TILTLABS. He delivered an engaging session on "Gaming: The Scope & Breakthroughs", where he explored how gaming, AR/VR, and immersive technologies are revolutionizing industries and opening up exciting career pathways for aspiring professionals.

The session was highly interactive, inspiring, and filled with valuable insights into

the evolving future of gaming. Conducted in association with TILTLABS, one of Kerala's leading game realization companies, the event drew the participation of 48 students, making it a truly impactful start to the new edition of the Evening Café series.

8.5.2 Inceptra VIII

Catalyst IEDC, in collaboration with µLearn MBCET, successfully hosted Inceptra VIII, a two-day startup bootcamp held on 27th and 28th September 2025. The event brought together 112 enthusiastic first-year students, eager to explore the world of innovation and entrepreneurship through a weekend of learning and collaboration.

Participants engaged in interactive activities, workshops, and brainstorming sessions that introduced them to the fundamentals of startups, idea validation, and problem-solving. With MakeMyPass as the official ticketing partner, the event experience was made smoother, enhancing both participation and networking. By the end of the bootcamp, students had transformed their creative ideas into impactful startup concepts, gaining valuable exposure to the entrepreneurial mindset and the Catalyst IEDC ecosystem.

8.5.3 Dare2 Build

Catalyst IEDC in collaboration with Innove8orX, a company focused on innovation-driven learning and industry engagement, conducted the event, Dare2Build with the objective of fostering creativity, problem-solving, and an entrepreneurial mindset among students. A belief capital of ₹1,00,000 was up for grabs for the most promising and impactful idea presented.

Dare2Build was conducted over a period of two days, with each day structured to guide participants from orientation to practical application.

Day 1 – Orientation Session (6/12/2025)

The session introduced participants to the objectives of the event, the importance of innovation-driven thinking, and the fundamentals of entrepreneurship.

Day 2 – Presentation Phase (8/12/2025)

The second day focused on applying the concepts introduced during the orientation. Participants worked on presenting and refining their ideas, incorporating feedback and guidance from mentors. This phase encouraged collaboration and critical thinking, enabling students to move closer to real-world implementation of their ideas.

8.5.4 Startup Awareness and Leadership Training Event (SALT) 2025

Startup Awareness and Leadership Training is a program specifically designed for school students. The program aims to create awareness about entrepreneurship opportunities among school students and to inculcate scientific spirit among young minds. The major highlights of the event include inculcating essential entrepreneurship skills, developing leadership skills and facilitating the creation of a scientific approach towards problem-solving and innovation among the students.

On the 6th of December 2025, SALT was conducted as an offline skill building and entrepreneurship awareness building event for school students of 8th to 12th grade. Over 40 students participated from over 12 schools across Thiruvananthapuram. IEDC partnered with CRB Math and Unibotix to make the event a grand success.

8.5.5 Tink-Her-Hack 4.0 MBCET Edition

Tink-Her-Hack 4.0 (MBCET Edition) was an 18-hour overnight, women-only hackathon organized by Catalyst IEDC, MBCET in collaboration with TinkerHub and IEEE WIE AG MBCET. Conducted from 5:00 PM on February 20th to 10:30 AM on February 21st, 2026, the event aimed to create a safe, beginner-friendly innovation platform to bridge the gender gap in technology.

The event was designed to promote and enhance female participation in the field of innovation, creating a supportive and inclusive environment for women. It aimed to welcome beginners, particularly first-time builders, by offering a beginner-friendly atmosphere where they could comfortably explore their ideas and develop their skills.

Collaboration was a key theme, with various institutions participating to share their knowledge and resources, facilitating networking opportunities and teamwork among attendees. This not only helped in building connections but also enriched the overall learning experience, allowing participants to learn from one another.

8.5.6 IEDC College level Ideathon

Catalyst IEDC conducted a college level Ideathon from 18 to 20, February 2026 to select teams toward the Trivandrum Cluster Level Ideathon. Students from across branches showcased their ideas under various themes. Six teams were selected to represent the college at the Trivandrum Cluster level Ideathon, the precursor event to the IEDC Startup Summit.

8.5.7 IEDC Trivandrum Cluster Level Ideathon

The IEDC Trivandrum Cluster Level Ideathon, organized by the Kerala Startup Mission, took place from February 24 to 27, 2026. Six teams represented MBCET across various themes. The team led by Mr. Aromal H. R. from S6 ME1 emerged victorious in the Cluster-Level Ideathon under the theme "Innovative Solutions for Sustainable & Smart Port Ecosystems," which was held at Sree Chitra Thirunal College of Engineering on February 26, 2026.

8.5.8 IEDC Startup Summit – attended

A team of 17 students and two faculty members from MBCET attended the IEDC Startup Summit, held at Amal Jyothi College of Engineering in Kanjirapally on March 7, 2026. Catalyst IEDC, MBCET, received the 'Aspiring Leader' award for its entrepreneurial efforts in 2022-23. Faculty members Mr. Sherry Varghese George and Mr. Jithin M. George from the ECED department also participated in the Nodal Officer's Meet on March 6 at the same venue. Additionally, Ms. Angeline Ann Renji and Ms. Aleena Liz Thomas, both in their fourth semester of EC, attended the Student Leads Meet on March 6.

8.5.9 Evening Cafe Edition 4 Episode 1

Catalyst IEDC hosted an insightful Evening Café session on Startup Finance on March 19th at Shannon Hall. The session featured Dr. Baiju Ramachandran, Founder and Chairman of BRAC's Group, who shared valuable insights on funding, financial management, and scaling startups. The session had a total of 17 participants from students across various departments.

The session enabled participants to recognize the significance of the financial aspect of entrepreneurship, making it particularly advantageous for aspiring founders. Overall, the event provided an informative experience, motivating students to approach startups with a more robust financial perspective.

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 is 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 2025-2026.

Table Q: TLC Activities

Sl/No	Topics	Date	Resource Person
1.	The Teaching-Learning Centre and UHV cell of MBCET organized a one-day workshop, **'An Introduction to UHV'** on 08-05-2026. The Resource persons for the workshop were Dr. S Ushakumari, Dean, Corporate Relations and Convener, UVH Cell, MBCET, and Dr. Jisha S.V, Associate Professor, Department of Civil Engineering. 18 faculty members participated in the workshop. The session was highly beneficial in promoting value-based education among faculty members.	08-05-2026	Dr. S Ushakumari, Dean, Corporate Relations and Convener, UVH Cell, MBCET, Dr. Jisha S.V, Associate Professor, Department of Civil Engineering
2.	**OBE related NPTEL Courses for Faculty** The Teaching-Learning Centre of MBCET had suggested the following Outcome Based Education related NPTEL courses for faculty to equip them with OBE knowledge. List of courses suggested on OBE: Outcome based Pedagogic Principles for Effective Teaching Effective Engineering Teaching in Practice Assessment of Student Performance Accreditation and Outcome Based Learning OBE and Accreditation	25-02-2026	Dr. S Ushakumari, Dean, Corporate Relations and Convener, UVH Cell, MBCET, Dr. Jisha S.V, Associate Professor, Department of Civil Engineering
3.	**Microteaching Recording and Evaluation Session** The Teaching-Learning Centre of MBCET organized a **Microteaching Recording Session.** The session has been arranged to enhance teaching skills and classroom delivery. Each faculty member had	13-01-2025/ 24-10-2025	Dr. Neethu Roy, Professor, CED, Dr. Tessy Mathew, Professor, CSD

	prepared a 10–12 minute lesson on a topic from their area of expertise. Faculty were encouraged to use teaching aids such as Power-Point slides, whiteboard, charts, or models, as appropriate. Dr. Neethu Roy, Professor, CED, Dr. Tessy Mathew, Professor, CSD and one program-specific expert from each department evaluated the recorded videos of the faculty members.		
4.	The Teaching-Learning Centre of MBCET organized a one-day workshop '**AI Tools for Research and Teaching**' on 14-11-2025. The Resource person for the workshop was Mr. Binu A, Assistant Professor in Department of Information Technology, Rajagiri School of Engineering & Technology, Kochi. The workshop proved highly beneficial for the participants. It equipped participants with the knowledge and skills necessary to integrate AI tools into research and teaching practices effectively and ethically.	14-11-2025	Mr. Binu A, Assistant Professor in Department of Information Technology, Rajagiri School of Engineering & Technology, Kochi
5.	**Microteaching Recording and Evaluation Session** The Teaching-Learning Centre of MBCET organized a **Microteaching Recording Session.** The session has been arranged to enhance teaching skills and classroom delivery. Each faculty member had prepared a 10–12 minute lesson on a topic from their area of expertise. Faculty were encouraged to use teaching aids such as Power-Point slides, whiteboard, charts, or models, as appropriate. Three experts from Mar Theophilus Training College and one program-specific expert	25-08-2025/ 24-09-2025	Dr. Bindu B (Professor), Dr. Deepthi Elizabeth Mathew (Asst. Professor), Mr. Nadhanine J P (Asst. Professor), Mar Theophilus Training College, Nalanchira.

	from each department evaluated the recorded videos of the faculty members.		
6.	**Faculty Orientation Programme** The Teaching-Learning Centre of MBCET organized a **Faculty Orientation Programme** on August 14, 2025, for the newly joined Faculty. The session was handled by the Principal Dr. S. Viswanatha Rao. Sir gave insights on **Outcome-Based Education** and interacted with the faculty members.	14-08-2025	Dr. S. Viswanatha Rao, Principal, MBCET

9.2 Faculty Development Programmes Conducted during the academic Year 2025-2026

Table R: List of FDP Conducted

Dept	Odd/Even semester - Name of FDP (Specify ATAL FDP if any)	No: of Days	Duration	Resource Person-External
CE	1 day International Seminar on Physical modelling in geotechnical engineering	1 day	19/09/2025	1. Dr. Srinivas Mantrala, IIT Kanpur; 2. Prof. B. V. S. Viswanadham, IIT Bombay; 3. Prof. Ashish Juneja, IIT Bombay; 4. Prof. Stuart Haigh, University of Cambridge; 5. Mr Anand Narayan, AoL; 6. Dr. Vandana M., Geomorphologist; 7. Dr. Suja R., Professor, Government Engineering College, Barton Hill; 8. Dr. Suraj R., Senior Scientific Assistant, Kerala State Remote Sensing & Environment Centre (KSREC); 9. Dr. Tony Rajan Mathew, Senior Consultant, Infrastructure Information Management, KIIFB; 10. Dr. Arathy, TPLC, Barton Hill

				11. Ms Aswathy, MBCET PhD student 12. Dr. Alice Thomas, MBCET
	Construction scheduling and project management	8 days	June 22-29 2026	BIM Labs
	BIM for Beginners	5 days	15 - 19 June 2026	Mr. Sreeju Nair S B, Asst Professor, MBCET
	Certificate course on design of multi storeyed buildings modelling and material management	10 days	May5-14, 2026	Mr. Sreeju Nair S B. Asst. Professor, MBCET
	Emotional intelligence and stress management.	6 days	23/02/2026 to 28/02/2026	1. Mr. Ramesh Narayan, Corporate Trainer Stress Management, The Art of Living 2. Mr. Ananda Narayan, Stress Management Trainer, The Art of Living 3. Dr. Pradeep M, Assoc. Professor, MBCET
	Empowering civil engineering with GIS and spatial intelligence (CE dept alone)	6 days	18/05/2026 to 23/05/2026	1. Dr. Vandana M., Geomorphologist. 2. Dr. Suja R, Professor, Government Engineering College, Barton Hill 3. Dr. Suraj R., Senior Scientific Assistant, Kerala State Remote Sensing & Environment Centre (KSREC) 4. Dr. Arathy, Assistant Professor, Government Engineering College, Barton Hill 5. Dr. Tony Rajan Mathew, Senior Consultant, Infrastructure Information Management, KIIFB 6. Ms. Anoja B.V., Senior GIS Analyst, KIIFB
	UHV introductory (AICTE self funded)	3 days	20/05/2026 to 22/05/2026	1. Dr. N. SunilKumar 2. Mr. G. Jayaprakash (AICTE Observer)
CS	Introduction to cyber forensics bootcamp	3 days	Dec 10-12 2025	Abhimanyu R, Allibi Technologies

	National bootcamp on Iot forensics	5 days	Dec 8-12 2025	1.Amala R-Scientist E-CDAC 2. Hlran Bose- Scientist F-CDAC
	Transformers to Agentic AI: Building and deploying generative AI solutions	6 days	1-6 December 2025	1. Dr. Joe Cheri Ross, Asst. Professor, NIT Calicut 2. Dr. Manu Madhavan, IIIT Kottayam 3. Dr. D Sumathi, Professor, DSU Bangalore 4. Dr. Jesna Mohan, AP, CSE, MBCET 5. Dr. Sowmya V, Amritha School of AI 6. Dr. Premjith, A P, Amritha School of AI 7. Dr. Brijesh Madhavan, CEO, Curvelogics 8. Mr. Arundev Vamadevan, Asso. Faculty, National College, Ireland 9. Mr. Sai Jeevan, AI/ML Consultant, Sus. living lab
EC	Six day hands on faculty development program on physical and network layer modeling using NS3 and matlab	6 days	June 22-27 2026	1. Dr. M. Joseph Auxilius Jude: Assistant Professor, Department of Computing Technologies, SRM Institute of Science and Technology. 2. Mr. Dhanoop K. Dhanpal: MATLAB Application Engineer, CoreEL Technologies.
	VLSI Design & Verification: A Hands-on Approach	5 days	10/11/2025-14/11/2025	1. Ms. Neetha Maria Celin (Joint Director, CDAC, TVM) 2. Dr. Ajith Raveendran (Assistant Professor, Saint Gits, Kottayam) 3. Mr. Navaneetha Krishnan (Senior Field Application Engineer, Entuple Technologies Pvt. Ltd) 4. Dr. Anand Mukhopadhyay (Senior Engineer, Mathworks India Pvt. Ltd)

				5. Ms. Sharanya G Nair (ASIC Design Engineer, Netrasemi) 6. Dr. Arun A V (Assistant Professor, TKMCE, Kollam)
	Report preparation in latex using overleaf	1 days	Aug 20-21 2025	(Internal Resource Person with External and Internal Participants) Mr. Niyas K Haneefa, Asst. Professor, Dept. of ECE, MBCET
EE	Building the digital power grid: from communication networks to intelligent infrastructure	6 days	June 22-27 2026	1. Mr. Jayachandran C S, Sr. GM Powergrid corporation of India, tvm 2. Dr. Bijuna Kunju K, Retd. Prof. Dept. EEE, TKM, Kollam 3. Dr. Rahul Satheesh, Assistant Professor (Sr. Gd.), Amrita Vishwa Vidyapeetham, Coimbatore 4. Dr. John Chembukkavu, HoD, IES College Thrissur 5. Dr. Sasikumar P, Professor, School of Electronics Engineering, VIT 6. Tejavath Jagdeesh, Technical Lead, L&T Technology Services 7. Dr. Soumya A, Associate Professor & AHoD, Mar Baselios College of Engineering & Technology 8. Dr. Riyaz A Rahiman, Manager- Application Engineer-UPT Technology Solutions Division 9. IPCS Global Trivandrum - Hands-On session
	Electric Vehicles and emerging technologies: trends, challenges and innovations	6 days	1st to 6th December 2025	1. Dr. Shirish Raizada Assistant Manager (R&D), Omega Seiki, New Delhi. 2. Mr. Tejavath Jagadeesh Senior

				Technical cadre lead, HCL Technologies, Andhra Pradesh. 3. Dr. Nalina Subramanian Senior Electronics Engineer, Power Train Systems, Valeo, Chennai. 4. Dr. Kunwar Aditya Assistant Professor, Indian Institute of Technology (IIT), Jodhpur. 5. Mr. Manoharan Head, E-Mobility Division, ANERT, Government of India. 6. Dr. Arun Kumar Verma Associate Professor, Indian Institute of Technology (IIT), Jammu. 7. Mr. Jayan P P Scientist, Centre for Development of Advanced Computing (CDAC), Trivandrum. 8. Dr. Chinmaya K A Assistant Professor, Indian Institute of Technology (IIT-BHU), Varanasi. 9. Mr. Geoffer Jaish Lead Engineer, Siemens Technologies, Bangalore. 10. Dr. Honey Baby HoD & Associate Professor, Department of EEE, Mangalam College of Engineering.
S&H	Five days face to face faculty development program (FDP) on universal human values (UHV II)	5 days	July 21-25 2025	Prof Umesh Jadhav, AICTE NCCIP Member
	Mentoring Matters: Strategies for Effective Academic Counseling	3days	May 19–21, 2025	1. Dr. U.S. Udayachandran Thampy, Consultant Psychologist, Life Skill Trainer, and Assistant Professor (Physics), University College, Thiruvananthapuram,

				Kerala. 2. Dr. Biji V, Clinical Psychologist, Mental Health Centre, Peroorkada, Thiruvananthapuram, Kerala. 3. Dr. Arun B. Nair, Psychiatrist, Government Medical College, Thiruvananthapuram, Kerala. 4. Dr. Mercy Joy Sebastian, Assistant Professor, Department of Psychiatry, Government Medical College, Thiruvananthapuram, Kerala. 5. Dr. Bijuna Kunju, Professor, TKM College of Engineering, Kollam, Kerala. 6. Dr. Jobin A, Clinical Psychologist, JC Wellness Clinic, Pappanamcode, Kerala.

9.3 FDPs attended by the faculty members during the academic Year 2025-2026

Table S: List of FDP Attended

Sl. No.	Department	Number of Faculty members attended FDPs during Academic Year 2025-2026	Premier institute NIT/IIT
1	**CED**	**Outside college** ✓ **Number of Days: <=5- 5** ✓ **Number of Days:> 5- 4** **Inside college** ✓ **Number of Days: <=5- 0** ✓ **Number of Days: >5- 20**	**5**
2	**CSE**	**Outside college** ✓ **Number of Days: <=5- 8** ✓ **Number of Days:> 5- 34** **Inside college** ✓ **Number of Days: <=5- 2** ✓ **Number of Days: >5- 2**	**6**
3	**ECE**	**Outside college** ✓ **Number of Days: <=5- 10** ✓ **Number of Days:> 5- 5**	**5**

		Inside college ✓ Number of Days: <=5- 11 ✓ Number of Days: >5- 0	
4	**EEE**	Outside college ✓ Number of Days: <=5- 0 ✓ Number of Days:> 5- 31 Inside college ✓ Number of Days: <=5- 0 ✓ Number of Days: >5-35	**1**
5	**MED**	Outside college ✓ Number of Days: <=5- 4 ✓ Number of Days:> 5- 11 Inside college ✓ Number of Days: <=5- 3 ✓ Number of Days: >5-4	**2**
6	**S&H**	Outside college ✓ Number of Days: <=5- 3 ✓ Number of Days:> 5- 6 Inside college ✓ Number of Days: <=5- 7 ✓ Number of Days: >5-0	**1**

9.4 Faculty Achievements

Table T: List of Faculty Achievements

Sl. No.	Department	Types of Achievements (Award by whom)	No: of Achievements in 2025-2026	No of PhDs in 2025-2026
1.	**CE**	1. Dr. Neethu Roy-Internal DC member 2. Dr. Jisha S V-Internal DC member 3. Dr. Jaya S Pillai-Internal DC member 4. Dr. Alice Thomas-Internal DC member 5. Dr. M. Sathyakumar-Best paper award 6. Dr. ALice Thomas-Best paper award 7. Ms. Diana Alice Sugunan-NPTEL Discipline stars	7	0
2.	**CS**	1. Best paper award in International Conference, RECYCLE 2025- Dr. Anne Dickson, AP, CSE- IIT Guwahati 2. Ph.D in Computer Science and	3	1

		Engineering- Dr. Bindhiya P S, AP, CSE- Noorul Islam Centre for Higher Education-26 Nov 2025 3. AICTE Certificate of appreciation for being translator of first year diploma text book - Introduction to IT Systems (with Lab manual) to Malayalam- Dr. Dhanya L K, AP, CSE- AICTE 4. Elevated to the grade of IEEE Senior Member- Dr. Merlin George, AP, CSE- IEEE		
3.	**EC**	1. Elected as Executive Council Member of IETE, TVM Circle- Dr. Swapna P S- IETE 2. Elected as Secretary IEEE EMBS Kerala Chapter- Dr. M J Jayashree- IETE	2	-
4.	**EE**	1. Dr. Nisha G K -IEEE Recognition, Special Appreciation Award IEEE, Internal DC member, External DC member 2. Dr. Soumya A V- Best Paper Award, WIMA Chairpersons Special Appreciation Award, Honorary Secretary of IET Local Chapter 3. NPTEL Elite Certification- Ms. Sheenu P, Ms. C. Sojy Rajan, Ms. Surasmi N L, Ms. Shilpa Susan Peter- NPTEL 4. In Space Rocketry Competition- Dr. Elizabeth Vargheses, Ms. Shyju Susan Mathew, Mr. Aswin R B- WIMA	4	-
5.	**ME**	1. Best Paper (National Conference- Dr. Nidhi M B- KSHEC 2. Dr Nidhi MB - National Executive Member ISTE	7	1

		3. PhD Awarded- Dr. Ruby M S- CUSAT-11.05.2026 4. Dr. Ruby M S-Advanced Cetificate Programme in Bussiness Analystics from IISC 5. Dr Muralidharan Nair - Internal DC member 6. Dr Arvind P, Internal DC member 7. Dr Nidhi MB–External DC Member 8. Dr Nidhi MB Served as conference Chair		
6.	**S&H**	1. PhD Awarded- Dr. Lekshmi.I-M. S University-29.09.2025	-	1

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

Table U: List of Guides and Research Scholars

Sl. No.	Department	Total No of PhD hands in the Department (66)	Total No of PhD Guides in the Departments	Total Number of Research scholars	Total No of Faculty pursuing PhD
1	**CED**	12	7	11	10
2	**CSE**	9	4	5	24
3	**ECE**	11	2	5	16
4	**EEE**	9	4	4	12
5	**MED**	15	4	6	6
6	**S&H**	10	1	Nil	6

Some more faculty members from the various Departments have received approval as PhD Supervisors under the affiliating University. Currently there are 22 Research Supervisors from different departments, guiding 31 PhD scholars.

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.

10.1Elected 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 2025-2026 was constituted on 07.11.2023 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.

- **IEEE-Institute of Electrical and Electronics Engineers SB** : The different IEEE societies PES, EMBS, SPS, CS, RAS and WIE organised a total number of 26 events that included technical as well as activities of social relevance. The number of activities by the societies and affinity groups are WIE-2; RAS-2; EMBS-7; SP-2; CS- 4; PES-9.
  - Number of student members-61 (WIE), 13 (CS), 7 (RAS), 6 (EMBS), 6 (SP), 20 (PES)
  - Number of faculty members (Office Bearers) – 6 (One each)
  - Number of Faculty members with IEEE membership– 12
- **IET-Institution of Engineering and Technology MBCET On Campus**

  The IET MBCET On Campus Chapter has conducted 13 Activities

  - Received IET Outstanding Volunteer Award & selected faculty as Honorary Secretary of IET Kanyakumari Local Network.
    - IET KKLN best chairperson: Mr. Nevin Thomas (2021-25 batch EED)
    - IET KKLN best organizer award: Mr. Johan Varghese S6 CT
    - IET KKLN outstanding student volunteer: Mr. Sabarinath S6 ME

  Number of student members-12

  Number of Faculty members – 1
- **ISTE-Indian Society for Technical Education MBCET Student and Faculty Chapters**

  The ISTE MBCET Student Chapter has organized 64 Activities The ISTE MBCET Faculty Chapter has organized 2 Activities Number of student members-340
  - Number of faculty members (Office Bearers) -70
  - Number of Faculty members with ISTE membership - 70 (CS-14, EC-18, CE-8, EE-16, ME-14)
- **ASME-American Society of Mechanical Engineers MBCET Chapter**

Conducted 2 Activity

Number of student members- 41

Number of Faculty member – 1

- **SAE-Society of Automotive Engineers**

  Conducted 4 activities

  Number of student members- 109

  Number of Faculty member - 2

- **CSI-Computer Society of India MBCET Chapter**

  Conducted 13 activities

  Number of student members- 130

  Number of Faculty member - 2

- **ASCE – American Society of Civil Engineers MBCET Chapter**

  Conducted 32 activities

  Number of student members- 175

  Executive committee members:36

  Number of Faculty members – 3

- **IGS Indian Geotechnical Society**

  Conducted 1 activity

  Number of student members- 36

  Number of Faculty members – 1

- **IPA- Indian Plumbing Association**

  Conducted 5 activities

  Number of student members- 64

  Number of Faculty members – 1

10.3 Institute Innovation Council (IIC)

The activities conducted by the IIC MBCET till June 2025 for the Quarters 1 & 2 and Quarter 3 & 4 are listed as follows:

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

✓ **Quarter 1 [2025-26]**

IIC Calendar Activity: 3
MIC Driven Activity :0
Self Driven Activity: 3
Celebration Day Activity: 0

✓ **Quarter 2[2025-26]**

IIC Calendar Activity: 3

MIC Driven Activity :0
Self Driven Activity: 3
Celebration Day Activity: 0

- ✓ **Quarter 3 [2025-26]**

IIC Calendar Activity: 3
MIC Driven Activity :0
Self Driven Activity: 0
Celebration Day Activity: 0

- ✓ **Quarter 4 [2025-26]**

IIC Calendar Activity: 3
MIC Driven Activity :1
Self Driven Activity: 0
Celebration Day Activity: 1

10.4 Invited Lectures

Table V: List of Invited Lectures

Sl. No.	Department	Number of Invited Lectures/External Faculty	Number of External Lectures by MBCET Faculty
1	**CED**	6	8
2	**CSE**	5	8
3	**ECE**	4	3
4	**EEE**	10	5
5	**MED**	2	12
6	**S & H**	Nil	Nil

10.5 Dept Association Activities, Tech fest and Newsletter

Table W: List of Dept Association Activities

Sl. No.	Department	Name of the Association	Number of events conducted	Number of Newsletters released
1	**CED**	Civil Engineering Students Association (CESA)	15	1
2	**CSE**	Association for Computer Engineers (ACE)	6	Nil
3	**ECE**	EniX	3	1
4	**EEE**	Illumina	41	1
5	**MED**	AUTOMATA	5	1

11 Activities conducted by MBCET Staff Club

1. Diwali and Kerala piravi sweet box Distribution
2. Staff club logo design competition

3. Xmas celebrations 2026
4. Family Get together 2026
5. Ayurveda for Healthy Living (A special event in association with Susurtha Ayurvedic Hospital)
6. Women's Day celebrations (In association with women's studies unit)
7. Fundraiser Programme for Colleagues (House maintenance work)
8. Medical Camp- Free health checkups and Consultation (In association with DDRC agilus)
9. School Kit Distribution Ceremony (School Accessories for staff kids)
10. Annual Staff Sports and Athletics meet

12 Students' Sports and Games

To become Mentally, Physically and socially fit every individual has to work hard and must indulge in physical as well as social activities, so that they can live a fruitful life. The Department of Physical Education is working hard to create such environment. In the year 2025-26, The Department has conducted many Intra Mural games like Cricket, Football, Volleyball, chess, caroms etc. More over department has fielded many teams like Basketball, Volleyball, Cricket, Kabaddi, Football, Netball, Kho-Kho, Table Tennis, Lawn Tennis, Karate, and Yoga Sana in the Inter- Collegiate Competitions. As usual, in this academic year also we have grabbed achievements in the University as well as Inter University level. In the Inter Collegiate Completions we were the winners in Basketball Men and Women, Football Men, Table Tennis women, Kabaddi women and Runners in Yoga Sana.

In this academic year we have 11 students who have represented the University in the South Zone and All India Inter University Competitions in different disciplines.

- 18 students represented the University and 7 students represented Nationals in different games in Men and Woman category.
- Shone C Achankunju (S8 EC2) became the Fastest Male Athlete of the University consecutively second time in 100 Mtr race with a record-breaking time of 11.40 seconds.
- Sherry Shaji Thomas (S2 CT) has broken the 6 year-old record time in 5000m woman walking competition in the KTU Athletics meet.
- Our Basketball and Tennis Men team became the Champions consequently third time in the University competition.

13 Alumni Affairs

Mar Baselios College of Engineering and Technology Alumni Association, or MBCETAA is the alumni association of MBCET. The Alumni association was conceived with the help and co-operation of the Principal, and management of the college. The association was formally inaugurated on 25th of January, 2009. 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 filled of curriculum development, placement and training, social obligations, among others.

MBCETAA provides financial support to programmes intended for alumni/student development.

Table X: List of Events with Sponsorship Details

Sl. No.	Event	Contribution (Rs)
1.	Alumni Meet (CS,EE,EC)	30,000
2.	Tech Fest (All Departments) - 2026	100,000
3.	Crossroads 2026	100,000
4.	MBCETAA Outstanding Performance Award (Memento)	3,600
5.	Best Project Award (All Departments)	50,000
6.	AGM Expenses	5,000
Total Amount Utilized		**288,600**

1. **Student Innovation: Best Project Awards (2026)** The association maintained its flagship "Best Project Awards" for all departments.

   Funding: A total of Rs. 50,000/- was allocated every year to recognize outstanding final-year projects.

   Recognition: In addition to cash prizes, the association instituted the **MBCETAA Outstanding Performance Award** (Mementos) to honor students demonstrating exceptional leadership and technical skill.

2. **Campus Life and Technical Fests:** The association was a primary sponsor for the college's major technical and cultural events:

   - ✓ **Tech Fests:** A total of Rs. 1,00,000/- was provided to support multi-departmental technical festivals.
   - ✓ **Crossroads:** MBCETAA significantly boosted the scale of the annual cultural

fest, Crossroads, with a massive sponsorship of Rs. 1,00,000/- in the year 2026.

3. Alumni Networking and Engagement

- ✓ **Departmental Meets:** To strengthen niche networks, a combined Alumni Meet was organized for the Computer Science (CS), Electrical (EE), and Electronics (EC) departments with a budget of Rs. 30,000/-.

14 Conclusions

The College has passed through the fifth 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 BTech and 2 years for MTech). 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 2025-2026 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 calibre 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 of IQAC Coordinator

Dr. Nisha G K

Place: Trivandrum

Signature of Principal

Dr. S Viswanatha Rao

Principal
Mar Baselios College
of Engineering & Technology
Mar Ivanios Vidyanagar, Nalanchira
Thiruvananthapuram-695015