

**MAR BASELIOS COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)**

ANNUAL REPORT 2022-2023



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ANNUAL REPORT 2022-2023

1 Introduction

Mar Baselios College of Engineering and Technology has just entered into the third decade of its mission of “empowerment through education”. The College was in the forefront since its beginning in 2002 in imparting quality education in engineering and technology. The “autonomous status” conferred in 2020 added an impetus to its further growth. The accreditation by NAAC with A Grade, obtained in 2016, is valid till 31 December 2025. College has secured the accreditation by the National Board of Accreditation for five B.Tech Programmes in 2016, 2019 and also in 2022 and this will remain valid till 30 June 2025. The newly introduced degree programmes in the emerging areas exemplify the commitment from the side of the Faculty to advance in the academic arena. The contents of the syllabi are revised on a continuous basis to add the concurrent topics with a view to make the students globally competent. Timely update of the curriculum is enabled through, peer evaluations, open consultations and the stakeholder feedback. Activities in the co academic and extracurricular domains are also undertaken to render the avenues for the enablement of our students to become fit for the future jobs.

The year under report, viz. 2022-2023, witnessed vibrant activities across all the domains covering academic, co academic and the extra-curricular activities as well. The All Kerala ranking based on the results of the 2022 was shown as 12 in the University list. This year the College has offered seven B.Tech and seven M.Tech Programmes. All Departments have the Ph.D Programmes also. The period from March 2020 to September 2022 was very challenging because of the SARS Covid 19 pandemic. During 2022-2023, there were signs of recovery in all walks of life. Activities on the campus have become normal and new avenues for growth and expansion are being explored. The College has entered into new collaborations with institutions within and outside the country to catalytically promote the R&D, student mobility, students’ training/ internships, good placements and so on. Some of the new initiatives include the research in 6G communications jointly with University of Technology, Malaysia, industry driven Artificial Intelligence lab, Intel® Unnati AI/IoT Data Centric Lab, Industry supported Electric Vehicle Lab, Development of Advanced Manufacturing Technology Lab to teach new manufacturing tools and techniques, On-campus EV Charging Stations, On campus AgroTech based farming initiatives, etc. are some of the important highlights. A quick glimpse of the developments and activities during 2022-2023 is given below.

We pay our tributes to our Founder His Beatitude Moran Mor Cyril Baselios Catholicos for establishing the College with a clear vision. We are indebted to our Manager and Patron Major Archbishop His Beatitude Moran Mor Baselios Cardinal Cleemis Catholicos for the unstinted support and guidance.

2 Admission 2022

The admissions conducted in 2022 was to the 21st batch of the College since its inception and is the third batch under autonomy. Admissions were delayed due to the impact of the Covid 19 pandemic. The College could attract good enrollment during 2022-2023 also. 507 students joined the College in the various B Tech programmes during the Admission in 2022 against the sanctioned intake of 600. 18 students joined the M.Tech programmes and two scholars have joined for the Ph.D Programme.



3 Student Induction Programme for UG

The AICTE mandated Student Induction programme (SIP) was conducted from 20th October to 11 November 2022. The SIP was started ceremoniously with the Welcome Ceremony for freshers, namely PARODOS 2022 on 20 October 2022. His Excellency Most Rev. Dr. Mathews Mar Polycarpus the Auxiliary Bishop of the Major Archdiocese of Trivandrum and Member, MBCET Governing Body was the Chief Guest. First week of SIP was earmarked for the professional training and was supported by M/s Career Launcher India Pvt Ltd, through the Franchisee run by a Startup Company in Trivandrum run by our Alumni. The professional training was followed by the bridge courses on the fundamental topics, lessons on Universal Human Values, Department level orientation, introduction to the professional bodies, physical training, yoga, etc. The programme was concluded on Friday, 11 November 2022, with a valedictory function and the presentation of the variety entertainment programmes by the First Year students.

4 Academics

The academic year 2022-2023 began in July 2022. The impact of the pandemic caused the staggering of the semesters in this year also as in the previous year and the proper design of the ideal Academic Calendar to synch the batches continues to be elusive this year as well. We were very successful in completing the instructional days for each batch by scrupulously following the academic plans all along which ensured the graduation of the batch on time.

470 Students belonging to the 2018-2022 batch of the B.Tech completed the course credit requirements in June 2022. The ceremonial Course Completion ceremony Exodos 2022 for this batch was conducted on 03 June 2022. Dr V.P. Joy IAS, Chief Secretary of Kerala addressed the students in the gracious presence of His Grace Joshua Mar Ignathios, Bishop of Diocese of Mavelikara.

The first batch of 29 PG students under the autonomy scheme completed the M.Tech Degree Programme in 2022-2023. Degree certificates were issued by the APJ Abdul Kalam Technological University. The Convocation for this batch was conducted on 15 December 2022. Former Chief Secretary of Kerala and the renowned writer Shri K Jayakumar IAS(Retd) delivered the Convocation Address. His Excellency Most Rev. Dr. Mathews Mar Polycarpus, Auxiliary Bishop of the Major Archdiocese of Trivandrum and Member MBCET Governing Body presided.

There are around 1970 students currently enrolled in the various Programmes in the academic year 2022-2023.

5 Results

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

Pass Percentage of the 2018-2022 B. Tech Batch

Branch	Total Number of Students appeared	Number of Students Passed in First attempt including Revaluation	Pass Percentage
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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	65.83%

6 New Degree Programmes

The College started two new B.Tech Programmes in the year under report. These are B.Tech in Computer Science and Engineering(Artificial Intelligence) and B.Tech in Electrical and Computer Engineering with 60 seats each. The new PG Programmes are M.Tech in IoT and Sensor Systems and M.Tech in Transportation Engineering with the sanctioned intake of 18 seats.

7 Campus Placement

The 2023 graduating batch secured over 325 offers through both online, on-campus, and off-campus placements, covering both UG and PG. Several students have received multiple offers. Additionally, some students from the non-circuit branches have also received multiple offers with higher pay. The current list of recruiters includes prominent MNCs such as IBM, TCS, EY, IBS, Quest Global, Tata Elxsi, Envestnet, Cognizant, Experion Technologies, H&R Block, Speridian, QBurst, Vinvish, Carestack, Federal Bank, Acsia Technologies, Terrific Minds, HCL, and many more. The concerted efforts taken by the Placement Cell also deserves compliments.

8 Crossroads 2023

The 2023 edition of Crossroads, a major cultural event of the College, lasting for three days was hosted with grand participation of the students from various Institutions.

9 Academic Departments

The Departments have been very systematic in the academic processes including the instructions, evaluations, professional activities and the community services. The College is uniformly following the outcome based education for all the Programmes. The resurgence of the pandemic conditions during the year 2021 has created challenges. This has equipped the faculty to use the digital platforms for the teaching –learning process in 2022-2023 also. Efforts have been made to use online mode or a hybrid mode for the instructional delivery and remedial teaching. Brief note about each Department is given below.

9a Department of Civil Engineering

The Department of Civil Engineering was established in 2005. Department has offered one B.Tech Programme in Civil Engineering (since 2005) (intake 120 seats) and two M.Tech Programmes with specialization in Structural Engineering (since 2012) (18 seats) and Transportation Engineering (started in 2022) (18 seats). The B.Tech Civil Engineering



Programme was first accredited by NBA in 2016 and got re-accredited in 2019 and thereafter in 2022. The Department has a number of ongoing research projects sponsored by DST SERB, KSCSTE, CERD APJAKTU and the in-house projects. KSCSTE- National Transportation Planning and Research Centre (NATPAC), Thiruvananthapuram has given consent to use the facilities of their laboratories for the students and faculty members of MBCET for project and research. Since the College was included in the panel of Engineering Colleges of the State for conducting consultancy works for the PWD, the Department could secure a number of consultancy works from the Government Departments. This includes the soil investigation, structural design, surveying, transportation related survey, etc. primarily for the projects in the Thiruvananthapuram and adjacent districts. The Department has signed MoU with the Builders Association of India, Indian Plumbing Association and L&T EduTech for facilitating industry interaction. There were eight technical talks and two workshops conducted by Civil Engineering Students Association (CESA). The Faculty, Staff and Students of the Department are regularly involved in social service activities under the forum called THANAL, which is the outreach wing of CESA. The Department also has got a very active and dynamic Student Chapter of American Society of Civil Engineers (ASCE) and Indian Plumbing Association (IPA). The Student Chapter of ASCE organised more than 15 various programmes such as invited talks, workshops, site visits and social service activities. The ASCE Student Chapter received the Certificate of Commendation - 2023, for being in the top 5% of all Student Chapters globally under ASCE for its outstanding activities during the year 2022. There were many expert talks conducted on various topics on social skills and interpersonal skills, in addition to the technical lectures. More than 25 members of the Faculty attended the faculty development programmes and training programmes, conducted internally as well as by other agencies. There were seven paper publications from the department. The Department has conducted one skill development programme for the technical staff also. Students are provided with the opportunities to acquire valuable experience through internships, survey camps, field works, innovative projects, consultancy works, site visits, etc.

9b Department of Computer Science and Engineering

The Department of Computer Science and Engineering established in 2002 is currently offering two B.Tech programmes: Computer Science and Engineering (120 seats) and Computer Science and Engineering (Artificial Intelligence)(started in 2022) (60 seats) and one M.Tech programme with specialization in Computer Science and Engineering (18 seats). The enrollment in 2022-2023 was 100%. The B.Tech Programme in Computer Science and Engineering was first accredited in 2016 and again got re-accredited in 2019 and in 2022. Many of the graduates are holding important positions in the Information Technology and other Industries within India and abroad. For the year under report, Faculty and Students have been very active in conducting webinars, innovation related events, workshops, expert lectures, and so on. The Department has endeavoured for preparing the students to get ready for the emerging job roles in the fast changing field of computing and informatics, by organizing training sessions with resource persons from leading industries like UST, IBS and so on and by conducting the instructions in an innovative manner. The advancements in the engineering topics of AI/ML, Big Data etc. are incorporated in the syllabi through continuous revisions.

One among the outgoing students co-founded a startup company, Tatos Technologies Private Ltd., keeping up the legacy of the College. This startup is involved in software publishing, consultancy and supply based on latest technologies, with a vision to help existing business and other startups. Another student from the same batch, Mr. Salman Fariz won the "Top Contributor Award" for his invaluable contributions towards GTECH μ Learn. A team of



eight students from the outgoing batch developed a Mobile app named 'Attendo', that can help in recording and monitoring the Student Attendance. There are several publications in the conferences and journals by the Faculty and Students. A team of four students from Third Year have received a project funding for their project entitled " Parkinson's hand stabilization device" from the Center of Excellence for Disability Studies. 70 students out of 126 students of the outgoing batch got placements and there were 110 offers for the batch.

One MoU has been signed with Ajman University, UAE afresh to developed academic and educational cooperation in the areas like Artificial Intelligence, Data Science, Cyber Security, Cyber Forensics, Cloud Computing, etc. The MOU with ICT Academy of Kerala, under the premium membership category, was renewed. The Department has initiated a collaborative research work with the Institute for Communicative and Cognitive Neuro Sciences(ICCONS) for developing an Assistive Aid for children with Autism by employing AI/ML technologies. Yet another MoU was signed with the Strategic Electronics group of CDAC-Thiruvananthapuram for pursuits in Cyber Security and allied areas.

The Department has conducted a KTU sponsored Five-day Faculty Development Programme on "Security in Computing" and also organized a technical fest "HASH 2022" which comprised of a 24-hour(Day & Night) free offline hackathon 'DEFINE 2022', aimed to build solutions for the real world problems. There were 111 participants in 26 teams from various institutions, within and outside Kerala, for this event. There were also several activities conducted jointly with the professional organizations like Computer Society of India, ISTE, IEEE Computer Society and so on. Dr Shini Renjith, Asst, Professor 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. The outreach and community services were conducted through ACE, the professional student association of the Department.

9c Department of Electrical and Electronics Engineering

The Department of Electrical and Electronics Engineering was established in 2002. During 2022-2023 Department offered two B.Tech programmes and one M.Tech Programme, namely, (1) B.Tech Electrical and Electronics Engineering (60 seats) started in 2002 and (2) B.Tech Electrical and Computer Engineering (60 seats) started in 2022 and the M.Tech Programme is in Power Control and Drives (18 seats). The B.Tech Programme in Electrical and Electronics Engineering was first accredited by NBA in 2016 and was re-accredited in 2019 and in 2022.

During the year under report, the Department carried out a number of academic and co-academic activities for the benefit of the Faculty and Students. As a result of their involvement in various competitions and activities, they have received several accolades and recognitions. A number of research articles have been published based on the research work conducted by the Faculty and the Students. One member of the Faculty published two books and secured one Design patent also. Filing process of another Patent application with number 202241016658 was completed.

The Department has received a grant in aid from the Energy Management Centre Kerala for developmental work in the domain of electric vehicles. The Project team completed the first phase of this project of retrofitting the conventional three wheeler with electrical drives and battery to convert it into e-auto. The work was successful. The consultancy work from the startup company THESPACELAB, Trivandrum for developing software for studying the Orbital Debris Propagation and Proximity Awareness was completed. The work included the preparation of software programmes for simulating orbital movement of debris in the space. Other Department level programmes include:



- National Seminar on Electric Vehicles,
- Short Term Training on Smart Grid Technologies,
- Summer camps for school students and
- a variety of technical talks by the external specialists.

Professional organizations were also quite active. The IEEE PES organized 18 activities, whereas IET MBCET On campus conducted 17 events. Students have got numerous opportunities to hone their skills and communication abilities thanks to the IEEE SB and ISTE Chapter. With the assistance of Alumni Startup, the Department set up the Electric Vehicle Skill Lab and installed two EV charging stations in the College campus. A number of students from the department have also gone on internships in organizations like KSEB, KELTRON, TELK, the Airport Authority of India, Indian Railways, TATA Elxsi, NISH, etc. In the NABIOCON 23* (National Conference On Biomedical Instrumentation and Signal Processing, 2023) held at TKMIT in June 2023, the final-year student project team won the First Prize for their presentation. There were reasonably good placements for the EEE students.

ILLUMINA, the Department Professional Association conducted Tech Fest Trydan 2022 on 17 December 2022. The EV Expo, training on modern software tools like VFX were conducted. Competitions on Electric Machinery and Robotics, VEGATECH a hands on Session by CDAC, etc. were the highlights. Additionally, the ILLUMINA carried out a number of social service projects with the assistance of the Technical Staff, including electrical wiring for homes and three charity works that entail providing assistance to the less fortunate. The Department has been actively engaged in a number of projects to construct high-quality facilities for electrical engineering research and instruction in the College.

9d Department of Electronics and Communication Engineering

The Department of Electronics and Communication Engineering was established in 2002 and it currently offers one B.Tech programme in Electronics and Communication Engineering (120 seats) and two M.Tech programme with specialization in Telecommunication Engineering (18 seats) and IoT and Sensor Systems (18 seats). The B.Tech Programme was accredited in 2016 and 2019. The B.Tech Programme again got re-accredited in 2022 with a higher score of 682. Seven Ph.D scholars are working in the Department apart from the ongoing part-time Ph.D research of the Faculty. Three members of the faculty secured the Ph.D Degree during this year. One member of the faculty secured admission for the Ph.D programme in the Digital University, Kerala. The outgoing batch of 111 students secured 127 offers and 22 students got paid internship at TATA ELXSI. 70 students have been placed through the campus placement. The College has signed one MoU with Intel and AUK Computing to set up the Intel® Unnati Data-Centric Labs in AI/IoT in our campus. This Lab will have hardware and software stack as per the of experts from Intel®, sample course content including hands on exercises and co-branded course completion certificates for students and so on. The College has also signed an MoU with TIMed of the Sree Chithra Institute of Medical Science and Technology(SCTIMST) to pave the way for students who are interested in biomedical-based engineering startups and for innovations in medical device development.

eNiX – Department Association conducted the Adharva'23, the annual technical fest of the Electronics and Communication Engineering (ECE) department, on February 10, 2023. The Department also hosted several webinars, workshops and training programmes for both the students and faculty. In association with Assistive Technology group at MBCET, the Biomedical Research Group (ECED) and IEEE EMBS SBC, the Department hosted the Assistive Technology (AT) internship from 17th to 28th April 2023. All participants participated in training programmes, workshops and online courses to update their technical skills. There were several research publications from the Department during the academic year.



The members of the Faculty and the students have won several accolades in recognition of their achievements. Dr Jayakumari J, HOD, received the Outstanding Women Researcher in Wireless Communication Award from Venus International foundation. Dr. M. J. Jayashree, Professor ECE and IQAC Coordinator was selected as the Chair of Women in Biomedical Engineering (WIBE), a newly formed sub-organizational unit of IEEE EMBS Kerala. Mr. Arun J. S, Nodal officer of IEDC CATALYST got nominated into the State level IEDC Advisory Committee by Kerala Startup Mission.

9e Department of Mechanical Engineering

The Department of Mechanical Engineering was established in 2005 and it offers one B.Tech Programme in Mechanical Engineering (60 seats) and one M.Tech Programme with specialization in Machine Design (18 seats). The B.Tech Programme was first accredited in 2016 and again got re-accredited in 2019 and in 2022. The Department has highly qualified and competent faculty with Doctoral and Postgraduate degrees in the areas of Automation, Manufacturing, and Design with expertise in core areas of Mechanical Engineering such as, Fluid Mechanics, Thermodynamics, Machine Design, and Industrial Engineering. The teaching is supported by well-equipped multidisciplinary laboratories and well qualified Staff. Along with the academics, the members of the Faculty are involved in research activities in collaboration with the industry and R&D organizations. At present there are 28 members in the Faculty. Nine members hold Doctoral degree and 11 are pursuing PhD. Six members are approved as Research guides by the affiliating University (KTU). One Faculty is a member of the Board of Studies of Mechanical Engineering - UG Programme of the affiliating University.

Several activities were conducted by the professional association of MED, Automata on its own and jointly with the local chapters of the professional organizations like ISHRAE, ASME and SAE. A list is given below:

- ENERCON SERIES, a one-week workshop on “Application of Computational Fluid Dynamics in fluid Flow Analysis” was conducted by ASME MBCET STUDENT SECTION
- Automata conducted a FDP ON GENERATIVE DESIGN WITH FUSION 360, VORTECHX '22- technical Fest of MED, Workshop on Robotics for Students, Workshop on CFD for Students, Industry expert talks and session on career opportunities.
- The SAE MBCET Chapter has initiated the building of a campus utility vehicle. A team of 25 members is involved in the Design and Manufacturing of the Campus utility vehicle.
- ISHRAE conducted an Industrial visit to Trivandrum International Airport
- Department faculty has been actively involved in the research and consultancy works. They have authored 8 Journals, 9 Conference papers, 2 books and 3 book chapters in 2022-2023. Four ongoing funded projects are being carried out by MED faculties. The faculty also attended a total of 12 FDPs/STTPs last year.
- Dr Nidhi M.B. Assoc. Professor, delivered four invited talks in other institutes in different areas including an invited session on Social innovation at Curtin University, Dubai Campus.



9f Department of Science and Humanities

The Department of Science and Humanities was established in 2002 at the beginning of the College itself as a multi-faculty Department. The Department offers courses in Engineering Mathematics, Engineering Physics, Engineering Chemistry, Communicative English, Professional Communication, Business Economics and Principles of Management according to the B.Tech Engineering curricula. It also offers Master's level courses for the M.Tech programmes. In addition to these formal academic works, additional special sessions on soft skills development and language proficiency are also conducted for the benefit of the students. The Faculty members are available to the students even out of class hours for consultation and remedial teaching. The Department caters to the overall personality development of the students through the counseling sessions, seminars, invited talks, socially relevant projects and personality development programmes.

The Department has 21 members of Faculty and they are supported by the Staff. There are well equipped laboratories for Physics and Chemistry. There is also a Language Laboratory, with 31 systems installed with the latest ETNL® software. The Language Laboratory provides avenues for the students to tone up their language skills. The Faculty also have published several research publications in reputed journals to their credit during the year under report also and some are pursuing their Ph.D.

10 Examination Wing and the Controller of Examinations 2022-2023

The Examination Wing under the new autonomous system started functioning in full swing in the year 2020, pursuant to the conferment of the autonomous status. The Controller of Examinations is heading the Examination Wing. Examinations of all the courses under autonomous system are conducted systematically by the Examination wing, as per the academic calendar of the College. Efforts are always made to adhere to the timing envisaged in the Academic Calendar so that students will be benefitted from timely completion of the programmes within the stipulated duration itself. Sufficient number of supplementary chances are given to the slow learners and failed students so as to handhold them to the maximum extent. Semester results are usually published within a short time of roughly ten working days and the students are given chances for scrutiny, re-evaluation and answer script review so that the process remain transparent to the stakeholders. The workflow in the Examination wing has been clearly defined and sufficient manpower is made available depending on the workload.

During 2022-2023, the Examination wing conducted all the scheduled examinations in time. The highlight of the system is the immediate supplementary examination for both odd and even semesters. Apart from this a special additional supplementary chance was given 2022-2023 exclusively for the students of the 2020 admission, so as to enable them to clear their backlogs of the first and second semesters. Situations became complex after the lockdown and the Covid 19 pandemic because of the delay in the admission process continuously for the third year since 2020-2021 and the staggering of the odd and even semesters. Faculty and Staff were extremely supportive in addressing the issues arising out of this staggering. This resulted in the smooth conduct of all the examinations in time.

Similar arrangements were also made for the semester examinations of the M.Tech programmes as well. The regular examinations for the even semester were conducted (II and IV) during July / August 2022 followed by the immediate supplementary chance for the Semester II during November 2022. Similarly, for the odd semester (I and III) regular examination was held during January/March 2023 followed by an immediate supplementary



chance during March/May 2023. A special supplementary examination for the courses was conducted during August 2022, exclusively for the students of 2020 admission who were having backlog considering the impact of the pandemic on their academic progress. Because of these extra efforts the students could get enough chances to earn a pass grade within their stipulated period of two years of study in the campus and they could fulfil the requirements for securing the Degree from the University. All the 29 students of the 2020 PG admission under autonomy duly received their M.Tech Degree Certificate from the APJ Abdul Kalam Technological University in the year 2022-2023. Their Convocation was held in a ceremonious manner in December 2022.

11 Department of Physical Education and accomplishments in the Extracurricular Arena

The College has a rich tradition of promoting the extracurricular activities by facilitating the sports and games for the students. The year 2022-23 was quite vibrant in terms of the sports and games. This year 11 students participated in the South Zone Inter-University and 5 students participated in the All India Inter-University Competition in different games. Bhavya Suseelan, S8 CS 1 was the Individual champion in the University Chess competition and was the captain of the University Chess team. In the Annual University Athletics meet, College came to the 4th position in the Men section, 5th in the Women's section, and 5th in the Overall position among the 76 Engineering Colleges participated. The event was held at Thiruvananthapuram from 27 to 29 April 2023. 20 students went as volunteers for conducting the University Athletics Meet and their services were highly appreciated by the University authorities.

All Kerala **Baselian Volley Cup**, the annual inter collegiate volleyball tournament was conducted on 16 and 17 June 2023 in College Volleyball court. Ten teams participated in the tournament from different districts. College team lifted the trophy. Team from Lourdes Matha Engineering College was the runner up. Team of College of Engineering, Trivandrum was the second runner up. The College Volleyball team lifted a good number of Inter-Collegiate Volleyball Championship trophies this year conducted by different Colleges.

Ravikiran Nair, S2 CSE(AI), represented INDIA for the 1st Asian Chessboxing Championship and also participated in the 2nd WBCO Indian Open Chessboxing World Cup 2023 held at Kolkata from 4 to 7 June 2023. He secured Gold and Bronze Medals respectively in the events.

Sona S of S3 EC1 got selected in the University Lawn Tennis Women's team and Sruthy P J of S3 EC2 got selected in the APJ AKTU University team to participate in the South Zone Inter-University Shuttle Badminton Tournament. Siddhi Sekar, of S5 EC2 and Diya Vijayan, S1 EC2 got selected to the University Women Netball team. Pranav P Nair of S3 EC1 became the Individual Champion in the University Inter Zone Table Tennis Championship held at FISAT, Angamali. He also got selected for the University team. Shone C Achankunj of S2EC2 won the silver medal in the 100 metres race and Anamikaa S Nair of S8 EC2 won Gold Medal in Discus Throw in the 5th APJ AKTU Inter- Collegiate Athletic Meet held on 29th April 2023 at Thiruvananthapuram.

Austin Easso Prasad, S8 ME-2 received a certificate of recognition from the HARVARD WORLD RECORDS for presenting EXCEPTIONAL IDEA OF TRANSFORMING INDIA'S FUTURE THROUGH FINANCIAL LITERACY (ONE RUPEE REVOLUTION).



Vignesh Kailas, S6 ME-1 along with the team members got shortlisted to represent Kerala at the National Level Rajasthan IT Day Hackathon conducted by the Rajasthan Govt. They successfully competed against 4000+ participants and got selected among the final 10 teams to pitch their idea in front of Shri. Ashok Gehlot, Hon'ble Chief Minister of Rajasthan.

Bhadra S S, S4 ME secured 8th position in Triathlon National Championship held at Karnataka in April 2023

Umesh M Chandran, S6 ME-1 Secured Bronze Medal in 400 Mts. Race in the APJ AKTU Athletic Meet.

The Physical Education Department conducted also the various intramural competitions like Football, Cricket, Volleyball, Chess, Caroms, Shuttle Badminton, etc. As part of the development of infrastructure for sports in college, two 'A' class Volleyball court were constructed. These courts were inaugurated by keeping the competitions under A- Zone University Volleyball tournaments in mind. Apart from the participation, the College has also hosted inter-University competitions for Chess, Volleyball, and Netball on the campus.

12 Senate Election

The Senate, being the elected Student body, its constitution was preceded by the democratic election process, broadly following the University guidelines. The Senate was constituted in December 2022 and the participation of UG and PG students in the Senate was ensured through the elected representatives. The Office bearers assumed their office duly on completion of the election process and oath-taking. Senate coordinates the College level activities of the students.

13 Chapters of the Professional Bodies

The local Chapters/Branches of the professional bodies like Indian Society for Technical Education, IEEE Student Branch, IEEE Robotics and Automation Society, IEEE Power Electronics Society, IET On campus, American Society for Civil Engineers, American Society for Mechanical Engineers, ISHRAE, Computer Society of India, Indian Plumbing Association, Society for Automotive Engineers (SAE) etc. have been very active. The members have brought many laurels to the College through their accomplishments and awards.

14 National Service Scheme

The National Service Scheme Unit 230 of the College is attached to the NSS Cell of the APJ Abdul Kalam Technological University. The Unit organized a number of social service activities including blood donation, services to community and so on. They also hosted a number of State level events on campus. We are thankful to Dr. Sreedhar G, NSS Regional Director and Dr Joy Varghese P.M., NSS Cell Coordinator of KTU for their excellent support.

15 Value Education

The College is very prompt in making its contributions for instilling proper values and morals in the students. The Cell for Universal Human Values, Cell for Unnat Bharat Abhiyan, ISTE SHE, Women's Studies Unit, Department levels Associations, the Clubs for the Cocurricular activities and so on are actively involved in these matters. UHV Cell is coordinating the courses and training on Universal Human Values.

16 Curriculum Revision for M.Tech



The entire structure of the M.Tech programmes was revised in 2022-2023. This has been implemented in the academic year of 2022-2023. According to the new scheme, which is also in line with that of the KTU, one full year will be available for the major project/dissertation work similar to the practices existing in IITs, NITs and other leading institutions.

17 Industry Institute Interaction through MoU

The College has renewed the MoUs with several Organizations like Infosys, HLL Lifecare Ltd, BSNL Regional Telecom Training Centre and others. International collaboration was enabled by signing the fresh MoU with the University of Technology Mara Malaysia and Ajman University. The research under MoU with University of Technology Malaysia is progressing.

18 Collaborations for Research & Development

The College has renewed the MoUs with CDAC Trivandrum and National Institute of Speech and Hearing for facilitating academic and research collaborations. R&D using the India's own VEGA processor has been initiated with support from CDAC.

19 Faculty Training Programmes - Organized

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

20 Faculty Training Programmes – Attended

Sl No	Department	Number of Faculty members attended FDPs / Workshops during Academic Year 2022-2023
1	CED	22
2	CSE	19
3	ECE	22
4	EEE	19
5	MED	6



6	S&H	8
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21 Innovation and Entrepreneurship Development Centre (IEDC)

IEDC is doing commendable services in kindling student innovations and continues to receive support from Kerala Startup Mission. Several students are working in the IEDC to develop their project ideas. IEDC has been recognized as TBI by the Kerala Startup Mission.

22 Library and Information Services

The Central Library supports the teaching, learning and research on the campus through its rich collections, facilities and value-added services. In 2022-2023, there was comparatively higher utilization of the remote access facilities, by the user community through Knimbus Remote Access. The Central Library offers its services simultaneously to more than 2,500 users comprising the undergraduates, postgraduates, research scholars, Faculty and Staff from various Departments of the College. The Library uses KOHA ILMs for the daily operations. The circulation transactions, no-dues reports, etc. are done with the help of this software. Barcode based circulation system is used. It offers Web OPAC services through internet through the site <http://library.mbcet.ac.in>. The Library is functioning in two shifts. The book collection is classified according to the DDC. (Dewey Decimal classification) and each textbook is covered with plastic coating to make it durable. The Whole library is kept under CCTV Surveillance and the Wi-Fi facility is also provided. The Central Library is supporting the maintenance of the blog for “Aksharakoottam”-the Creative Writing club of the Students.

During 2022-2023, MBCET Library implemented IRINS in association with INFLIBNET Center, Ahmedabad – Research Information Management System. (Academic Identity). All faculty profiles with their publication integrated in this portal. Take a look at this <https://mbcet.irins.org/>. The Digital Library section includes computers with Internet facility and the reprographic facilities. There is the service namely DSpace Database for collecting the projects / these reports of MBCET students. An ETD server (electronic theses and dissertations) maintained using Dspace (an open-source institutional repository package) has been initiated. In the case of NPTEL, a local copy of all NPTEL course materials (provided by IIT Madras, already available in public domain) which could be accessed from within the Digital Library.

There is the collection of KTU and KU (previous years question papers) question bank in the public domain and it attracts many viewers from across the State. Users of the Library can access **Science Direct E-Journals** through **Knimbus** platform, a facilitation provided by the APJ Abdul Kalam Technological University through the Digital Library Consortium. Large number of E-Journals have been activated as of now and can be accessed through the Knimbus platform. Back File Access shall be from 2005 onwards – Link is <https://mbcet.knimbus.com/>. There is a Mobile app also for this purpose. The Library has conducted Seminar “Know Your Library – Effective Utilization of the Library and E-Resources”. Central Library is a member of the National Digital Library.

The Library has also linkages with (a) E-Shodhsindhu: Consortium for Higher Education Electronic Resources, provides access to e-resources to Universities, Colleges and Centrally Funded Technical Institutions in INDIA. (b) IEI – MBCET have institutional Membership with IEI (India) hence the MBCET Library can access the E-Journals of IEI. (c) Indian Plumbing Association – Library can access Journal of Indian Plumbing Today due to Institutional membership (c) **InfStats** - Member of Usage Statistics Portal is developed by INFLIBNET Centre – (Beta Version) <https://infistat.inflibnet.ac.in/> The Library Advisory Committee (LAC) monitors and plans the activities and development of the Library. It has its



members drawn from various Departments. The Librarian has attended several programmes as part of the Faculty Development and Refresher Programmes.

23 Internal Quality Assurance Cell(IQAC)

The Internal Quality Assurance Cell(IQAC) has been constituted in 2014 and was re-constituted in 2020 as per the UGC Guidelines under autonomy. IQAC of the College is headed by the Coordinator. It is governed by the Committee comprising the members drawn from various stakeholders, covering, Management, Faculty, Staff, Students, Parents, Alumni and Industry. IQAC has coordinated the internal academic audit, administrative audit, audit by the University and also the external peer team audit during 2022-2023. Cell is striving to drive down the concept of academic quality and excellence in all segments of the College.

24 Alumni Affairs

The College is maintaining good relations with its alumni through the Alumni Association namely MBCETAA. The Alumni Association has got registered as a charitable Society under the Travancore Cochin Literary, Scientific and Charitable Societies Registration Act 1955(Kerala Act 12, 1955). The Alumni Association has sponsored the Best Project awards and the various Student activities.

25 Meetings of the Statutory Bodies and Committees

The Governing Body, Academic Council and the Boards of Studies of the College have been meeting on a regular basis. The College Council meets more frequently to address the day to day matters. The various committees and the advisory boards of the Departments meet regularly to address various matters related to curriculum, examinations, research, networking and so on. The work on the revision of the B.Tech curriculum has been initiated for implementation in 2023-2024.

26 Conclusions

We pay our tributes to the venerable Founder Late His Beatitude Moran Mor Cyril Baselios Catholicos and the members of the founding team. The efficient leadership given by our former Bursars Fr. Wilson Thattaruthundil, Fr John Thundiyyath, Fr John Vilayil and the former Principals Dr V K Sebastian, Prof K M Raju and Dr T.M. George were stupendous and we are deeply indebted to them. The intrinsic motivation and the dedication of the team of Faculty and Staff is visible in every aspect of the day to day activities of the College and the steady progress in the academics. Our students and alumni keep the flag of MBCET flying high not only in academics but also in sports, games and co curricular activities as well.

I conclude this Report by placing on record our sincere gratitude to our Patron His Beatitude Moran Mor Baselios Cardinal Cleemis Catholicos whose visionary thinking and guidance provides us the motivation, strength and enthusiasm to go forward. We are also deeply indebted to His Excellency Most Rev. Dr. Mathews Mar Polycarpos, Auxiliary Bishop of Major Archdiocese of Trivandrum for the timely guidance and the excellent support. We acknowledge the guidance and support from our Bursar Fr John Varghese, Assistant Bursar Fr Thomas Mukalumpurath, Members of the Governing Body, Academic Council, Boards of Studies, Department Advisory Boards, PTA Executive, the various Committees, Parents and the Industry. We would also like to place on record our love and appreciation for the support and guidance received from our sister Institutions in the Mar Ivanios Vidyanagar campus in various ways.



On behalf of the College, I express the gratitude to our Vice Principal, Deans, HoDs, Controller of Examinations, IQAC Coordinator, Faculty, Heads of Sections, Staff, Students, Parents and all our stakeholders, who have extended support and guidance in various ways, during the year under report. Special words of compliments are due to our Faculty, Staff and Students for their deeper involvement and impeccable cooperation in the academics and the various related activities that lead to the attainment of a reputable position among the institutions of higher education year after year.

We earnestly look forward to getting the unconditional support and care from the Parents, Industries, all other stakeholders and the well-wishers in the coming years too.

“Excellence is a journey and not a destination”

Sd/-
PRINCIPAL

30.06.2023