AQAR

(Annual Quality Assurance Report)

(2018-2019)

Submitted to

NAAC

Bangalore

by

Mar Baselios College of Engineering
&
Technology

Mar Ivanios Vidyanagar, Nalanchira
Trivandrum, Kerala

July 2019

The Annual Quality Assurance Report (AQAR) of the IQAC
(For Affiliated/Constituent Colleges)

Institutions Accredited by NAAC need to submit an Annual self-reviewed progress report i.e. Annual Quality Assurance Report (AQAR) to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the IQAC at the beginning of the Academic year. *The AQAR period would be the Academic Year. (For example, July 1, 2017 to June 30, 2018)*

Part – A

Data of the Institution

(data may be captured from IIQA)

1. Name of the Institution   :   Mar Baselios College of Engineering & Technology

- Name of the Head of the institution   :   Dr T.M.George

- Designation   :   Principal

- Does the institution function from own campus   :   Yes

- Phone no./Alternate phone no.   :   0471-2545866, 2545868

- Mobile no.:

- Registered e-mail   :   mbcet@mbcet.org

- Alternate e-mail :

- Address   :   Mar Ivanios Vidyanagar, Nalanchira, Trivandrum

- City/Town   :   Trivandrum

- State/UT   :   Kerala

- Pin Code   :   695015

2. Institutional status:
- Affiliated / Constituent   :   Affiliated
- Type of Institution: Co-education/Men/Women   :   Co-education
- Location : Rural/Semi-urban/Urban   :   Urban

- Financial Status: Grants-in aid/ UGC 2f and : Self Financing
  12 (B)/ Self financing (please specify)

- Name of the Affiliating University : A.P.J Abdul Kalam
  Technological   University

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- Name of the IQAC Co-ordinator : Dr.George Zachariah

- Phone no. : 9446532004

  Alternate phone no. : 0471-2545866

- Mobile :

- IQAC e-mail address : iqac@mbcet.ac.in

- Alternate Email address :

3. Website address

Web-link of the AQAR: (Previous Academic Year): www.mbcet.ac.in

http//www.mbcet.ac.in/content/iqac

4. Whether Academic Calendar prepared during the year?: yes

Yes/No....., if yes, whether it is uploaded in the Institutional website:

Weblink:

5. Accreditation Details:

Cycle	Grade	CGPA	Year of Accreditation	Validity Period	
1st	**A**	3.13	2016	from:	to:
2nd				from:	to:
3rd				from:	to:
4th				from:	to:
5th				from:	to:

6. Date of Establishment of IQAC: DD/MM/YYYY: 07/04/2015

7**.** Internal Quality Assurance System

7.1 Quality initiatives by IQAC during the year for promoting quality culture		
Item /Title of the quality initiative by IQAC	Date & duration	Number of participants/beneficiaries

> *Note: Some Quality Assurance initiatives of the institution are:*
>   *(Indicative list)*
> - *Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback from all stakeholders collected, analysed and used for improvements*
> - *Academic Administrative Audit (AAA) conducted and its follow up action*
> - *Participation in NIRF*
> - *ISO Certification*
> - *NBA etc.*
> - *Any other Quality Audit*

8. Provide the list of funds by Central/ State Government- Nil

UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/ Department/Faculty	Scheme	Funding agency	Year of award with duration	Amount

9. Whether composition of IQAC as per latest NAAC guidelines: Yes/No:

   *upload latest notification of formation of IQAC: yes

10. No. of IQAC meetings held during the year:

   The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website…….

   Yes/No

   (Please upload, minutes of meetings and action taken report)

11. Whether IQAC received funding from any of the funding agency to support its activities during the year?   Yes   No ✓

   If yes, mention the amount: Year:

12. Significant contributions made by IQAC during the current year (maximum five bullets)

   *Feedback Systematised

   *Reviewed the program of implementation of Strategic Plan.

*Revised the Faculty Performance Appraisal System

*Measures taken to ensure health and safety through, the installation of fire fighting system, frequent testing of water quality, inspection of hygiene and quality of food served at the Canteen and Cafeteria

*Established new labs including Knowledge Lab, eYantra and Robotics Lab.

13. Plan of action chalked out by the IQAC in the beginning of the Academic year towards Quality Enhancement and the outcome achieved by the end of the Academic year

Plan of Action	Achievements/Outcomes
1. Enhance quality of Teaching and Learning by introducing innovative Teaching Methods.	1. Active and co-operative, Learning introduced was proved to be beneficial for students belonging to the different levels.
2. Prepare and submit project proposals for external funding and collaboration with other Research Organisations, industries and government agencies.	2. Various project proposals have been submitted and the details of the sanctioned projects are given in Criteria VI & III.
3. Organize International Conference and National Level Workshops.	3. Organized one International Conference ICAMeo-19 (International Conference on Applied Mechanics & Optimisation and a National Conference in "Advances in Structural Engineering".
4. Explore opportunities for International Collaborations.	4. International Collaboration An MOU has been signed between the Universiti Teknologi Mara UiTM, Malaysia and Mar Baselios College of Engg. & Technology for Academic collaboration.
5. Periodically modernise Labs to meet the requirements as well as enhancement of curriculum.	5. Some of the Labs have been modified.
6. Set-up a future technologies lab in the campus.	6. A Knowledge Lab has been installed the Future Technologies Lab concept has been initiated.
7. Initiate skill development programs in upcoming technologies such as AI, Blockchain and Robotics.	7. Skill Development Programme has been initiated.
8. Create more internship opportunities for students in association with the industry.	8. Internship opportunities have been created in certain IT forms and Public Sector companies such as HLL
9. Provide more training and exposure to students to enhance their placement opportunities.	9. Crash course to train students was conducted, and there has been a considerable increase in job offered for placement.
10. Encourage faculty and students towards entrepreneurship.	10. The IEDC takes care of it.
11. Provide quality enhancement programs for the faculty.	11. Bur for STTPs & FDPs for many
12. Organise activities for students and staff towards inculcation of values and commitment to society.	12. Programmes could not be arranged. The student counsellors take care of it. Besides, the Yoga courses, and the spiritual Retreats also have been conducted for the purpose.

14. Whether the AQAR was placed before statutory body?   Yes /No: yes

    Name of the statutory body: 1. College Council   Date of meeting(s): 01/07/2019
                                       2. Governing Body   : 17/07/2019

15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning?
Yes/No: No   Date:

16. Whether institutional data submitted to AISHE: Yes/No:

    Year: Date of Submission:

17. Does the Institution have Management Information System?
Yes ✓   **No**

  If yes, give a brief description and a list of modules currently operational.
  (Maximum 500 words)

The following mechanisms are in place for effective and quick dissemination of information to all the stake holders.

1. The intercom   2. Intranet   3. E-mails   4. WhatsApp Groups   5. SMS
6. Eccolaide   7. Notice Boards
8   Central Computer Facility
9. Information Technology Management and Services

   Information Technology Management and Services (ITMS) division provides quality IT Services for the Institution's Research, Academic and Administrative needs and effectively manages the IT infrastructure of the Institution. It has four sub units, namely Server Administration, Network Administration, Software Development and Systems Support.

Core Services

- Installation, operation and Management of the computer backbone network in the college buildings.
- Connection of the College Network to Internet.
- Provision of a central storage space and email services for all staff.
- Installation, Operation and Management of Student Management System, Course Management System (Moodle), Asset Tracking and Management System, Biometric Attendance System and other Campus Management Software.
- Co-ordinate of Campus wide software licenses.
- C0-ordination of on-line publication on the College website.

Criterion – I

CRITERION I – CURRICULAR ASPECTS

1.1 Curriculum Planning and Implementation
1.1.1 Institution has the mechanism for well planned curriculum delivery and documentation. Explain in 500 words

For effective curriculum delivery on the curriculum provided by Kerala Technological University, the following initiatives have been taken up by the College.

- At the general level systematic and rigid academic calendar with necessary instructions is given to all the faculty and students at the beginning of a Semester so as to systematize academic plan for curriculum delivery.

- As the next step the division of work load is made into different classes and is implemented by preparing separate Department Time Tables and the same is integrated to the Master Time Table and is monitored by a Committee Chaired by the Principal. This ensures that the curriculum is executed systematically.

- Teacher evaluation by students is conducted in each Semester and the teachers are advised about the strength and weakness of their Teaching methods.

- Statistical analysis of examination results at the Department Level and between different colleges is done. This helps to map our position and accordingly strategies are proposed to excel further in academic performance.

- Class wise Parent Teacher Interfaces are conducted to ensure effective feedback for the proper curriculum delivery.

To make the curriculum delivery effective the following infrastructure facilities are made available

- Smart Class rooms enable effective Curriculum delivery.

- Conducive learning ambience and environment are created through well-ventilated classrooms.

- Seminar Halls are named after eminent Scientists as a motivation to develop scientific temperament.

- A Digital Language Lab is set up to improve the Communication Skills of the first year students.

- Uninterrupted Power Supply is ensured through the backup generators and solar PV plants.

- As an essential requirement to meet the Curriculum Implementation, well equipped Central Library and Department Libraries are provided with regular annual additions.
- Well furnished and equipped laboratory and workshops.

As a source of content beyond syllabus for the benefit of advanced learners:

- The College organizes invited talks/interactive sessions by Experts from various disciplines for the students.
- The College has a tie-up with the IIT(Bombay), for conducting their National Mission on Education through ICT (NMEICT) workshops as a Remote Centre catering to the Faculty Members of MBCET and neighbouring Colleges. These workshops are aimed for the improvement of engineering education.

1.1.2 Certificate/ Diploma Courses introduced during the Academic year

Name of the Certificate Course	Name of the Diploma Courses	Date of introduction and duration	focus on employability/ entrepreneurship	Skill development
Java Programming		*Nov 2018*		*Yes*
Arduino Programming		*9/02/2019 to 31/03/2019*	**Technical Workshop**	
C Programming		*9/02/2019 to 31/03/2019*	**Technical Workshop**	
"Distributed Generation and Smart Grids"		30-7-2018	Employability	
STTP on "E-Vehicle: A Green Approach for Sustainable Development"		7-1-2019	Employability	
AUTOCAD training		September 2019	Employability	Yes
DIALUX training		25-10-2018	Employability & entrepreneurship	Yes

1.2 Academic Flexibility

1.2.1 New programmes/courses introduced during the Academic year

Programme with Code	Date of Introduction	Course with Code	Date of Introduction
-		-	

1.2.2 Programmes in which Choice Based Credit System (CBCS)/Elective course system implemented at the affiliated Colleges (if applicable) during the Academic year.						
Name of Programmes adopting CBCS	**UG**	**PG**	Date of implementation of CBCS / Elective Course System	**UG**	**P G**
B.Tech (Hons)	*1*		*Jan 2018*	*S6* *S7* *S8*	
Already adopted (mention the year)					

1.2.3 Students enrolled in Certificate/ Diploma Courses introduced during the year		
	Certificate	Diploma Courses
No of Students	"Distributed Generation and Smart Grids" - 18 students	
	E-Vehicle: A Green Approach for Sustainable Development - 9 students	
	AUTOCAD training - 13 students	

1.3 Curriculum Enrichment

1.3.1 Value-added courses imparting transferable and life skills offered during the year

Value added courses	Date of introduction	Number of students enrolled
SST (S3-S4)	*Aug 2018*	*517*
Aptitude training (S6)	*Jan 2019*	*339*
Placement training (S7)	*Aug 2018*	*453*
Java Programming	*Feb 2018*	*18*
R Programming	*June 2018*	*25*
Certified training program on AutoCAD &Ansys.	*Mar2019*	83
Software Training on LaTeX	Jan 2019	8
Software Training on ANSYS	Jan 2019	33
Software Training on PRIMAVERA	Jan 2019	25
Software Training on Water GEMS	Feb 2019	15
Gate coaching Class is conducted by	Feb 2018	10

the faculty of the department		
DIALUX training	Oct 2018	13

1.3.2 Field Projects / Internships under taken during the year

Project/Programme Title	No. of students enrolled for Field Projects / Internships
Automatic Number Plate Recognition(Neuroplex)	3
Android(Cogniz Info Tech)	12
PHP and the basics Android and ASP(radiance Logics)	2
HRMS(travanleo)	1
Web Designing & Android App Development(Bestowal Infotech)	10
App development in iOS (Onbyz)	7
Java and Android(CDAC)	2
Interface using Adrino(KELTRON)	3
Graphic Designing(I-Boson)	1
PHP(e-VISION LABS)	7
Artificial Intelligence bug tracking(UST)	1
Blockchain -innovation(EY)	2
Multicore Processors by NOC optimization Techniques(IIT Guwahati)	1
Matlab(IIITM-K)	1
PHP(Dishasoft)	5
Food Reserve(NetOne)	2
Web technology(Cybrilla Technologies)	1
ITS technology(IBS)	1
Blockchain(Experion)	1
Toilet Management System(TCS)	1
Enterprise networking(CISCO)	1
Yamaha Training School	41
Kerala automobiles limited	15
TIERA Pvt Ltd	2
KSRTC Regional Workshop, Mavelikara	4

HLL Lifecare Limited	1
Golden Rock Railway Workshop Trichy	1
Ford India Pvt Ltd,Chennai,Tamil Nadu	1
Technical Supplies & Services Co. L.L.C	1
Ezenith Education	1
Onegene group (WonjinAutoparts India Pvt Ltd)	1
Isotherm	1
Hydropress industries	2
Kerala State Electricity Board	38
National Babel for General Trad. & Cont. Co.	1
Juma Al Majid,UAE	1
SarathyAutocars	2
All India Radio	4
BSNL	1
CDAC, Technopark Campus	8
Doordarshan	1
Indian Institute of Space Science and Technology (IIST)	2
INVENTROM PVT LTD., BENGALURU	1
KELTRON,Trivandrum	33
Kochi Metro rail Coperation	1
Jio infocomm	1
SERVENTIRE GLOBAL, TECHNOPARK, TRIVANDRUM	1
UST Global, Trivandrum	2

1.4 Feedback System

1.4.1 Whether structured feedback received from all the stakeholders.

1) Students	2) Teachers	3) Employers	4) Alumni	5) Parents
Yes	*Yes*	*Yes*	*Yes*	*Yes*

1.4.2 How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)

The institution collects the feedback on curriculum aspects and courses from different stakeholders such as the students, alumni, Faculty and Employers. Periodical analysis is made

by Programme Assessment Committee to compile the responses from the various stakeholders.

Feedbacks are collected for all courses during the mid and end of the Semester. During the mid-semester feedback, the staff advisors/ HOD ask the students to write the feedback for theory class, labs etc. and evaluate the teaching methods for each course. HOD analyzes the report and discusses with the faculty who needs improvements in the method of teaching taking into account the revised curriculum and the suggestions from the stakeholders such as parents, students, industrial experts, alumni, faculty etc. The suggestions have been used in the revision of PEOs. PEO's which were modified specific to the program and mapped with the Mission of the Department.

Criterion – II

Teaching, Learning and Evaluation

2.1: Student Enrolment and Profile

Name of the Programme	Number of seats available	Number of applications received*	Students Enrolled
B.Tech in Electronics and Communication Engineering	126 (Govt seat -66+ Management seat-60)	603	87
B Tech in Civil Engineering	126 (Govt seat -66+ Management seat-60)	565	102
B Tech in Computer Science Engineering	126 (Govt seat -66+ Management seat-60)	665	122
B Tech in Mechanical Engineering	126 (Govt seat -66+ Management seat-60)	573	115
B.Tech in Electrical and Electronics Engineering	126 (Govt seat -66+ Management seat-60)	549	66
M.Tech in Telecommunication Engineering	18	9	9
M.Tech in Signal Processing	18	0	0
M Tech in Structural Engineering	18	73	18
M.Tech in Computer Science Engineering	30	11	4

M.Tech in Machine Design	18	8	5
M.Tech in Power Control and drives	18	11	5
M.Tech in Control System	18	0	0

2.1.1: Demand Ratio during the year

* Application received by college for Management seat. For B.Tech , the data shows the number of applications received in each Programme with the corresponding branch as one of the options.

2.2 : Catering to student diversity

2.2.1: Student - Full time teacher ratio (current year data)*(As on March 31,2019)*

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of full time teachers available in the institution teaching only UG courses	Number of full time teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2018-19	2145	86	118	4	38

2.3 Teaching - Learning Process

2.3.1 Percentage of teachers using ICT for effective teaching with Learning

Management Systems (LMS), E-learning resources etc. (current year data) *(As on March 31,2019)*

Number of teachers on roll	Number of teachers using ICT *(LMS, e-Resources)*	ICT tools and resources available	Number of ICT enabled classrooms	Number of smart classrooms	E resources And techni ques used
166	148	Handouts, peer group discussion, YouTube video uploaded, quiz, read-pair and share, Projectors, google classroom	39	0	NPTEL videos , E-Journals

2.3.2 Students mentoring system available in the institution? Give details. (maximum 500 words)

A structured way of student mentoring has been established. Mentoring is addressed in two levels. In the department level, three faculty members are assigned the role of staff advisor for each class. Every advisor has a group of maximum 21 students under him/her for close monitoring. The advisors are further monitored by a senior staff advisor who is one among the three within the department. The staff advisors meet the students regularly depending upon the requirements of students and look to the welfare of students and report the matter to the senior staff advisor. Students with academic issues are reported to HoD and parents after the internal tests/ university examinations and remedial classes will be recommended for the needy students.

In addition, two student counselors are available in the campus during all working days. Based on the individual cases, the Counselor meets the students alone or along with their parents. The Counselor works in close coordination with the departments and parents, thus ensuring smooth functioning of the counseling activities. The advisors and counselors maintain registers to log the performance of the students and the details of meeting with the student/parent.

In order to improve the overall development of student performance several activities are coordinated by the department.

(As on March 31,2019)

Number of students enrolled in the institution	Number of fulltime Teachers	Mentor: Mentee Ratio
2231	163	1 : 21

2.4 Teacher Profile and Quality

2.4.1 Number of full time teachers appointed during the year(Data as on 31-03-2019)

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No.of faculty with Ph.D
166	166	0	10	22

2.4.2 Honours and recognitions received by teachers

(received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2019	Ms. Nidhi M B	Assistant Professor	Secured national award for paper presentation by teachers (Engineering College Category) at 48th ISTE National Annual faculty convention at VTU Belagavi,Kolkata
2019	Nirmal M S	Assistant Professor	Secured admission for PhD under the Dual scholarship programme offer by TU Delft Netherlands and Swinburne University, Australia. He was one among the 5 chosen for the program at the national level
2018	Dr. Jayasree S	Associate Professor	ICI-ULTRATECH Endowment Award 2018 (State Level) for Best Doctoral Thesis in the Field of Concrete
2018	Jomole Joseph P	Assistant Professor	IET KKLN Outstanding Volunteer Award
2018	Dr G K Nisha	Associate Professor	Received research excellence award from Institute of Scholars for the research work titled "Torque capability improvement of sensorless FOC induction machine in field weakening region for propulsion purposes" in Elsevier journal of electrical systems and information technology.
2018	Ranjith H	Assistant Professor	Represented India at the Asian level power lifting competition held at Ulanbataar, Mongolia 2018 and secured 4th position. He secured silver at the National

2018	Rupesh S	Assistant Professor	Secured the Third rank in the Final Examination of online MOOC course on "Refrigeration & Air conditioning" organised by NPTEL, held on October 4, 2018.

level power lifting meet held at Lucknow 2018.

2.5 :Evaluation Process and Reforms

2.5.1: Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BTech		2018 - 19	24-01-2019	17/4/19 – S1 29/4/19 – S5 1/5/19 – S3 4/5/19 – S7

2.5.2: Reforms initiated on Continuous Internal Evaluation(CIE) system at the institutional level (250 words)

Besides the KTU norms the college has constituted DQAC (Department Quality Assurance Cell) which appoints a subject expert for scrutinizing the quality of the question paper and CO's compliance of each course. The question paper is further scrutinized by the Module Co-ordinator. The internal examination question papers are framed according to the Bloom's taxonomy for facilitating higher levels of thinking in students. The mark distribution of each question is checked by the Subject Expert and Module Co-ordinator and the required changes are noted down in the question paper and reverted to the course instructor. Then, the course instructor will make the required corrections and submit the final version of the question paper to the Department Exam Cell Representative. The Module Co-ordinator will submit a report of the scrutiny of the question paper of that module to the HoD.The course coordinator

evaluates the answer sheets adhering to the scheme of valuation. The answer sheets are also scrutinized by the subject expert.For assignment and internal examination question papers, the mapping of questions to Course Outcomes is shown at the end of the question paper. Student's attendance is strictly monitored. To make the students more committed parent teacher meeting is arranged.To boost up the academic performance several awards are given at the institution level.

2.5.3: Academic calendar prepared and adhered for conduct of Examination and other related matters (250 words)

The APJ Abdul Kalam University has their own academic calendar which includes:

- Orientation Programme
- Internal Examinations
- University Examinations
- Publishing of Internal marks
- Uploading of Internal marks
- Institute festivals etc.

In addition to this, we have an Institute academic calendar that is prepared well in advance before the commencement of the academic year. It consists of all the activities planned for the academic year comprising of:

- Internal Examination dates
- Retests
- Publishing of Internal marks
- Laboratory Examinations
- Conduction of events like technical fest, cultural fest
- Public holidays etc.

It is prepared in such a way that the Institute academic calendar is aligned with the University academic calendar. It is meticulously done so as to obtain the stipulated number of working days.

The subjects for the next semester are allotted immediately after the end of the current semester so that the faculty can prepare the lecture plans and lecture notes. This will make the teaching process more effective as the faculty is well prepared to take classes. The lecture plan is prepared for each course which gives a predictive plan on how to cover the curriculum in a timely manner.

2.6 : Student Performance and Learning Outcomes

2.6.1: Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

The following are the five links available on www.mbcet.ac.in

https://mbcet.ac.in/departments/civil-engineering/peos-pos/

https://mbcet.ac.in/departments/computer-science-engineering/peos-pos/

https://mbcet.ac.in/departments/electronics-communication-engineering/peos-pos/

https://mbcet.ac.in/departments/electrical-electronics-engineering/peos-pos/

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

2.6.2 : Pass percentage of students

Programme Code	Programme Name	Number of students appeared in the final year examination	Number of students passed in final semester/ year examination	Pass Percentage
	B.Tech in Electronics and Communication Engineering	116	81	69.83
	B Tech in Civil Engineering	121	96	79.34
	B.Tech in Electrical and Electronics Engineering	52	39	75
	B Tech in Mechanical Engineering	126	84	66.67
	B Tech in Computer Science Engineering	110	68	61.82
	M.Tech in signal Processing	3	3	100
	M.Techin Tele communication Engineering	8	5	62.50

	M.Tech in Machine Design	6	3	50
	M.Tech in Computer Science Engineering	6	2	33.33
	M.Tech in structural Engineering	18	18	100
	M.Tech in Power Control and drives	7	5	71.42
	M.Tech in Control System	9	7	77.77

2.7 Student Satisfaction Survey

2.7.1 Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as web link.

Web link : https://mbcet.ac.in/naac/

Criterion – III

RESEARCH, INNOVATIONS AND EXTENSION

3.1 Resource Mobilization for Research

3.1.1 Research funds sanctioned and received from various agencies, industry and other organizations

Nature of the Project	Duration	Name of the funding Agency	Total grant sanctioned	Amount received during the Academic year
Major projects	2 yrs(ongoing)	KSCSTE	300000[1]	Nil
	2 yrs (ongoing)	VSSC	24,40,000[3]	Nil
	3 yrs (on going)	APJAKTU-CERD	200000[4]	Nil
	3 yrs (on going)	SERB	2799500[6]	1356166
	1 yr(on going)	KSCSTE	400000[7]	300000
Minor Projects	2 yrs (ongoing)	APJAKTU-CERD-RSM	63000[2]	Nil
	6 months	APJAKTU-CERD-Student Project	22500[5]	Nil
	1.5 yrs (ongoing)	Centre for Disability Studies (CeDS)	50000	Nil
	1.5 yrs (ongoing)	Centre for Disability Studies (CeDS)	53300	Nil
	1.5 yr s (ongoing)	Centre for Disability Studies (CeDS)	30000	Nil
Interdisciplinary Projects	2 yrs (ongoing)	KSCSTE	300000[1]	Nil
Industry sponsored Projects	2 yrs (ongoing)	VSSC	24,40,000[3]	Nil
	3 yrs (on going)	SERB	2799500[6]	1356166
	1 yr(on going)	KSCSTE	400000[7]	300000
Projects sponsored by the University/College	1 yr	MBCET	122000	Nil
	2 yrs	APJAKTU-CERD-RSM	63000[2]	Nil

	6 months	APJAKTU-CERD-Student Project	22500[5]	Nil
	1 yr	MBCET	300000	6555
	2 yrs 2018-2020	Malankara Catholic Society	85,000/-	9131
	1 yrs 2018-2019	Malankara Catholic Society	124,764	Nil
	3 yrs (on going)	APJAKTU-CERD	200000	Nil
Students Research Projects *(other than compulsory by the College)*	1 yr	Center for Disability Studies	40500	40500
	1 yr	APJAKTU-CERD	43300	Nil
International Projects				
Any other(Specify)				
Total			70,73,864	1712352

Note: Same project with same superscripts

3.2 Innovation Ecosystem

3.2.1 Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year.

Title of Workshop/Seminar	Name of the Dept.	Date(s)
IoT Workshop	CSE	29/9/18
Introduction to Machine learning and AI	CSE	30/7/18 – 31/7/18 and 10/11/18 – 11/11/18
Blockon - Blockchain Workshop	CSE	13/10/18 – 14/10/18
"Artificial Intelligence and Machine Learning"	CSE	12/7/18 – 13/7/18
"Network and Information Security"	CSE	9/7/18 – 11/7/18
R Programming	CSE	5/6/18
International Conference on Infrastructure Development: Issues,	CE	21/6/2018-

Innovations and the Way Forward • Sustainable road infrastructure in Kerala-Issues and options • Sustainable asphalt pavement technology and green initiatives in asphalt mixing plants • Marine structures and marine Technologies • Road infrastructures in Kerala – challenges and opportunities • Condition assessment and maintenance strategization for highway assets • Hydraulics and Water Resource engineering • Choice and guidelines for the selection of binders for long lasting highway pavements • Moisture resistant durable pavements with nanotechnology • FEAST software • Design and Construction of Green field International Stadium		23/6/2018
Talk in connection with Indian space week celebrations	CE	8/10/2018
Marshall Method of Bituminous mix design	CE	5/10/ 2018
Adobe Photoshop	CE	20 /7/2018
Network &Information Security	CE	9/7/2018-11/7/ 2018
Two day Workshop on STAAD	CE	8/9/2018-9/9/ 2018
FDP on "Primavera P6 Contractor conducted by InterCAD at MBCET	CE	7/1/2019-9/1/ 2019
Workshop on "Finite Element Analysis of Structures using ANSYS"	CE	1010/1/2019-11/1/2019
Development of National Standards for Construction Project Management	CE	2 /5/2019
Ultra High Performance Concrete for Durable Structures	CE	2/5/ 2019
Geopolymer – An ecofriendly Alternative to Portland Cement	CE	3/5/ 2019

Mix Design workshop by Ultra Tech	CE	3/5/ 2019	
Fibre Reinforced Polymer Strengthened Reinforced Concrete Piles under Lateral Loads	CE	3/5/ 2019	
A brief History of Fracture Machanics: From Glass to Copper	CE	2-4 May 2019	
Workshop on TEKLA Software			
Faculty Development Programme on Recent trends in Mechanical Characterization of Bituminous binders and mixtures	CE	June 24.28.2019	
SODFOS-DIALUX	EEE	25/10/18 - 13/4/19	
SEPTECH MBCET Chapter	EEE	30/7/208-1/08/2018	
AUTOCAD-CADHOME	EEE	1/10/2018 - 3/4/19	
Experimental & Numerical approaches in Fundamental Fluid Dynamics	ME	2/7/2018 - 6/7/2018	
Optimisation Techniques for Engineering Applications	ME	17/7/2017 - 21/7/2017	
Seminar on Innovations & IPR	IEDC	28/6/2019	

3.2.2 Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of the Awardee	Awarding Agency	Date of Award	Category
Studies on Strength and Behavior of Corrosion Damaged RCC structural elements and effect of Ferro-cement Retrofitting	Dr. Jayasree S	ICI Ultra tech Endowment Award	23/10/ 2018	Best PhD Thesis
Tension stiffening of hybrid fibre reinforced ultra- high performance concrete	Lijina Thomas, Jithin J.S	ICI Ultra tech Endowment Award	23/10/2018	Best M.Tech Thesis
Ergonomic assessment and Design of chair for workers in the electronic testing unit of a healthcare unit.	Rejoy James (Dr Nidhi M.B)	Springer	14/12/ 2018-16/12/2018	Young Researcher Award (Undergraduate level)

3.2.3 No. of Incubation centre created ,start-ups incubated on campus during the year		
Incubation Centre	Name	Sponsored by
Nil		
Name of the Start-up	**Nature of Start-up**	**Date of commencement**
Daily Medes Solutions Pvt. Ltd.	Health Care	29/01/2019
Ai Drone Pvt. Ltd	Drone Development	10/04/2019
Footslog solutions Pvt. Ltd	Health Care	11/4/2019
Micro fuel	Energy	11/4/2019

3.3 Research Publications and Awards

3.3.1 Incentive to the teachers who receive recognition/awards

State	National	International
Nil	Nil	Nil

3.3.2 Ph. Ds awarded during the year *(applicable for PG College, Research Center)*

Name of the Department	No. of Ph. Ds Awarded

3.3.3 Research Publications in the Journals notified on UGC website during the year

	Department	No. of Publication	Average Impact Factor, if any
National			
International	CSE	3	2.13
	CE	10	5.85(B impact factor)
	EEE	6	Nil
	ECE	1	Nil
	ME	4	3.442 0.772 0.31 0.977

3.3.4 Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

Department	No. of publication
CSE	8
CE	16
ME	17
EC	1
EEE	6

3.3.5 Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index

Title of the paper	Name of the Author	Title of the journal	Year of Publicat-ion	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citations
Effect of Containment Reinforcement on the Seismic Performance of Un-Reinforced Masonry Buildings-	S.R. Vaidehi, G. R. Aiswaria and Dr S.V. Jisha	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Along and Across Wind Responses of Tall Buildings Considering Soil Structure Interaction	Aiswaria G. R., Jisha S. V.	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Effect of Steel and Polypropylene Fibre on the Tension Stiffening of Ultra High Performance Concrete	Lijina Thomas, J. S. Jithin	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Seismic Evaluation of Different Structural Systems in Stepped Building Frame	Yamuna SR, Aneena Babu	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	

Study on the Mechanical and Flexural Properties of Concrete by the Addition of Black Liquor Sludge as Admixture	Nikhil NadhV. S, Dr Jayasree S	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Study on Flexural Behaviour of RCC Beams Retrofitted with Biplanar Geonet	Sherine Stanly, D.B.Tisny	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Effect of Near Surface and Externally Bonded Retrofitting on Exterior Beam-Column Joint	Akash S., DrJayasree S.	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Quantification And Analysis Of Blindspots For Light Motor Vehicles	Aleena Mathew, E. S. Krishna Ram, Elizabeth Maria Alex, Gokul G. Kumar, Jeslin Elizabeth, DrSatyakumar. M	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Comparative Study on Cell Filled and White-topped Concrete Overlay with Human Hair as Pavement Rehabilitation Methods	Gokul K. L.and DrSatyakumar M	International Journal of Engineering & Advanced Technology	**December** 2018		Mar Baselios College of Engineering and Technology	
Influence of Refinery Processing Methods on Ageing of Bitumen	Nivitha Ravichandran, Dr Neethu Roy and Dr J Murali Krishnan	Sadhana, Springer	**May 2019**		Mar Baselios College of Engineering and Technology	
Effect of power factor on torque capability of FOC induction machine in field weakening region for	Dr G. K. Nisha	*Electrical Engineering, Springer*		1		1

propulsion systems						
Analysing carbon sensitive sustainable supply chains	M B Nidhi, VMadhusudanan Pillai	Journal of Computers and Industrial Engineering	**2019**	Nil	MBCET	
Cold flow studies in a Vortex Combustor	Rajesh T.N, T J Sarvothama Jyothi,Jayachandran T	Internatioal Journal of Aircraft Engineering and Aerospace Technology	**2018**	Nil	NIT C	
Hot test studies in a spark ignited vortex combustion chamber	Rajesh T.N, T J Sarvothama Jyothi, Jayachandran T	Chemical Engineering Transactions	**2018**	Nil	NIT C	
Structural Health Monitoring of Smart Composites: A Review'	Ruby Maria Syriac, A.B.Bhasi	Springer Transactions in Civil and Environmental Engineering	**2018**	Nil	CUSAT	

3.3.6 h-index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the paper	Name of the author	Title of the journal	Year of publication	h-index	Number of citations excluding self citations	Institutional affiliation as mentioned in the publication
A hybrid approach to generate visually seamless aerial mosaics from unmanned aerial vehicles	DrVishnukumar S	Journal of Intelligent Fuzzy Systems	2018	1	1	Department of Computer Science and Engineering, Mar Baselios College of Engineering and Technology, Trivandrum, India
Dynamic Summarization of Videos based on	Ms. Jesna Mohan	IEEE Access	2018	1	1	Department of Computer Science,

Discriptors in Space time Video volumes and Sparse Autoencoder						University of Kerala and Department of Computer Science and Engineering, Mar Baselios College of Engineering and Technology, Trivandrum, India
"Mathematical Modelling and Analysis of Hierarchical Modulation in AWGN and Rayleigh Channel",	Dr Jayakumari J	International Journal of Wireless and Mobile Computing	2019	8	Nil	Mar Baselios College of Engineering and Technology
An Efficient Hierarchical Modulation based OFDM transmission scheme for digital video broadcasting"	Dr Jayakumari J	International Journal of Engineering *Transactions*	2019	8	Nil	Mar Baselios College of Engineering and Technology
Design and Analysis of Compact T Shape Slotted Patch Antenna for 4G WiMAX Applications"	Dr Jayakumari J	International Journal of Enterprise Network Management	2018	8	Nil	Mar Baselios College of Engineering and Technology
"Estimation of elbow angle using surface electromyographic signals"	K. Shalu George	Journal of Intelligent & Fuzzy Systems	2018	1	Nil	NIT,Calicut
Effect of power factor on torque capability of FOC induction machine in field weakening region for	Dr G. K. Nisha	*Electrical Engineering, Springer*	2018	4	1	Mar Baselios College of Engineering and Technology

propulsion systems						

3.3.7 Faculty participation in Seminars/Conferences and Symposia during the year :

No. of Faculty	International level	National level	State level	Local level
Attended Seminars/ Workshops		55	99	38
Presented papers	40	2		
Resource Persons		7	13	16

3.4 Extension Activities
3.4.1 Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year.

Title of the Activities	Organising unit/ agency/ collaborating agency	Number of teachers co-ordinated such activities	Number of students participated in such activities
"Do for Kerala", - Flood Releif Activities	MBCET	2	10
Flood relief activities at Aluva	IET-MBCET chapter,ILLUMINA-EEE dept. association	4	20
Flood destruction Survey	Thanal (CESA)	7	69
Hospital Cleaning	MBCET(NSS)	4	50
Green Campus Clean Campus	MBCET(NSS)	2	100
7-day camp- for helping local residents in Kallayam Panchayat	MBCET(NSS)	7	50
Survey of 250 house of Kallayam for waste management to help the panchayath as a part of Suchitwa mission	MBCET(NSS)	4	30
Orphanage visit	MBCET(NSS)	3	50
Special Children's Home Visit	MBCET(NSS)	5	45

3.4.2 Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the Activity	Award/recognition	Awarding bodies	No. of Students Benefited

3.4.3 Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the Scheme	Organising unit/ agency/ collaborating agency	Name of the activity	Number of teachers coordinated such activities	Number of students participated in such activities

3.5 Collaborations

3.5.1 Number of Collaborative activities for research, faculty exchange, student exchange during the Year

Nature of Activity	Participant	Source of financial support	Duration
Industry academic activity	Students	ASME	From March- 2017
Industry academic activity	Students	ISHRAE	From March -2019
Technology Transfer	Students	Universati Tehnologi MARA - Shah Alam,Malaysia	Processing
External student project	Students	HLL Lifecare Ltd	From August- 2015
Computer Aided Design	Students	CAD Center	From March- 2019 (one year)
Conference	Delegates	Gannon University (no financial support)	From Jan 15- 2019 (one year)

3.5.2 Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact Details	Duration (From-To)	Particip-ants
Internship	Faculty Internship Programme(ECE)	HLL Lifecare, Peroorkada	20/9/2018-22/9/2018	2
Internship	Student Internship Programme(ECE)	Kerala state Electronics Development Corporation , Trivandrum	10/1/2019-16/1/2019	7
Internship	Institution/Industrial Linkage	SODFOS	25/10/18 to 13/4/19	15
Final year Project	Student Project	IIST	6 months	4
Academic	Zonal Partner	Bennett University	July 2018-April 2020	12
Internship	Training	Wonder La	10/8/2018-18/8/2018	1
		Wonder La	10/8/2018-17/10/2018	1
		Jayamatha ITI	16/2/2019	1
		Wonder La	16/8/2018	1
		Wonder La	10/8/2018	1
		Wonder La	10/8/2018-17/8/2018	1
		Wonder La	10/8/2018	1
		Wonder La	10/8/2018	1
		Wonder La	10/8/2018	1
		Wonder La	10/8/2018	1
		Kerala automobiles ltd	25/6/2018-29/6/2018	1
		Wonder La	10/8/2018	1

Wonder La	16/8/2018	1
HLL Lifecare Limited	1/6/2018-10/6/2018	1
Kerala automobile private limited	25/6/2018-30/6/2018	1
Wonder La	16/8/2018	1
KSRTC Regional Workshop, Mavelikara	9/7/2018-14/7/2018	1
Jayamatha Yamaha Training School , Mar Ivanios Vidyanagar , Nalanchira	4/6/2018-9/6/2018	1
Wonder La , Bangalore	28/7/2018	1
TIERA	23/7/2018-27/7/2018	1
Wonder La	10/8/2018	1
Wonder La	16/8/2018	1
Jayamatha ITI, Nalanchira	18/7/2018-22/7/2018	1
Wonder la	10/8/2018	1
Wonder La	10/8/2018	1
Wonder La BANGALORE	16/8/2018	1
Wonder La	16/8/2018	1
Wonder La BANGALORE	16/8/2018	1
Wonder La, BANGALORE	16/8/2018	1
Wonder La	10/8/2018	1
Wonder La	16/8/2018	1
Wonder La, BANGALORE	17/8/2018	1
Wonder La	25/8/2018	1
Wonder La BANGALORE	4/9/2018	1

Wonder La	8/8/2018	1
Wonder la	15/8/2018	1
Wonder La BANGALORE	16/8/2018	1
Wonder La	15/8/2018	1
Wonder La	4/9/2018	1
Wonder La	10/8/2018-17/8/2018	1
Wonder La	10/8/2018	1
Kerala Automobiles Limited (KAL)	25/6/2018-31/6/2018	1
KAL, aralimoodu	5/6/2018-11/6/2018	1
Wonder La Holidays	16/8/2018	1
Kerala Automobiles limited	4/6/2018-10/6/2018	1
Wonder La	16/8/2018	1
Wonder La	9/8/2018	1
KSRTC Central Works	7/11/2018	1
HLL Life Care Limited	25/6/2018	1
Wonder La	25/8/2018	1
Wonder La	26/9/2018	1
Wonder La	10/8/2018	1
Jayamatha-Yamaha	31/5/2018-6/6/2018	1
Wonder La	9/8/2018	1
Jayamatha yamaha	4/6/2018-8/6/2018	1

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Industrial Visit	Site visit	KSEB Prestressing Yard	16/1/2018-16/1/2018	40
Industrial Visit	Site visit	Wastewater treatment plant at Wonder La	11/8/2018-18/8/2018	100
Industrial Visit	Site visit	Kazakuttom – Mukkola NH widening, a work under NHAI	14/9/2018-14/9/2018	50
Expert Lecture	Invited talk by Dr. Sindhu G., Professor, Dept. of Civil Engineering	CET		100
Expert Lecture	Invited talk by Dr. Suja R Associate Professor , Dept. of Civil Engineering	GEC, Barton Hill	26/03/2019-26/03/2019	120
Expert Lecture	Invited talk by Mr. Shibu Krishnan, Associate Professor, Head of Environmental Division	CET	24/10/2018-24/10/2018	40
Expert Lecture	Invited talk by Dr. Anand K . V, Asst. Professor, Dept. of Civil Engineering	N.I.T. Calicut	18/03/2019-18/03/2019	90
Expert Lecture	Invited talk by Joint Director Dr. Ajith Prabhu V	KSCSTE	03/04/2019-03/04/2019	110
Expert Lecture	Invited talk by Consultant, Mr. Immanuel Jose	Eco White	22/6/2018-22/62/2018	100
Expert Lecture	Invited talk by Dr. J. Murali Krishnan, Professor	IIT Madras	22/6/2018-22/62/2018	50

Expert Lecture	Invited talk by Dr. Thyagaraj T, Professor	IIT Madras	22/6/2018-22/6/2018	80
Expert Lecture	Invited talk by Dr. Santosh G Thampi, Professor	NIT Calicut	22/6/2018-22/6/2018	100
Expert Lecture	Invited talk by Dr. Gopu R Potty, Professor	University of Rhode Island	23/6/2018-23/6/2018	30
Expert Lecture	Invited talk by Dr. Rajib B Mallick, Professor	WPI, USA	23/6/2018-23/6/2018	60
Expert Lecture	Invited talk by Mr. Shreeganesh V Nair, Managing Director	GTCS	23/6/2018-23/6/2018	30
Expert Lecture	Invited talk by Dr. Saravanan U, Associate Professor	IIT Madras	24/6/2018-24/6/2018	45
Expert Lecture	Invited talk by Dr. P K Sikdar, President	ICT	6/24/2018-24/6/2018	80
Expert Lecture	Invited talk by Mr. Rajesh V, Deputy General Manager	VSSC	8/10/2018-8/10/2018	37
Expert Lecture	Invited talk by Mr. Gopikrishnan V., CEO	Build next	5/10/2018-5/10/2018	100
Expert Lecture	Invited talk by Mr. Renjith Ramachandran, CEO	Global Startup Ecosystem and Partnership at UST Global	30/03/2019-30/03/2019	55
Expert	Invited talk by Dr. K Murali	IIT Madras	24/01/2019-24/01/2019	60

Lecture	Krishnan, Professor, Dept. of Civil Engineering			
Expert Lecture	Invited talk by Suresh Kumar, Vice President, Global Consulting	RWDI	10/04/2019-10/04/2019	40
Expert Lecture	Invited talk by Er. Joe Kurien, Team leader	CDM Smith	02/05/2019-02/05/2019	50
Expert Lecture	Invited talk by Dr. N. Ganesan Professor, Dept. of Civil Engineering	NIT Calicut	02/05/2019-02/05/2019	50
Expert Lecture	Invited talk by Dr.N. P. Rajamane, Head, CACR	SRM University	03/05/2019-03/05/2019	30
Expert Lecture	Invited talk by Dr. K. Muthukumaran, Professor, Dept. of Civil Engineering	NIT Trichy	03/05/2019-03/05/2019	30
Expert Lecture	Invited talk by Dr. A.K. Ashraff, Group Director	SDAG-LPSC	04/05/2019-04/05/2019	30
Internship	Training	Habitat Technology Group	28 /6/2018-4/7/2018	1
Internship	Training	Kerala Highway Research Institute	28 /6/2018 - 4/7/2018	1
Internship	Training	Kerala Highway Research Institute	28 /6/ 2018 - 4/7/2018	1
Internship	Training	Habitat Technology Group	28 /6/ 2018 - 4/7/2018	1
Internship	Training	Habitat Technology Group	28 /6/ 2018 - 4/7/2018	1
Internship	Training	Habitat Technology Group	28 /6/2018 - 4/7/2018	1
Internship	Training	Habitat Technology Group	28 /6/ 2018 - 4/7/2018	1

Internship	Training	Kerala Highway Research Institute	28 /6/2018 - 4/7/2018	1
Internship	Training	Kerala Highway Research Institute	28 /6/ 2018 - 4/7/2018	1
Internship	Training	KSEB	16/7/2018 16/7/2018	1
Internship	Training	Public works department	7/2/2018- 7/12/2018	1
Internship	Training	KTDC	16/7/2018- 20/07/2018	1
Internship	Training	Kerala Tourism Development Corporation	16/07/2019- 20/07/2019	1
Internship	Training	The QS company (Prestige group, Bangalore) and PWD	6/11/2018- 20/07/2018	1
Internship	Training	PWD	16/7/2018- 20/7/2018	1
Internship	Training	Public Works Department	7/2/2018- 7/12/2018	1
Internship	Training	Indian railways	17/06/2018- 23/06/2018	1
Internship	Training	Indian railways	23/07/2018- 28/07/2018	1
Internship	Training	Public Works Department	7/9/2018- 13/07/2018	1
Internship	Training	KTDC	7/3/2018- 7/7/2018	1
Internship	Training	KSEB	16/07/2018- 20/07/2018	1
Internship	Training	Southern railway	17/06/2018- 23/06/2018	1
Internship	Training	KTDC	7/3/2018- 7/7/2018	1
Internship	Training	KSEB	16/7/2018- 20/7/2018	1
Internship	Training	Sree Dhanya Homes	7/9/2018- 13/7/2018	1
Internship	Training	Indian railways	17/06/2018- 23/06/2018	1
Internship	Training	Indian railways	17/06/2018- 23/06/2018	1
Internship	Training	Public Works Depart ment	7/2/2018 7/12/2018	1
Internship	Training	KSEB	16/07/2018- 20/07/2018	1

Internship	Training	KTDC	7/3/2018-7/7/2018	1
Internship	Training	Public Works Department	7/2/2018	1
Internship	Training	KSEB	16/07/2018-20/07/2018	1
Internship	Training	KTDC	7/3/2018-7/7/2018	1
Internship	Training	Public Works Department	2/7/2018-12/7/2018	1
Internship	Training	KTDC	16/07/2018-20/07/2018	1
Internship	Training	PWD	16/07/2018-20/07/2018	1
Internship	Training	Public Works Department	7/2/2018-7/12/2018	1
Internship	Training	Indian railways	17/06/2018-23/06/2018	1
Internship	Training	Public Works Department	7/2/2018-7/12/2018	1
Internship	Training	Indian Railways	17/06/2018-23/06/2018	1
Internship	Training	Kerala state Nirmithi Kendra, Trivandrum	6/6/2018 - 12/6/2018	1
Internship	Training	PWD,Trivandrum	20/6/2018 - 5/7/2018	1
Internship	Training	Keltron,Trivandrum	7/7/2018 - 11/7/2018	1
Internship	Training	PWD, Trivandrum	16/7/2018 - 21/7/2018	1
Internship	Training	Kerala Highway Research Institute, Trivandrum	23/6/2018 - 30/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018-5/7/2018	1
Internship	Training	Kerala Highway Research Institute, Trivandrum	23/6/2018 - 30/7/2018	1
Internship	Training	TIERA, Trivandrum	23/7/2018-27/7/2018	1
Internship	Training	PWD,Trivandrum	20/6/2018-5/7/2018	1
Internship	Training	Keltron, Trivandrum	7/7/2018-11/7/2018	1
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018 - 29/6/2018	1
Internship	Training	Kerala Highway Research Institute, Trivandrum	23/6/2018 - 30/7/2018	1

Internship	Training	Heera constructions, Trivandrum	2/7/2018-6/7/2018	1
Internship	Training	Heera constructions, Trivandrum	2/7/2018 - 6/7/2018	1
Internship	Training	Heera constructions, Trivandrum	2/7/2018-6/7/2018	1
Internship	Training	Kerala Highway Research Institute, Trivandrum	23/6/2018 - 30/7/2018	1
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018 - 29/6/2018	1
Internship	Training	Heera constructions, Trivandrum	2/7/2018 - 6/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	1
Internship	Training	TIERA, Trivandrum	23/7/2018-27/7/2018	2
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018-29/6/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018-5/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	5
Internship	Training	Heera constructions, Trivandrum	2/7/2018 - 6/7/2018	1
Internship	Training	Heera constructions, Trivandrum	2/7/2018-6/7/2018	1
Internship	Training	Heera constructions, Trivandrum	2/7/2018 - 6/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	1
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018 - 29/6/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018-5/7/2018	1
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018-29/6/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	1
Internship	Training	Kerala Highway Research Institute, Trivandrum	23/6/2018 - 30/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018-5/7/2018	1
Internship	Training	PWD, Kayamkulam, Alappuzha	25/6/2018 - 29/6/2018	2

Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	1
Internship	Training	PWD, Trivandrum	16/7/2018 - 21/7/2018	1
Internship	Training	PWD, Trivandrum	20/6/2018 - 5/7/2018	1
Project	Demand Oriented approach for operation in KSRTC	KSRTC	Jan 2019 -May 2019	4
Project	Infrastructure characterized operations in KSRTC	KSRTC	Jan 2019- May, 2019	6

3.5.3 MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose and Activities	Number ofstudents/teachers participated under MoUs
SDPK	18/12/2018	Facility Improvement	
Universiti Teknologi MARA – Shah Alam, Malaysia	Processing	Technology Transfer	1
CAD centre	15/03/2019	Industrial Training	72
SODFOS DIALUX	25/11/2018	Training	2
LNCPE	12/3/2019	NEXUZ 2019	3
AUTOCAD-CADHOME	1/10/2018	AUTOCAD Training	13
National Institute of Speech and Hearing	16/02/2019	Research Collaboration	8

Criterion – IV

3 Infrastructure and Learning Resources

4.1 Physical Facilities			
4.1.1 Budget allocation, excluding salary for infrastructure augmentation during the year			
Budget allocated for infrastructure augmentation		Budget utilized for infrastructure development	
Rs.20,500,000/-		Rs.20,190,240/-	
4.1.2 Details of augmentation in infrastructure facilities during the year			
Facilities		Existing	Newly added
Campus area		10.07 Acres	Nil
Class rooms		60	
Laboratories		41	1 (Knowledge Lab)
Seminar Halls		7	
Classrooms with LCD facilities		60	
Classrooms with Wi-Fi/ LAN		60	
Seminar halls with ICT facilities		7	
Video Centre			
No. of important equipments purchased (≥ 1-0 lakh) during the current year.			4
Value of the equipment purchased during the year (Rs. in Lakhs)			Rs. 6,97,171/-
Others			Softwares for Rs. 19,36,232/-
4.2 Library as a Learning Resource			
4.2.1 Library is automated {Integrated Library Management System -ILMS}			
Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation
Ecoleaide ERP KOHA	Partially partially	3.12.06	2017

4.2.1 Library Services:						
	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	1200	Rs.38,0000	300	Rs.150000	1500	Rs.5,30,000/-
Reference Books	20	Rs.20000	12	Rs.15000	32	Rs.35,000/-
e-Books			5800	Rs.19470	5800	Rs.19,470/-
Journals	96	Rs.220432	Renewed	Rs.230050	96	Rs.4,44,041/-
e-Journals	344	Rs.1195422	610	Rs.1255892	954	Rs.24,51,314/-
Digital Database	344	Rs.1195422	+DEL NET	Rs.19470	610	Rs.12,14,892/-
CD & Video	15	Complimentary	10	Complimentary	25	Complimentary
Library automation						
Weeding (Hard & Soft)						
Others (specify)						

4.3 IT Infrastructure

4.3.1 Technology Upgradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Available bandwidth (MGBPS)	Others
Existing	688	432	60 Mbps	13	68	24	145		6
Added	22	15	10 Mbps			3	4		
Total	710	447	70 Mbps	13	68	27	149		6

4.3.2 Bandwidth available of internet connection in the Institution (Leased line)	
70 MBPS /GBPS	

4.3.3 Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility

4.3.4 E-content developed by teachers such as: e-PG-Pathshala, CEC (under e-PG-Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the teacher	Name of the module	Platform on which module is developed	Date of launching e - content

4.4 Maintenance of Campus Infrastructure
4.4.1 Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
Rs.2,500,000/-	Rs.1,93,1591/-	Rs.6,000,000/-	Rs.5,85,4400/-

4.4.2 Procedures and policiesfor maintaining andutilizing physical, academic and support facilities - laboratory, library, sportscomplex,computers,classrooms etc. *(maximum 500 words)* **(information to be available in institutional Website, provide link)**

Maintenance and upkeep being the key factors of quality management,frugality, and economical restraint, due importance is given to these factors.The college has clear procedures and policies regarding the maintenance and utilisation of physical, academic, and support facilities. The Bursar,

Asst. Bursar, and the Principaltake care of the execution of the procedures and policies. The maintenance engineer takes care of the maintenance unit under which the following sections namely electrical, plumbing, general maintenance ,civil works, carpentry, gardening, furnishing and store accessories. Under the store keeper plumbing, electrical, paints and hard wares sections function. The store keeper takes care of the general store which deals with the equipments ,stationary and furniture . The structure of the procedures and policies of maintenance is represented in the flow chart given in the website.

https://mbcet.ac.in/resources/maintenance-cell/

CRITERION V

STUDENT SUPPORT AND PROGRESSION

5.1 Student Support

5.1.1 Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial support from institution	1. Management scholarship	171	5072130
	2. Merit scholarship	17	675000
Financial support from other sources			
a) National	1. Merit-cum-means scholarship (Central Govt)	61	1525000
	2. Post matric scholarship (Central Govt)	6	60000
	3. Post matric scholarship for disabilities (Central Govt)	1	10000
	4. Central sector scholarship (Central Govt)	12	120000
	5. Prime minister scholarship(Central Govt)	4	30000
	6. CH Muhammedkoya Scholarship (Central Govt)	3	30000
	7. Fisherman scholarship (State Govt)	8	1357630
	8. Tuition fee waiver scheme (State Govt)	89	66,75,000
b) International	Nil	Nil	Nil

5.1.2 Number of capability enhancement and development schemes such as soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved
1. Soft Skill Training	Aug 1, 2018	490	College
2. Language lab for first year students	Aug 1, 2018	490	College
3. Yoga	Aug 1, 2018	490	College
4. Personal counseling and mentoring	Aug 1,2018	155	College
5. Business English for third year students	Aug 1, 2018	509	College
6. Bridge course – Fundamentals of C++	2-7 July, 2018	15	College
7. Bridge course – Fundamentals of C++	23-27 July, 2018	26	College
8. Add-on course in creative and technical writing	September 11, 2018- May 6, 2019	31	College

5.1.3 Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students by guidance for competitive examination	Number of benefited students by career counselling activities	Number of students who have passed in the competitive exam	Number of students placed
2018-19	GATE coaching	15 (EE)	-	-	-
2018-19	Mock interview for placement	-	242	NA	145

5.1.4 Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	No. of grievances redressed	Average number of days for grievance Redressal
20	20	6-7

5.2 Student Progression

5.2.1 Details of campus placement during the year

On campus			Off campus		
Name of organizations visited	Number of students participated	Number of students placed	Name of organizations visited	Number of students participated	Number of students placed
Infosys Limited	456	84	H&R Block (India) Pvt Ltd	5	2
MuSigma Business solutions Pvt. Ltd	456	2	Speridian Technologies	6	3
Qburst Technologies Pvt. Ltd	456	13	UST Global Inc	15	8
InApp Information Technology India Pvt Ltd	456	8	Teach for India	5	3
Experion Technologies (I) Pvt. Ltd	456	7	Wipro Ltd	8	4
IBS Software Pvt. Ltd	456	7	Amazon.com, Inc	7	1
FourNxt Technologies	456	7	Attinad Software Pvt Ltd	5	1
The Federal Bank	456	5	Evobi Automations	6	3

Limited			Pvt Ltd		
Think & Learn Pvt Ltd (BYJU'S The Learning App)	456	4	Triassic Solutions Private Limited	4	1
IBM India Pvt.Ltd	456	16	Navigant India Pvt Ltd	5	1
Travancore Analytics (P) Ltd	456	2			
Vinvish Technologies Pvt Ltd	456	9			
Ascia Technologies (P) Ltd	456	1			
Spectrum softtech solutions pvt Ltd	456	2			
Polus software Pvt Ltd	456	4			
Thoughtline technologies Pvt Ltd	456	8			

5.2.2 Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of programme admitted to
2018-19	1	B.Tech	CE	SNIT Adoor	M.Tech
	3	B.Tech	CE	NICMAR	PG
	1	B.Tech	CE	Amity University	PG

	1	B.Tech	CE	Banglore	Interior Design
	1	B.Tech	CE	Amal Jyothi	M. Tech
	1	B.Tech	CE	Loughborough University	PG
	2	B.Tech	CE	MONASH University	PG
	1	B.Tech	CE	Marian Engineering College	M. Tech
2018-19	2	B.Tech	EC	MBCET	M. Tech
	3	B.Tech	EC	CET	M. Tech
	1	B.Tech	EC	Australia	MS
	2	B.Tech	EC	ER&DCI	M. Tech
	1	B.Tech	EC	XIME, Banglore	MBA
2018-19	1	B.Tech	ME	IIM, Kashipur	PGDM
	1	B.Tech	ME	CET	M.Tech, Thermal Science
	1	B.Tech	ME	CET	M.Tech, Machine Design
	1	B.Tech	ME	CET	M.Tech, Financial engineering
	2	B.Tech	ME	Govt Engg College,Barton hill	M.Tech,Machine design
	1	B. Tech	ME	SCT college of Engg, TVM	M.Tech,Machine design
	1	B.Tech	ME	BITS Pillani, Hyderabad	M.Tech, Machine design
	1	B.Tech	ME	University of Warwick,UK	MS
	1	B.Tech	ME	Indian Institute of Information Technology and Management, Kerala	PGD

	1	B. Tech	ME	University of Leeds, UK	MSc Mechatronics and Robotics
	1	B. Tech	EE	CET	M.Tech
	1	B. Tech	EE	GEC	M.Tech
	1	B. Tech	EE	Barton Hill	M.Tech
	1	B. Tech	EE	MBCET	M.Tech
	1	B. Tech	CS	Oregano State University	MBA
	1	B. Tech	CS	LBS	M.Tech
	1	B. Tech	CS	CET	M.Tech

5.2.3Students qualifying in state/ national/ international level examinations during the year (eg: NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying	Registration number/ roll number for the exam
NET		
SET		
SLET		
GATE	4 (ME)	18ME1811125896, ME19S17032163, ME19S17032133, ME19S27032166
	1(EC)	EC19S57031090 EC19S51408535
	4(CS)	CS19S37032048, CS19S37032188, CS19S37055112, CS19S37055069

		CE19S87032139
		CE19S77055073
		CE19S87032054
		CE19S77031102
	5 (CE)	CE19S87032004
GMAT		
CAT	1(EC)	7216189
	1(CE)	8061403
GRE		
TOFEL		
Civil Services		
State Government Services		
Any other		
IELTS	1(CS)	

5.2.4 Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Participants
SPORTS		
FOOTBALL- Men	Intra Mural Competition (Baselios Premier League)	8
FOOTBALL – Men	Organized KTU Inter Collegiate Tournament	22
CRICKET- Men	Intra Mural Competition (Baselios Premier League)	6
CRICKET-Women	Intra Mural Competition (Baselios Premier League)	2
SHUTTLE BADMINTON-Men	Intra Mural Competition (Baselios Shuttle Tournament)	30
SHUTTLE BADMINTON-Women	Intra Mural Competition (Baselios Shuttle Tournament)	5

TABLE TENNIS-Women	Intra Mural Competition (Baselios Table Tennis Tournament)	8
TABLE TENNIS-Women	Intra Mural Competition (Baselios Table Tennis Tournament)	6
CHESS-Women	Intra Mural Competition (Baselios Chess Tournament)	15
CHESS-Women	Intra Mural Competition (Baselios Chess Tournament)	12
CARROMS-Women	Intra Mural Competition (Baselios Carroms Tournament)	15
CARROMS- Women	Intra Mural Competition (Baselios Carroms Tournament)	10
CULTURAL		
Mimicry and monoact	Competition- Baselian Fest	7
Western vocal group	Competition- Baselian Fest	12
Eastern vocal group	Competition- Baselian Fest	12
Western solo	Competition- Baselian Fest	8
Mime	Competition- Baselian Fest	18
Extempore English	Competition- Baselian Fest	6
Extempore malayalam	Competition- Baselian Fest	6
Recitation English	Competition- Baselian Fest	8
Recitation Malayalam	Competition- Baselian Fest	8
Debate English	Competition- Baselian Fest	6
Debate Malayalam	Competition- Baselian Fest	6
Light music	Competition- Baselian Fest	8
Quiz	Competition- Baselian Fest	24
String instruments	Competition- Baselian Fest	5

ART AND LITERARY		
"Kaviyarangu" poetry reading session and Manuscript magazine release	Aksharakootam literary club activities	120
Pencil drawing competition	World Water Day celebration by Nature Club	12
Essay writing English	Competition- Baselian Fest	39
Essay writing malayalam	Competition- Baselian Fest	26
Versification English	Competition- Baselian Fest	12
Versification Malayalam	Competition- Baselian Fest	11
Painting	Competition- Baselian Fest	5
Pencil drawing	Competition- Baselian Fest	36

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/ medal	National/ International	Sports	Cultural	Student ID Number	Name of the student
2018-19	Kerala Technological University Athletics Champions	National	Athletics		MBT18EE017	Anantha Krishnan A
					MBT16CE060	Hanock Rajan Varughese
					MBT17EE024	Arjun U.
					MBT16EE013	Akash R.S.
					MBT15CE088	Paul Mathew Boben
					MBT15CE001	Aaron George Joseph K.
					MBT15CE086	Noel S. Jacob

					MBT17CE042	Ashish Joy
			54		MBT15CE030	Aneesh Kumar S.L.
					MBT15ME099	Renjith R.Nath
					MBT17ME065	Joel K. Abraham
					MBT15CE055	Jithu Krishnan U.
					MBT16EE056	Jerin Sam James
					MBT16EE009	Gautham K. Sajith
					MBT16CE014	Anandhu Prakash M.
					MBT16EE100	Sebin Sebastian
					MBT15CE021	Akshay A.R.
					MBT15CE022	Akshay Mohan S.
					MBT15ME090	Nigel Thomas
					MBT15CE047	Bibin B.I.
					MBT17ME086	Prapanch P. Reji
					MBT15ME101	Richin John
					MBT17CE036	Apsara S.
					MBT17EE048	Julie Elis Lagy
					MBT18CS075	M. Gayathry Devi
					MBT15EE068	Merin Thomas
					MBT17CS099	Roshni Susan Regi
					MBT18EE050	Parvathy B. Ajith
					MBT16CS071	Mekha Nair C.A.
					MBT15CE099	Samyuktha Kesav

					MBT16CE115	Shruthi Mariam Raju
					MBT16CE067	Jetsy James
					MBT17CE027	Anjana C.S.
					MBT15CE078	Nanda M.S.
	All - India ranking Lawn TennisDoubles Tournament - III Position	National	LAWN TENNIS		MBT17EE054	Mohammed Sidhan N.
	G.V.Raja memorial All Kerala Lawn Tennis- Men, singles and doubles- winner	National	LAWN TENNIS		MBT17EE054	Mohammed Sidhan N.
	K.G. Menon memorial All Kerala Lawn Tennis-Men, Doubles winner	National	LAWN TENNIS		MBT17EE054	Mohammed Sidhan N.
	Weight Lifting Championship	National	sports		MBT16EC006	Ajay M.R.
	Power Lifting Championship	National	sports		MBT16EC006	Ajay M.R.
	South India Mar Baselios Trophy Men-Winners	South India	BASKET BALL		MBT16EC111	Shamil Shamsudeen
					MBT15CE016	Akhil S. Vijay
					MBT15ME053	Georgy Joseph
					MBT17CS056	Joel Mathew
					MBT17ME035	Arun Thomas

					MBT18EC027	Edwin John Joseph
					MBT18ME002	Anand R.
					MBT16ME067	Jerry Joy
					MBT16EE103	Sinoj Reno Joseph
					MBT18ME070	K.R. Parameswaran
					MBT18CS014	Albin Joy
					MBT17ME053	Gokul G.
	All Kerala Basketball Men- Winners	State level	BASKET BALL		MBT16EC111	Shamil Shamsudeen
					MBT15CE016	Akhil S. Vijay
					MBT15ME053	Georgy Joseph
					MBT17CS056	Joel Mathew
					MBT17ME035	Arun Thomas
					MBT18EC027	Edwin John Joseph
					MBT18ME002	Anand R.
					MBT16ME067	Jerry Joy
					MBT16EE103	Sinoj Reno Joseph
					MBT18ME070	K.R. Parameswaran
					MBT18CS014	Albin Joy
					MBT17ME053	Gokul G.
	All kerala				MBT15EC094	Sheetal Elizabeth Shaji

	Netball Women – winners	State level	Netball		MBT17CE036	Apsara S.
					MBT16CS028	Aparna K.
					MBT15CE078	Nanda M.S.
					MBT16CS071	Mekha Nair C.A.
					MBT17EC029	Athira P.
					MBT17CS099	Roshni Susan Regi
					MBT17EE048	Julie Elis Lagi
					MBT16CE098	Rebekah Grace Babu
					MBT15EC093	Shalini Nair J.
					MBT18CS026	Anna Roy
					MBT17CE027	Anjana C.S.

CULTURAL

	Represented India in 12th South Asian Universities Festival (SOUFEST)	International		Indian Classical Dance Form -Kathakali		Arjun Subramanian
	Champions	National Cultural Fest NIT Calicut	National	Cultural Events		List given below
	First	NIT , National Fest				Philip Thomas
						Eldose George
						Rohith Jayakumar
						Vishnu Gopal
						Abhijith Syam
						Ajo Mathew

	Third	NIIT , National Fest				Achyuth Ramesh
						Sai Kiran
	First	NIIT , National Fest				Akhil Reji George
						Febishine
	Third	NIIT , National Fest				Jonathan Joseph Cleetus
						Manjima Manikandan
	Third	NIIT, National Fest				Lekshmi B.S.

5.3.2 Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

MBCET college senate is the official students' council. It consists of an executivecommittee, Chairperson, Vice Chairperson, General Secretary, Joint Secretary, Arts Secretary, Sports Secretary, Treasurer, Media Secretary, Social Service Secretary, two staff advisors and two class representatives from each class. The senate acts as a representative body of all students. It takes initiatives and coordinates efforts towards development of cultural, social and recreation programmes of interest to the students. The senate also coordinates cultural, sports and technical events of the Institution such as The Baselian Fest which involves cultural and literary competitions for the students, Crossroads which is a Techno Cultural fest, sports meets etc.

Administrative bodies/committees of the Institution with student representation include course committees and class committees as directed by the Kerala Technological University. Course committee is for common courses offered to students admitted for the B.Tech Programme irrespective of their branch of study. The committee includes four student representatives as members. Beginning from the third semester, all branches of study will have class committees for every Semester constituted by the respective Heads of Departments. This committee has two student representatives nominated by the Head of the Department.

The college also has an IEDC executive committee with student representation. The Innovative and Entrepreneurship Development Centre (IEDC) has an executive committee

working as a team to identify the opportunities and challenges around social as well as engineering scenarios. The core working committee of IEDC has 14 student members and one faculty member designated as the Nodal Officer. The student members of executive committee are Chief Executive Officer, Chief Operations officer, Chief Technical Officer, Chief Creative Officer, Chief Marketing Officer, Chief Social Officer, Chief Finance Officer and 7 student members as Executive Creative Curators.

In addition to the above, Professional bodies namely IEEE, IET, ISTE, CSI, ACM, ASCE and ASME with student representation are actively functioning in the college.

5.3 Alumni Engagement

5.3.1 Whether the institution has registered Alumni Association? Yes/No, if yes give details (maximum 500 words):

MBCETAA is the alumni association of the institution. Alumni is not registered.

5.3.2 No. of ~~registered~~ enrolled Alumni:

441 (2018 Aug- 2019 June)

5.3.3 Alumni contribution during the year (in Rupees) :

1. Youth Excellence Award – Rs 100000
2. Contributions to five Departments for conducting student activities like technical fest-Rs 20000 each.
3. International conference – Rs 25000
4. Toward general fund of Crossroads (Techno-cultural fest of the college)- Rs 25000
5. MBCETAA awards like outstanding performer and special achievement award – mementos worth Rs 5000

5.3.4 Meetings/activities organized by Alumni Association:

1. Youth Excellence Award 2018- Rs 100000 cash prize sponsored by MBCETAA
2. One General body meeting every year.
3. Minimum three executive committee meetings every year.

Criterion – VI

Governance, Leadership and Management

6.1 Institutional Vision and Leadership
6.1.1 Mention two practices of decentralization and participative management during the last year (maximum 500 words)
❖ Towards Participative Management and Decentralization two faculty members (one Professor and one Assistant Professor) have been inducted into the Governing Body of the College, so as to ensure greater involvement of the Stakeholders of the institution. This will help and reduce administrative hurdles and also the gap between Management and Staff. This will help the Management to know at close quarters, the problems and also the prospects in defining and executing its vision and mission. This justure will definitely help the authorities to reduce the gap between the different Stakeholders of the institution.   ❖ In order to ensure the Decentralization of Financial Authority and to give more administrative freedom to the Heads of Departments, they have been given sanction for financial authority up to Rs. 2, 00,000. This will help to reduce delay in administration.
6.1.2 Does the institution have a Management Information System (MIS)?   Yes/No/Partial:
Partial
6.2 Strategy Development and Deployment
6.2.1 Quality improvement strategies adopted by the institution for each of the following (with in 100 words each)**:**
❖ **Curriculum Development –**   Curriculum is primarily based on the syllabus provided by KTU, the affiliating University. Based on the feedback from stakeholders, experts, academicians, students and former students, parents, management, staff and the expectations of the employer/industry the gaps in curriculum are addressed, necessary modifications are made by introducing and incorporating need based courses, subjects with a view to enhance and ensure the employability of students. Additional courses and skill development programs are designed and conducted to the benefit of the students ensuring practical application and the update of the knowledge in the subject.

❖ **Teaching and Learning -**

The Teaching and Learning Centre (TLC) is a unique initiative of the institution to inspire, support and strengthen new directions in pedagogy and learning of the teachers and students at MBCET.

The TLC facilitates, the Preparation for Video lectures and courses through structured workshops, the Sharing of good teaching practices among faculty members and Innovation in teaching methods by involving multiple teachers in the same class for the same topic, helping the students with their doubts and problems. Due importance is given to faculty development through online learning resources and peer learning ensuring the use of ICT in the teaching learning process so that the faculty members also will be familiar with the use of technology for knowledge acquisition.

Workshops for faculty development and peer learning are conducted. Orientation programs are held for the benefit of faculty members.

❖ **Examination and Evaluation-**

As part of the Quality improvement strategy, the exam cell has six department representatives from six streams (CE, CS, EE, EC, ME, and S&H). They are responsible for collecting question papers from the department concerned after scrutiny. They handover the same to the chief superintendent, after which photocopies of the same will be taken. In order to ensure that no tampering of question paper is done, exam cell is equipped with camera facility. The count of faculty put for invigilation, for each classroom with strength of 42, one faculty is assigned for duty, and with a count of 60, 2 faculty members are assigned and with a count of 150, 5 to 6 faculties are put for invigilation duty.

For every Internal exam, squads are assigned to ensure that students do not engage themselves in unfair means while writing the exam. They visit the exam halls during the time of exam and check whether there is any malpractice. If found, they will be caught with proofs and will be reported to exam cell. Such student's answer paper will be kept at exam cell. From the exam cell such answer scripts will be handed over to the Disciplinary Action Committee (DAC) for further actions.

❖ **Research and Development-**

MBCET is an approved research centre under the KTU. 11 research scholars are engaged in research pursuits under 3 approved research guides.

The faculty members of the department is divided into research groups according to their area of interest. Each group is headed by a coordinator. Each group is supposed to bring forward research proposals for internal and external funding and also should conduct short term training programs on

recent trends in related areas . These proposals are evaluated by the Research Committee. All papers (both MTech and BTech) are scrutinized by concerned research groups before sending for publication. All research groups are coordinated by the HoDs and the Research Promotion Committee.

Mar Baselios College of Engineering and Technology aims to encourage quality research in all the disciplines and to disseminate information about research project grants. College facilitates sending of research proposals to research funding organizations. Research and Development activities promote faculty to enhance the skill and expertise in various emerging areas of technology. Faculty has sent project proposals to various central /state funding agencies The College promotes internal funded R&D projects. The college also promotes faculty to publish papers in SCI/ESCI indexed journals, IEEE/IET conferences etc.

In-house Research Projects attached to the Departments of CE, ECE, EEE, CSE and ME for Rs. 9,77,148 and external Research Projects attached to the Departments of CE, ECE, EEE, CSE and ME for Rs.6,47,300.

❖ **Library, ICT and Physical Infrastructure / Instrumentation-**
The following initiatives have been taken for the update of the library . The internet bandwidth has been increased from 40 mbps to 60 mbps through broadband with leased line. Provision for access of e-book facility has been provided. The library has been enrolled as DELNET member for DELNET Engineering & Technology Collection. Introduced video sessions named "Beyond Marks and Degrees- Knowledge, Skills and Wisdom', Joined in ESS, E-Shodhsindhu - Consortium for Higher Education Electronic Resources, the library got Institutional Membership with NDL - National Digital Library of India.

ICT is utilised for e-governance , for conduct of online courses such as NPTEL , for various activities of teaching learning centre , for the conduct of examinations at the internal and university exams, for the digital library, students attendance, mark sheet, hall tickets, question papers, for real time class room teaching .

The Knowledge Lab is a 'High End Skill Development Centre which will enrich skills by conducting workshops, trainings and seminar series on cutting edge technologies like artificial intelligence, block chain, tools and techniques. The centre will facilitate hands-on experience to learning and real time projects and product development.

The following equipments have been procured for the Power Electronics Lab.

SL NO	EQUIPMENT	RATE	QTY	AMOUNT
1	Pressure measurement trainer kit	14,800	2	29,600
2	Strain measurement trainer kit	10,500	2	21,000
3	Thermocouple module	8,700	2	17,400
4	RTD Module	9,220	2	18,440
5	Transducer measurement Using LVDT displacement trainer kit	12,900	2	25,800
6	Transducer measurement Using photocell	7,150	2	14,300
		Sub total		1,26,540
		discount@7%		8858
				1,17,682
		GST@18%		21,183
				1,38,865
		TOTAL PRICE		1,38,865

Sl.No	Description	Qty	Rate ₹	Rate P	Amount ₹	Amount P
1.	Pressure Measurement Trainer Module (ITB -016CE)	02	14,800	00	29,600	00
2.	Strain Measurement Trainer Module (ITB – 017-CE)	02	10,500	00	21,000	00
3.	Thermocouple Module (ITB-05-CE)	02	8,700	00	17,400	00
4.	RTD Module (ITB – 06 -CE)	02	9,220	00	18,440	00
5.	Transducer Measurement Using LVDT Displacement Measurement Trainer Using LVDT (ITB-012CE)	02	12,900	00	25,800	00
6.	Transducer Measurement Using Photocells	02	7,150	00	14,300	00
			Sub Total		1,26,540	00
			Discount @ 7%		8,858	00
					1,17,682	00
			GST @ 18%		21,183	00
					1,38,865	00
			Total		1,38,865	00

Verified,
MDDayashu 3/1/18 (HDD, EC)

Equipment Details

❖ **Human Resource Management-**

To promote, enhance and ensure the quality performance of teachers and make them more research oriented, the following steps have been implemented: (1) The institution provides financial assistance for In-house projects, (2) Partial financial assistance is given to faculty members to attend national and international seminar or conferences as resource persons or presenters of research papers. Monetary incentives are given to teachers who publish papers in reputed research journals, (3) Financial assistance is given to teachers who win accolades at the national or international level , (4) For the newly appointed teachers induction program is conducted and microteaching sessions are arranged by way of training, (5) Facilities for mediclaim and group insurance have been introduced as a staff welfare scheme.

A revised performance appraisal scheme on the basis of AICTE format has been implemented to ensure enhanced quality performance of teachers.

Adhoc teachers are appointed in the wake of emergency leave, maternity leave and study leave to ensure that students do not suffer due to shortage of teachers.

❖ **Industry Interaction / Collaboration -**

The college promotes Industry Interaction / Collaboration and one or two faculty members have been given additional charge to take care of it. Accordingly, training programs have been arranged for faculty members and new industry-related projects have been introduced. The following five faculty members under went industrial training at HLL for 3 days- Mr.Ashwin, Ms.Sandhya, Mr. Sherry, Mr. Sambhu, Mr. Arun Jayakumar.

The new projects started in Collaboration with HLL under this section during 2018 were (1) Empty condom strip detection **(EEE)** -**Mr Aswin and Ms Sandhya** (2) Ensuring mold rotation in ETD **(EEE)– Mr Aswin and Ms Sandhya** (3) HV card development **(EEE)** (Study by faculty) - **Mr Aswin and Ms Sandhya** (4) Tilting mechanism for draining the silicon oil **(ME) - Ms Ruby MS and Ms Nidhi MB** (5) Ergonomic chair design for workers at ETD - Ms Nidhi MB (6) Automatic work place assigning system to workers **(EC) - Mr Arun JS and Mr Jijo** (7) Coin detection for the vending machine -(**EC) - Mr Sherry and Mr Jijo Jose** (8) Flapper cleaning mechanism in ETD - **Mr Raveesh and Mr Ajeesh**

❖ **Admission of Students**

The admission norms are fixed on the basis of an agreement between the Government of Kerala and Association of Self-financing Engineering Colleges. The College follows them and the

process has been made more transparent and simple with the introduction of online submission of application, publication of rank list etc.

6.2.2 : Implementation of e-governance in areas of operations:

- ❖ Planning and Development   -The Annual review of the Strategic plan of the College is done through the institutional intranet platform for the speedy and effective communication among the Departments and Administration.

- ❖ Administration – leave applications online submission(Ecoleaide) , Staff Appraisals/CAS – automated using software

- ❖ Finance and Accounts –Computerised salary disbursement and Accounts keeping

- ❖ Student Admission and Support – Ecoleaide, online applications and payment of fees, student attendance record through software system, semester registration

- ❖ Examination – University exam online registration facility, Internal assessment marks submission to university, Online question papers

6.3 Faculty Empowerment Strategies

6.3.1 Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2018	Mr. Roshan George Koshy.	MOOC Course on Heat Exchangers Fundamentals and Design Analysis		Rs 550.00
2018	Mr. Kedar Mohan	Participated in 5 day Workshop at FISAT in Artificial Intelligence		Rs 6037.00
2018	Mr. Raveesh G.	Research Work, "Natural Vertical Cooler", in Kerntechnik, Journal for Nuclear Engg		Rs 2500.00

2018	Ms. Ruby Maria Syriac	Participation in International Conference on Green Building & Sustainable Engineering		Rs 3500.00
2018	Mr. Nirmal M. S.	Participation in Young Scientists Conference"		Rs 6000.00
2018	Mr. Nirmal M. S.	Participation in International Conference on Green Building & Sustainable Engineering		Rs 5000.00
2018	Mr. Jagajith S.		ASME Membership Fee	Rs 6000.00
2018	Mr. Ranjith H.		Representing India for Powerlifting championship	Rs 25000.00
2018	Ms. Nidhi M. B.	Publication in International Journal Computers and Industrial Engineering		Rs 15000.00
2018	MsDivya M D	Workshop on "Distributed Generation and SmartGrid ", Fisat , Anagamaly		Rs500
2018	MsJomole Joseph	Workshop on "Sustainable Energy Development", Maria Engg College		Rs500
2018	MsJomole Joseph		IET	Rs6700

2019	MsJomole Joseph	IIT Madras Shastra'19		Rs3421
2019	MsSheenu P	IIT Madras Shastra'19		Rs3741
2019	MsSoumya A V	IIT Madras Shastra'19		Rs3741
2018	Devipriya V.S	Introduction to Internet of Things		Rs 550
2018	Devipriya V.S	MOOC course on Switching Theory		Rs 550
2018	Jisha John	NPTEL course on Introduction to Machine Learning		Rs 550
2018	Anjali C	NPTEL course on Introduction to Machine Learning		Rs 550
2018	Naicy M John	NPTEL course on cloud computing		Rs 550
2018	Lani Rachel	National Workshop on Automatic Speech Recognition and its Applications (NWaSpR)" held at Indian Institute of Information Technology and Management - Kerala from February 22nd to 24th, 2018.		Rs 3950
2018	Roseline Raju	FDP on Modern Trends in Power Electronic Devices, Circuits & Applications at Sree Budha College of		Rs 500

		Engineering , Pattor from 18 – 22 June 2018		
2019	Sherry Varghese	Department of Science & Technology sponsored two weeks FDP on "Student Entrepreneurship" at National Institute of Technology (NIT) Calicut from December 3rd to 15th, 2018.		Rs 750
2019	Anoop K Johnson		Renewal of IEEE membership	Rs 5980
2019	Lani Rachel	Winter School on Speech and Audio Processing (WiSSAP 2019)" at College of Engineering, Trivandrum from January 27th to 29th 2019.		Rs 4000
2019	Lani Rachel	Inter speech -2018 at hyderabad		Rs 7500

6.3.2 Number of professional development / administrative training programmes organized by the College for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	Dates (from-to)	No. of participants (Teaching staff)	No. of participants (Non-teaching staff)

2018	Experimental & Numerical approaches in Fundamental Fluid Dynamics		2/7/2018 - 6/7/2018	30	
2018	Short Term Training Programme on Distributed Generation and Smart Grids		30th July 2018 to 1st August 2018.	20	
2019	A Short-Term Training Programme on E-Vehicle: A Green Approach for Sustainable Development (EV-GASD'19)		7th January 2019 to 11th January 2019.	21	
2018	Introduction to Arduino Programming	Introduction to Arduino Programming	6.6.2018-8.6.2018		5
2018	Network& Information Security	Network& Information Security	9.7.2018-11-7.2018	10 (CS)	5
2018	Basics of Artificial Intelligence and Machine Learning		12.7.2018-13.7.2018		4
2019	STTP on "Deep Learning and IoT Applications using		from January 21st to 25th 2019	11	

	MATLAB" (DIAM'19)			
2018	"MATLAB Campus License Program using MATLAB and Xilinx"		September 19th and 20th, 2018.	6
2018	Workshop on "Basics of Artificial Intelligence and Machine Learning"		July 12th and 13th, 2018.	8
2019	Workshop on "Finite Element Analysis of Structures using ANSYS"		10th to 11th January 2019	7
2019	LaTex Workshop		January 2019	1

6.3.3 No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	Date and Duration (from – to)
Experimental & Numerical approaches in Fundamental Fluid Dynamics	22	5 days
FDP on Fundamentals of Combustion (Part 2)	1	8 Weeks
FDP on Manufacturing of Composites	1	8 Weeks
FDP on Refrigeration & Air conditioning	1	8 Weeks
FDP on Heat Exchagers: Fundamentals & Design Analysis	1	8 Weeks

FDP Self Awareness and Integral Education	1	3 days
FDP on Basics of artificial Intelligence & Machine Learning	2	2 days
Workshop on Industrial Robotics	2	5 days
Workshop on Adobe Photoshop	4	1 day
Short Term Training Programme on Distributed Generation and Smart Grids was organized by the Department of Electrical & Electronics Engineering, Mar Baselios College of Engineering & Technology jointly with ILLUMINA, SEPTECH-MBCET and IEDC-MBCET, Trivandrum	20	30th July 2018 to 1st August 2018.
An STTP on "Deep Learning and IOT Applications using MATLAB (DIAM 2019)" from organized by the Dept. of ECE, MBCET	2	21st to 25th January 2019,
A Short-Term Training Programme on E-Vehicle: A Green Approach for Sustainable Development (EV-GASD'19) was organized by the Department of Electrical & Electronics Engineering, Mar Baselios College of Engineering & Technology, Trivandrum.	21	7th January 2019 to 11th January 2019.
Attended "Sports Tech Summit 2019 (Shaastra-19)" held at IIT Madras.	3	3rd to 6th January
Attended a FDP on "Embedded Systems Design for Power Electronic Converters", sponsored by DTE at CET.	4	3rd to 7th December 2018.
A Conference on "Forging the Assistive Technology Value Chain" at National Institute of Speech and Hearing (NISH), Trivandrum.	1	18th to 19th January 2019
Attended three-day FDP on "Industrial Automation" sponsored by KTU and organized by Dept. of EEE, College of Engineering, Perumon.	1	16th to 18th January 2019
Attended a three-day industrial training at HLL, Peroorkada.	1	20th to 22nd September 2018.

Advanced Engineering Mathematics	6	12th to 18th January 2019
NPTEL 8 week course on Database Management Systems	1	August –September 2018
Attended NPTEL 12 week MOOC course on Switching Theory,	1	July 2018 to September 2018
Faculty Enablement Program, LEX Based Foundation Program, SCMS School of Engineering and Technology	1	4th-8th Feb 2019
Machine Learning" 1 week FDP, Saintgitts College of Engineering	2	18th-22nd June 2018
Workshop on "Artificial intelligence and Deep Learning, Saintgits College of Engineering, Kottayam,	5	25th June to 27th June 2018.
NPTEL-AICTE Faculty Development program , Introduction to Machine Learning	2	Aug-Oct 2018
SSTP on "Machine Learning for Cyber security" at IIITMK, Technopark	2	17th to 19th December, 2018
AICTE sponsored Faculty Development Programme on "Deep Learning" at College of Engineering, Muttathara	2	10th to 15th December, 2018
Deep Learning and IOT Applications using MATLAB" organized by ECE department of MBCET	6	21st to 25th January 2019
Research Challenges in Data Analytics" at Sree Chithra Thirunal College of Engineering, Pappanamcode	3	6th to 13th December, 2018
Network & Information Security" , Department of Computer Science and Engineering, in association with IEDC and ACE (Association for Computer Engineers),MBCET	6	9 July to 11 July, 2018
STTP on Scientific Computing, MBCET,	6	18th July to 20th July 2018
Industrial Robotics: Platform, Algorithms and Techniques" , Centre of Excellence in Robotics and IoT, in association with Department of Electronics and Communication Engineering of	1	16th July 2018 to 20th July 2018

Federal Institute of Science and Technology (FISAT),		
5 day Short Term Course (STC) on "*Advanced Computer Architecture*" under TEQIP at IIT Guwahatti	1	10th to 14th December 2018
ASap "Machine Learning- Training the Trainers", Additional Skill Acquisition Programme, Department of Higher Education, Governemnt of Kerala.at MBCET,	2	16th July to 21st,July 2018.
IIS Foundations of Cryptography, Center for continuing education Indian Institute Of Science, Bengaluru,	1	30th July to 3rd August, 2018
STTP on "Deep Learning and IoT Applications using MATLAB" (DIAM'19) at Mar Baselios College of Engineering and Technology , Trivandrum	11	from January 21st to 25th 2019
One Day Workshop on "Recent Advances in Wireless and Space Antennas (IEEE Space Antenna Workshop – iSAW 2018)" organized by Indian Institute of Space Science and Technology (IIST) Valiamala	3	December 21st, 2018.
FDP on Research Trends in Biomedical and Satellite Image Processing" at TKM College of Engineering, Kollam	2	from January 1st to 5th, 2019.
NPTEL Online 12 weeks Certification Course on "Fiber Optic Communication System and Techniques" conducted by IIT Kanpur	1	October 2018
"MATLAB Campus License Program using MATLAB and Xilinx" held at Mar Baselios College of Engineering and Technology, Trivandrum	6	September 19th and 20th, 2018.
Workshop on "Basics of Artificial Intelligence and Machine Learning" held at Mar Baselios College of Engineering and Technology, Trivandrum	8	July 12th and 13th, 2018.

AICTE sponsored FDP on "Deep Learning" at College of Engineering (CAPE), Muttathara,	1	from December 10th to 15th 2018.
Winter School on Speech and Audio Processing (WiSSAP 2019)" at College of Engineering, Trivandrum	1	from January 27th to 29th 2019.
Five day FDP on "Industrial Robotics: Platform, Algorithms & Techniques" held at Federal Institute of Science and Technology, Ernakulam	1	from July 16th to 20th, 2018.
NPTEL Online 12 weeks Certification Course on "Semiconductor Devices and Circuits" conducted by IISc Bangalore	1	July - October 2018.
NPTEL Online 12 weeks Certification Course on "Joy of Computing Using Python"	1	September 2018.
NPTEL Online 12 weeks Certification Course on "Switching Circuits and Logic Design" conducted by IIT Kharagpur	1	October 2018.
Department of Science & Technology sponsored two weeks FDP on "Student Entrepreneurship" at National Institute of Technology (NIT) Calicut	1	from December 3rd to 15th, 2018.
Three day "Faculty Internship Programme" held at HLL Lifecare, Peroorkada factory	2	from September 20th to 22nd, 2018.
FDP on Modern Trends in Power Electronic Devices, Circuits & Applications organized by Department of ECE at Sree Budhha College of Engineering	1	from 18th to 22nd June 2018
FDP on "Basics of Artificial Intelligence and Machine Learning" at MBCET	1	12th and 13th July 2018
Workshop on "Real-time Applications of Intelligent Transport Systems" organised by CET	3	12th to 14th December 2018
FDP on "Business Analytics at CET School of Management	3	19th to 23rd January 2019.
GIAN course on "Seismic Performance Assessment of Structures through numerical and	2	2nd to 12 July 2018

hybrid simulations		
FDP on "Workshop on Advanced Engineering Mathematics" organised by TLC MBCET	3	12th to 18thJanuary 2019.
Workshop on "Creative Leadership in a Rapidly changing world" organised by TLC, MBCET	5	July 2018
Workshop on "Finite Element Analysis of Structures using ANSYS" organised by Department of Civil Engineering, MBCET	3	10th to 11th January 2019
FDP on "Primavera P6 Contractor conducted by InterCAD at MBCET	3	7th to 8th January 2019
FDP on "Research Avenues in Coastal Engineering" at TKM	1	14th to 19th January 2019
Workshop on "Marshall Method of Bituminous Mix Design organised by Department of Civil Engineering, MBCET	3	5th October 2018

6.3.4 Faculty and Staff recruitment (no. for permanent/fulltime recruitment):

Teaching		Non-teaching	
Permanent	Fulltime	Permanent	Fulltime/temporary
3	17	0	3

6.3.5 Welfare schemes for

Teaching	NPS, Group insurance, Accidental insurance
Non teaching	NPS, Group insurance , wards given education fee upto Xth standard
Students	Scholarship, Accidental insurance

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

(with in 100 words each)

Internal audit is done by the management through its representatives namely, the Bursar and the Assistant Bursar. They are supported by the administrative section of the institution especially the Superintendent and the Head Accountant. All the bills and vouchers are audited by them and the

entire accounts are preserved digitally as part of e-governance to ensure transparency and accountability.

Annual financial audit is statutory as per the regulations of the university and AICTE. Accordingly every year the same is conducted by a competent reliable and established external agency.

6.4.2 Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies/ individuals	Funds/ Grants received in Rs.	Purpose
MBCET	Rs.1,75,000	In house project related purchase
MBCET	Rs.1,50,000	In house project related purchase
MBCET	Rs.65,000	In house project related purchase
APJAKTU-CERD	Rs. 43,300	Research
MBCET	Rs. 85,000	Research
MBCET	Rs.35,000/-	Research
MBCET	Rs. 73,000/-	Research
MBCET	Rs. 42,000/-	Research
MBCET	Rs. 65,000/-	Research
MBCET	Rs. 40,000/-	Research
MBCET	Rs. 55,000/-	Research
Center for Disability Studies	Rs.30,500	Research
Center for Disability Studies	Rs.10,500	Research
MBCET	Rs.5,000	In house project related purchase
MBCET	Rs.50,000	In house project related purchase
MBCET	Rs.15,000	In house project related purchase
MBCET	Rs.50,000	In house project related purchase

MBCET	Rs.5,000	In house project related purchase
MBCET	Rs.30,000	In house project related purchase
MBCET	Rs.3950	FDP registration fee reimursed
MBCET	Rs.6494	In house project related purchase
MBCET	Rs.500	FDP registration fee reimursed
MBCET	Rs.13000	Teaching learning Programme
MBCET	Rs.12479	In house project related purchase
MBCET	Rs.3000	Remuneration paid for external faculty for Interacive session
MBCET	Rs.750	FDP registration fee reimursed
MBCET	Rs.5980	Renewal of IEEE membership
MBCET	Rs.2000	Remuneration to guest faculty
MBCET	Rs.4000	Reimbursement of course fee
MBCET	Rs.18175	In house project related purchase
MBCET	Rs 7500	Conference presentation fee
Indo- Korea Science and Technology Centre, Bangalore(a subsidy of South Korean government)	Rs.200000/-	To develop an IDE for computational materials science

6.4.2 Total corpus fund generated - Rs.1302128/-

6.5 Internal Quality Assurance System

6.5.1 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	KTU	Yes	IAC
Administrative	Yes	Internal	Yes	IAC

6.5.2 Activities and support from the Parent – Teacher Association (at least three)

➢ The Department Advisory Board (DAB) has the representatives of the Parents also as its members.
➢ Continuous feedback on Teaching Learning process is given by the Parents.
➢ Parents help the conduct of conferences/seminars/workshops in various phase namely, identifying and ensuring experts and resources.

The PTA helps to identify Firms and Organisations for the internship of students

6.5.3 Development programmes for support staff (at least three)

Internal Training for skill upgrading for

a. Technical staff

Sl No	Name of the Course	Name of the staff
1	2.Introduction to Arduino Programming	Linumol.K.C, Priya.G, Rejani.L, Naicy.M John
2	Cloud computing and its applications in Engineering	Linumol .K C, Naicy.M. John
3	Network and information security	Vichithra, Priya.G, Rejani.L, Naicy. M. John, Linumol.K.C
4	Workshop On Electronic Circuit And Matlab	Ramachandran Nair, Prabha S, Senthil Kumar E, Rajeevmon S, Shabina N, Smiji R S, Ratheesh G R, Ratheesh Kumar V S, Vishnu Chandran C L, Sajan S S, Suchithra M S, Midhun Gopal V, Anand B H
5	Workshop on Introduction to Arduino Programming	Prabha S, Shabina N, Smiji R S, Suchithra M S, Midhun Gopal V
6	Workshop on network and information security	Prabha S, Midhun Gopal V, Anand B H
7	Workshop on Introduction to Field Practices in EEE	Shabina N, Ratheesh G R, Sajan S S, Suchithra M S, Midhun Gopal V, Anand B H
8	Advanced Communication Systems , Power Electronics	S. M Ajith Kumar, Manju Suresh, Smitha S L, Saarika U S Dhaneesh

	and Instrumentarion	Raj D, Shinin C S
b. Housekeeping staff- computer literacy program		

6.5.3   Post Accreditation initiative(s) (mention at least three)
  ➢ Annual Mandatory International/National Conference
  ➢ Establishment of Research Centre and New Research Projects
  ➢ Collaboration with Foreign Universities and Industry-Institution tie ups

6.5.5

a. Submission of Data for AISHE portal   : Yes

b. Participation in NIRF   : Yes

c. ISO Certification   : No

d. NBA or any other quality audit   : Yes

e. Submission of data for ARIIA   : Yes

f. Submission of data for CII survey   : Yes

6.5.6 Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting activity	Duration (from-----to------)	Number of participants
2019	Initiated for further accreditation by NBA	3 Mar 2019	1 day	2 external experts, all staff from the Institution

Criterion – VII

CRITERION VII-INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 Gender Equity (Number of gender equity promotion programmes organized by the institution during the year) (Give details)

- ➢ NSS boys and girls initiated Flood Relief Work and survey at Aluva as a gesture of 'Gender Equity'.

Title of the programme	Period (from-to)	Participants	
		Female	Male
Women's day, a motivational talk to create awareness on 'Gender Equity' by Ms. Tifanny Brar conducted by Women studies unit and Women In Engineering (WIE).	8/03/ 2019		

- ➢ **NSS Activities reflecting Institutional Social Responsibility**

Besides academics , students have been given training in Value education through the various activities of forums such as the NSS. The highlights of the activities of the year are given below:-

1) The NSS volunteers of MBCET collected Rs 1000/-.The amount was used to buy stationary items which were given as a contribution to a Govt. school for the benefit of the children studying there.

2) On 2nd October 2018, the Gandhi Jayanthi Day ,NSS volunteers of MBCET conducted a cleaning drive at the Govt. hospital for women and children.

3) The volunteers of MBCET NSS unit constructed two toilets and a compost pit for two poor families at Kallayam, a village on the outskirts of the city.

4) The NSS conducted a survey of 250 houses at Kallayam, as part of the Suchitwa Mission Programme of the Government.

5) The volunteers of NSS paid a visit to an orphanage and an old age home. They spent a day having interaction with the inmates. The visit gave the students an exposure to the problems of old age in a society of nuclear families.

6) The NSS volunteers conducted a workshop in which they were trained to make pen stands from the paper material they had collected. The students got exposure to the reuse of paper and other recyclable materials.

7) A socio- economic survey was conducted on smart city on behalf of Trivandrum co-operation in the outskirts of Trivandrum .

7.1.2 Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the College met by the renewable energy sources

> **World Habitat Day**

The United Nations designated the first Monday of October of every year as World Habitat Day to reflect on the state of our towns and cities, and on the basic right of all to adequate shelter. The Day is also intended to remind the world that we all have the power and the responsibility to shape the future of our cities and towns. The theme for the year was Municipal Solid Waste Management with a slogan 'Waste-wise cities'. As part of the celebration Ar. Reshmi R. of College of Architecture, Trivandrum delivered a talk on the same on October 1, 2018. First year B.Tech students attended the session.

> **Water Audit**

Water Auditing of MBCET Campus was done as a joint effort of students and staff.

S8 CE1 students did the water auditing of MBCET campus as their project to analyse the status of demand, consumption and losses of water in the campus.

Remedial measures-

Measured consumption is lower than the calculated demand helped to reduce the water wastage to a great extent. Regarding this, there lies a scope for further decreasing the current measured consumption. If the use of water in the current rate could be controlled, along with eradicating the overuse of water, more water can be saved. Along with that adopting few corrective measures can substantially decrease the excess use of water in the Olympia and Thejus block. Remedial measures have been suggested to even rectify and repair the detected leakages from each block.

Conclusion-

The water demand of the college was calculated on the basis of standards specified by NBC 2016 and on the basis of assumptions finalized through a questionnaire survey. The demand obtained through the standards specified by NBC 2016 was 1,10,250 liters per day. The sum of consumption measured by the water meter from

each block was 37,207.2 liters per day. By comparing both of the figures, it is clear that calculated demand on the basis of standards is higher than the actual consumption. This has depicted that the college has been extremely successful in saving water in a huge quantity.

> **Green Audit (2nd phase)**

Green audit is done regularly every year between March and May since 2015.

Green audit enables and empowers an Organization to address all the Global Warming-related challenges and help to contribute to Environmental responsibility. A clean and healthy environment aids effective learning and provides a conductive learning environment. In line with the Green/Sustainable Agenda approved by the IIT Council on 2 March 2013 at the IISC Bangalore, steps have been initiated to implement it.

The Green / Sustainable Agenda for Educational Institutions:

Accordingly a very simple indigenized system has been devised to monitor the environmental performance of MBCET through a Green Audit in the form of an Online Questionnaire. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without any legal implications. This innovative scheme is user-friendly and totally voluntary. The Environmental monitoring system helps the Institution to set Environmental examples for the community and to educate Young Learners. It can be adapted or extended to urban and/or rural situations or Sister Institutions too.

Objectives

The broad aims/benefits of the eco-auditing scheme are:

1. Environmental Education through systematic awareness via Green Audit. From 2019 onwards Water Audit and Energy Audit based on 2018 data are also planned.
2. To inculcate the habit on thinking for improving Environmental Standards and create awareness on reduction of waste at sources.
3. Benchmarking for Environmental Protection Initiatives – to impart learning from one's exposure and experience or interactions with other organizations
4. Curriculum enrichment through practical experience and financial savings through a reduction in resource use.
5. Development of ownership, personal and social responsibility for eco-friendly MBCET and implore in developing an environmental ethics and value systems in the minds of younger generation.

The green audit acts as baseline for quantification of certain Green Initiatives to:

1. Develop a mechanism to prepare a baseline scenario for green assessment-energy, water, biodiversity and carbon emission,

2. Develop targets for achieving sustainability; % reduction in electricity use, %CO_2 emission reduction, % reduction in water use, paperless campus etc – over 2015, 2020...

3. Development of Green Technology Packages through Inter-Institutional Workshops and expert groups and Strategy generation and identification of Green indicators,

4. Developing milestones, targets and time-line to achieve sustainability and Implementation of the plan in a phased manner,

5. Suggesting ways of recognizing "Greening" initiatives on the campus and its neighbourhood.

In spite of the various policies to be implemented, where to start the greening is an important aspect. For this purpose and to trigger the green consciousness in individuals we have adopted the Green Audit in the form of a survey of 38-40 questions to the various batches of students. From among the First year students, we could collect about 701 responses, from the percentage of response of students from respective branches are shown in fig.7.1.
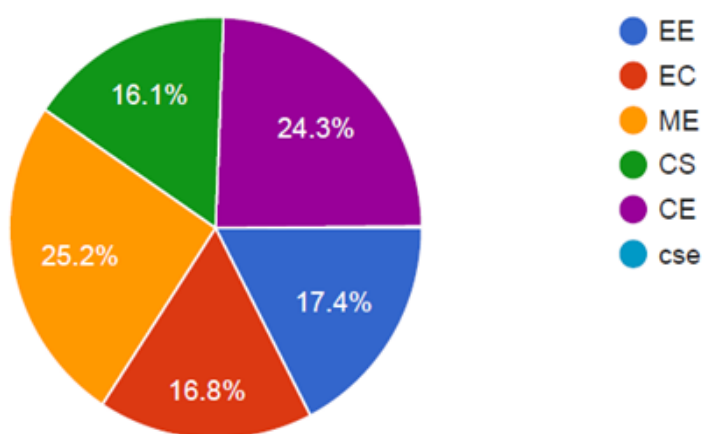
701 responses

Fig.7.1. Percentage response from students of various braches

The detailed analysis of data collected as charts are plotted and provided in Annexure 7.1.1 (a)

Feedback from students collected through the survey is given in Annexure 7.1.1(b)

Proposals and Action Taken:

Based on the feedback received as part of the Green Audit, certain actions such as regular Liter Free Clean Drives, Rain Water Harvesting, Solar Plant and Biogas Plant, Waste Management, planting of trees every year as part of Environment Day Celebration, White Boards, Smart Boards, PPT and Video Lectures- enabled class rooms have been implemented. And some like Reuse, Recycle concepts, more Workshops/ Seminars on the Greening strategies, are considered for implementation.

- **Rainwater harvesting** - MBCET initiated three years ago the Rainwater Harvesting Project and a huge collector pond with a capacity of 40 lakh litres of water storage has been built near the bus-bay on the campus.

- **Grid interactive Solar plant** of 100 kW capacity has been installed in our campus in 2013 and partial energy requirements of about 40% is tapped using the renewable energy resource.

- **The biogas plant** of a capacity of 80 cubic metres has been installed in the Men's Hostel. The biogas produced is used in the hostel canteen for cooking.

- **Incinerator** is also installed which does not have long term environmental impacts such as in landfills, providing 99.99% destruction of waste to ash which is sterile and non-reactive with clean emissions.

Suchitwa Mission - Guidance and awareness sessions are planned in collaboration with "Suchitwa Mission Kerala" to initiate and categorize the possibilities of Waste Management. The mission focuses on 3 kinds of waste – Bio-waste, Plastic waste and e-waste. The Bio-waste is being fed to the Biogas plant for conversion to Biogas used for cooking in the Hostel Canteen, and the byproduct such as bio slurry can be used as manure to grow vegetables .

> Android App to locate the plants within the campus towards the promotion of the reduction of Carbon Sequestration.(Status: on progress)

With recent technological advancement of modern science people are now expecting the information about the location of any object for tracking purposes. A technique to track the location offline of a plant whenever necessary. These tracking greatly impact to find location and to record the position of the plant at regular intervals. Offline location tracking mechanism which can overcome the problems of online location tracking such as no network area or low signal strength. With the popularity of smart phones network traffic gets increased, it is increasingly becoming important to track the location offline. Typically the

number of location tracking maps that people uses. This makes it difficult in no network area or weak signal strength to track the location. Offline location tracking is an emerging trend that locates users even if they are not connected to the internet. The work focused on android based technology by modifying GPS for offline location tracking.

7.1.3 Differently abled (Divyangjan) friendliness

Items Facilities	Yes/No	No.of Beneficiaries
Physical facilities		
Provision for lift	Yes	
Ramp/ Rails		
Braille Software/facilities	Nil	
Rest Rooms	Yes	5
Scribes for examination	Yes	4
Special skill development for differently abled students	Nil	
Any other similar facility- 1) Nursing station with full time nursing assistant. 2) Wheel chairs available in the nursing station.		Wheel chairs-25

7.1.4 Inclusion and Situatedness

Enlist most important initiatives taken to address locational advantages and

disadvantages during the year

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date and duration of the initiative	Name of the initiative	Issues Addressed	Number of participating students and staff
	1.Academic exchange and training to sister institution 2.NSS camp 3. To rectify the disadvantages and inconvenience of the local passengers a bus	1.Local admission preference 2.NSS extension programmes. 3.Entrance aptitude test. 4. Staff club activities.				

waiting station was modified.	5. A total of 2200/- has been collected towards meeting the immediate needs of the inmates in Snehabhavan, from ECE department. 6. MBT organized collection centers at B - Hub to help the victims of flood affected areas of Kerala.				

7.1.5 Human Values and Professional Ethics

Code of conduct (handbooks) for various stakeholders

Every year a hand book highlighting code of conduct is published at the beginning of the academic year. This year it was published on 1/08/2018.

Title	Date of Publication	Follow up (maximum 100 words each)
Mar Baselios College of Engg.& Tech. Handbook	01/08/2018	Handbook is the authentic source of reference for the students and staff regarding the code of Conduct and University Rules. The Handbook is issued to every student in August at the beginning of a New Academic Year. The Vision and Mission of the college, the Quality Policy, the PEOs and Programme Specific Outcomes (PSO's of each Dept. are published in the Handbook

Values &Ethics

- ➢ The Senate of MBCET organized Teacher's day celebrations for all the teachers of the college on September 5th, 2018.
- ➢ Induction programme for beginners and inter-religious prayer.
- ➢ 1 minute silent prayer everyday to mark the beginning of the work irrespective of caste, creed and religion.

7.1.6 Activities conducted for promotion of universal Values and Ethics

Activity	Duration (from------- -------to	Number of participants
Talk on Professional Ethics	3/04/2019	
TeDX, an independently organized TED event. The theme of the programme was 'Observably Random',a peep into the fascinating world of chaos randomness and the ever growing world of the trivial.	19/02/2019	
VIDYA, computer awareness for non-teaching staff	19/02/2019	
Soft skill training programme for first year students.		
Motivational talks on values &ethics by Fr .Bitty ,a professional counsellor.		

- ➢ Spandanam organized a collection drive for the flood affected under the #DoforKerala campaign. The staff and students of the Department of Electronics & Communication Engineering pooled in flood relief materials worth Rs. 25000/- and gave it to the collection centre at B-hub, Mar Ivanios Vidya Nagar, Trivandrum which was then transported to the collection centre under the District Administration.
- ➢ Spandanam in association with eNix and ISTE organized a talk for third year students on "Motivation and Goal setting" by Dr.Prakash Ramakrishnan, National Trainer, Department of Personnel and Training, Govt.of India on 1/2/2019.

➤ Staff members of ECE department contributed an amount of 10,700/- to purchase onam kits, for around 12 needy families in and around Kilimanoor, Trivandrum. The kits were distributed on 18/8/2018 by the staff members of the department

7.1.7 Initiatives taken by the institution to make the campus eco-friendly (at least five)

➤ Organized a "Sustainable Engineering Project Exhibition" on 28th November 2018. The event was coordinated by Ms. Meera Mathew.

7.2 Best Practices (Atleast two)

1) **Academics**

➤ **IEDC Future Labs**

MBCET Future Labs is an initiative by **Mar Baselios College of Engineering and Technology**, to educate and propagate future technologies among the learning communities across the State. It aims at up-skilling and re-skilling through trainings, workshops, expert talks and community engagements.

It will build a community leading to the **Industrial Revolution 4.0**.

➤ **Value Added Courses**

The Department of CSE is conducting various Value Added Courses in order to equip the students themselves to enhance their curriculum during July 2018. The following Value Added Courses are provided for the benefit of S5 ECE Students:

Name of the course	Faculty Co-Ordinator	No. of Students
C++ Programming	Mr. Robin Joseph Mr. Ramjith R P	20
C++ Programming	Mr. Robin Joseph Mr. Ramjith R P	16

With a focus on disseminating leading edge technology, "Openlabs.ai" - AI community of Mar Baselios College of Engineering and Technology, Trivandrum is organizing an awareness session on Artificial Intelligence (AI) for 11th and 12th school students of St. John's HSS, Nalanchira on 23rd October 2018.

➤ **NEXUS**

NEXUZ is a platform that connects talent with the profession and skills of students. This year, NEXUZ'19 is about connecting Sports with Engineering. This 2 day

International Summit on Applications of Engineering in Sports, to be held on **Aug 16-17, 2019**, is focused on opening a wide variety of opportunities to students who are passionate about Sports, to find their dream job or the appropriate institution to pursue advanced studies that connects their talent 'Sports' with Engineering.

Attempt is made to bring all possible information to a common platform at Mar Baselios College of Engineering & Technology (MBCET), for all those who wish to explore the nexus between engineering and sports.

The IET MBCET On Campus, which is organizing this event has partnered with Lakshmibai National College of Physical Education (LNCPE) also for this event, to get more support from the Sports fraternity. The IET is a global engineering community with over 150 countries as members. https://www.theiet.org/

The IET-MBCET is an On Campus Student Chapter of IET.

2) Social Service

➢ **Mission Reconnect**

MBCET associated with the KSEB in its Mission Reconnect- a program to restore electricity service connections disrupted in the floods of August 2018, in Kuttanad area.60 students participated in it and their service was appreciated by KSEB. The programme was organized by IEEE MBCET student branch financed by CSI MBCET branch and CET- Alumini 1993 branch.

7.3 Institutional Distinctiveness

Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust Provide the weblink of the institution in not more than 500 words

➢ **Mar Baselios Youth Excellence Award**

The Mar Baselios Youth Excellence Award instituted in the revered memory of the late His Beatitude Moran Mor Cyril Baselios Catholicos, the Founder of the college, is presented to the best out-going Engineering Graduate in the state of Kerala every year. The winner is selected on the basis of his/her all round excellence in academics, leadership, arts and sports, personal conduct, ethics and social service activities. A judging panel comprising eminent professionals and educationalists will short list the entries for the award. The winner will be selected from the short listed candidates after a personal interview.

The award comprises a prize money of Rs.100000/-, certificate and citation. This year the award was presented to Mr. Jerrin George James, S8 Department of Applied Electronics and Instrumentation, College of Engineering ,Trivandrum.

The Mar Baselios Youth Excellence Award continues to be the unique feature of MBCET ,since it is the only institution which gives such an offer to motivate students genuinely interested in Engineering studies. The award gives due weightage to Academics ,Research Aptitude ,Innovation and Noble values. Thus it is a practice to justify the Vision and Mission of the college.

Website Link -https://mbcet.ac.in/alumni/youth-excellence-award/

8. **Future Plans of action for next academic year (500 words)**

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1. Prepare the institution for obtaining autonomous status . Autonomous status gives Colleges the academic freedom to design their own course and assessment procedure. The quality of education can be significantly enhanced through this process.

2. Initiate steps for student internship programme with reputed Foreign Universities.

3. Increase the number of research project proposals –The number of research proposals to funding agencies will be increased.

4. Enhance the entrepreneurship and start-up activities. Streamline a process for selection of start-ups

5. Introduce Induction Programme for first year students to make the students feel comfortable in their new environment.

6. Increase the placement opportunities through continuous engagement with   industries and organizations.

7. Establish more centres of excellences in departments. Establish at least one centre in each department.

8. In order to motivate students Socially Relevant Projects have been designed and initiated.

Name   _____   Name   _____

_____   _____
Signature of the Coordinator, IQAC   *Signature of the Chairperson, IQAC*