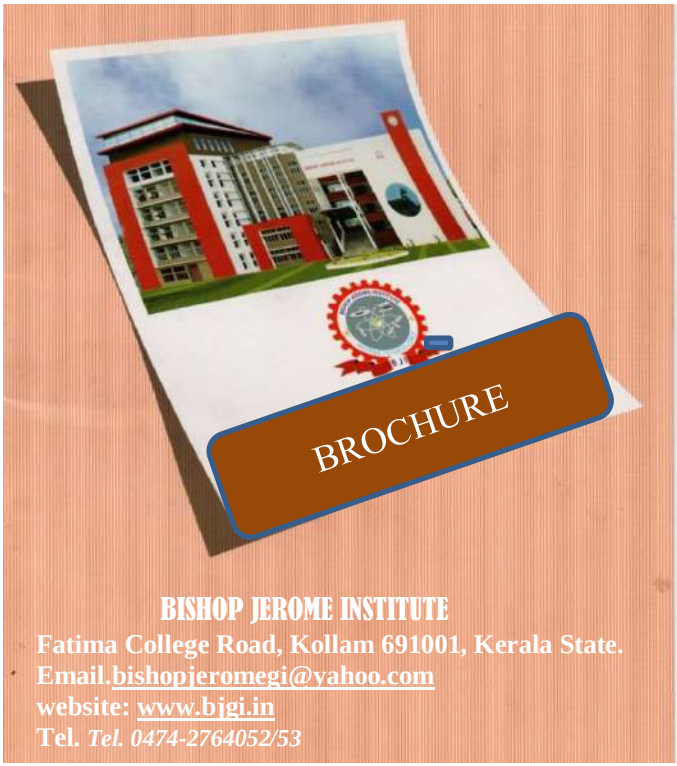
BROCHURE

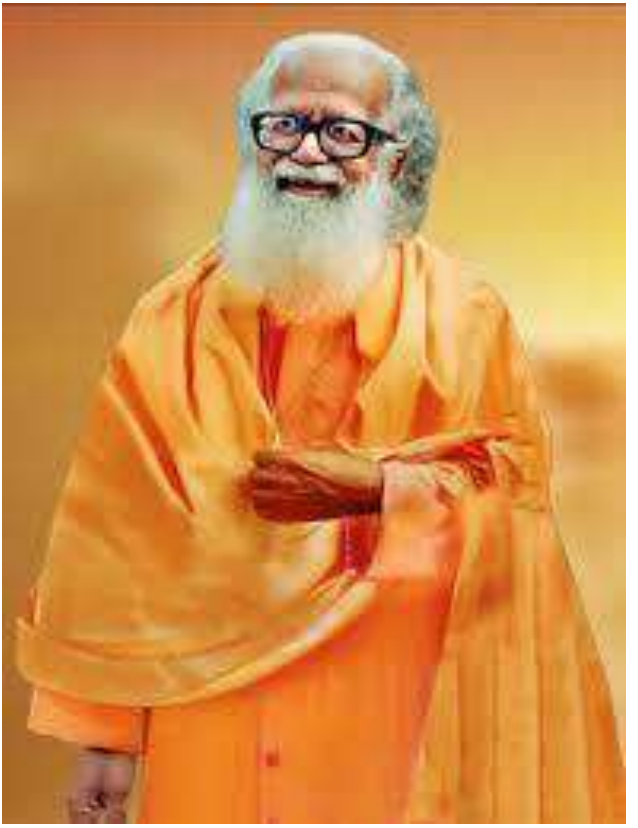
BISHOP JEROME INSTITUTE

School of Engineering and Technology

Affiliated to A.P.J.Abdul Kalam Technological University

A CENTRE OF EXCELLENCE IN PROFESSIONAL EDUCATION
HOSTED BY THE CATHOLIC DIOCESE OF QUILON





BISHOP JEROME M. FERNANDEZ
OUR HEAVENLY PATRON

HIS EXC.MOST.REV.DR. PAUL ANTONY MULLASSERY
BISHOP OF QUILON
OUR PATRON

MANAGEMENT TEAM

Rev.Msgr. Ferdinand Peter
Manager

PRINCIPAL

Rev.Fr.George Rebeiro
Bursar

Dr. D. Roshan Kumar

College
Code
BJK (Engg.)

PREAMBLE

History's most grandiose accomplishments can sometimes have the most humble of origins. The igniting spark for the inception of Bishop Jerome Institute, the dream project of the Quilon Diocese came as an idea conceived by His Exc.Most Rev.Dr.Stanley Roman, the Bishop Emeritus of the Diocese, turned into reality in the course of time.

The Institution came into existence in 2010, and opened its hallowed portals to its first batch of students in 2010. Sprawled in 12.8 acres of prime land in the heart of Kollam city, its infrastructure thrusting above the green canopy that forms the skyline of the city, the institution is named Bishop Jerome Institute, in memory of Most Rev.Dr.Jerome Maria Fernandez, the first native Bishop of Quilon Diocese, the Architect of present Quilon Diocese, and who worked tirelessly for the educational progress of the Latin Catholic Community by starting Colleges, Schools and Technical Institutions. Bishop Jerome Institute is the Diocese' answer to cater to the Technical and Management Education- Engineering, Architecture and Management Education - aspirations of its new generation youngsters.

Bishop Jerome Institute has been started with an ambitious vision, a practical mission and specific goals to achieve within a specific time frame and is committed to provide Professional Education in an ambience conducive to developing skills and nurturing human values, to all students who join the institution for pursuing their professional education.

The institution hosts an integrated technical campus with three different schools of studies, namely

- **School of Engineering and Technology**
- **School of Architecture and Design**
- **School of Management Studies.**

BJI offers four branches of study in the School of Engineering and Technology:

Mechanical Engineering
Civil Engineering
Electrical and Electronics Engineering
Electronics & Communication Engineering.

Bishop Jerome Institute aims to achieve the status of a premier institution that is the first choice of students, Parents and Faculty for its quality and excellence, a Centre of Excellence in Technical and Professional education.

TEAM OF MANAGEMENT

With the ordination of a new Bishop for the Diocese, His Exc.Dr.Paul Antony Mullassery, Bishop Jerome Institute [BJI] has been entrusted to a new Management team to manage and run the Institution effectively.

BJI is administered by Bishop Jerome Foundation, a Body constituted to oversee the administration, formulate its rules, regulations and norms and to guide and chart its course. His Exc. The Bishop is the Chairman of the Foundation with a 30member Board of Trustees nominated by the Chairman by the power vested in him as per the bylaws of the Foundation, to advise and help him. The management team appointed by the Bishop see through the administration of the institution. They are:

1. Manager.

Rev.Monsignor Ferdinand Peter is the present Manager of BJI. With a trove of experience in the realm of administration, at Bishop Benzigar Hospital as its Director for the last 15 years, Msgr.Ferdinand Peter, a man of vision and ideas, will for sure, steer the Institution through clear waters to its destination.

2- **Bursar**

As Bursar of BJI, Director of Bishop Jerome Trust administering Bishop Jerome Nagar, and Former Procurator of the

Diocese, Fr. George Rebeiro has already proved his mettle as an efficient financial administrator. Quite far sighted, quick witted and endowed with sharp intelligence, Fr. George is quite adept in charting the course of the Institution to scale heights unchartered so far.

3- **Principal**

Dr. D. Roshan Kumar is the Principal of BJI. A man with impeccable academic track records, and a seasoned academician, he is the academic head of the Institution.

Academic Support System.

To help him in academic issues, the Principal has a team of Deans, Heads of Departments and a small army of faculty of young men and women quite dedicated and conscientious in their service to the Institution.

SCHOOL OF ENGINEERING AND TECHNOLOGY
[*OFFERING B.TECH. DEGREE*]

BRANCHES	**seats**
Civil Engineering *[Govt. seats 30 and Management seats 30]*	60
Mechanical Engineering *[Govt. seats 30 and Management seats 30]*	60
Electrical and Electronics Engineering *[Govt. seats 30 and Management seats 30]*	60
Electronics & Commn. Engineering *[Govt. seats 30 and Management seats 30]*	60

Seat sharing agreement with the Government.

BJI has a seat sharing agreement with the State Government, executed through the Admission Supervisory Commission and the

Entrance Examination Commission. As per the agreement, 50% of the seats in all the four Engg. Branches, admission is undertaken by the Government through the allocations made by the Entrance Commission. [Government Merit] The other 50% of the seats are filled by the Management. [Management Merit] with special berths for the Latin Christian community (as the Institution is constituted by the Latin Diocese of Quilon), and Non Resident Indians (NRIs).

ADMISSIONS.

Bishop Jerome Institute has a unique selection procedure in line with the procedure adopted by the Kerala Catholic Engineering Management's Association and in tune with the decisions of the Hon. Supreme Court and the High Court in the matter.

1- Eligibility. [Criteria] for appearing for Entrance Examination

a. Nationality.

Should be Indian Citizen [Nativity Certificate from competent authority needs to be uploaded at the time of applying for Entrance Examinations.

b. Age.

Should have completed 17 years of age as on 31/12/20. No relaxation of age is permitted.

c. Academic Qualifications.

Pass in Higher Secondary Examination of the Board of Higher Secondary Education of Kerala or an examination recognized thereto with at least 45% marks in Mathematics, Physics and Chemistry put together.

2- Relaxation of Marks

Candidates belonging to SC/ST category and Socially and Economically Backward Classes [**SEBC]** have a relaxation of 5% marks in qualifying examination. ie they should have 40% aggregate (Maths, Physics and Chemistry put together)

Note: *In case of those who have not offered Chemistry as one of the subjects, their marks in Computer science, Biotechnology or Biology could be taken in that order.*

Entrance Examination.

Candidates should qualify in the Engineering Entrance Examination KEAM 2020 conducted by the Commissioner of Entrance Examinations, Govt. of Kerala.

How to Apply in BJI

1- Application forms can be submitted online on the website of the Institution which has provision for the same. After submission the following should be submitted to the College office.

a) Print out of the application affixing the photograph and signature of the candidate
b) Copies of all relevant documents (listed below)
c) Demand draft of Rs.500 in favour of the institution payable at South Indian Bank Kollam.

2- Applications submitted should be complete in all respects. Incomplete applications will be summarily rejected.

Documents to be submitted along with the Application.

a. 10^{th} or 12^{th} Certificates. (as proof of the date of birth) in lieu of this certificate of birth issued by competent authorities will also be accepted.
b. Admit card of the Entrance Examination conducted by the Commissioner of Entrance Examination for 2020
c. Mark list of the qualifying examination and entrance examination.

d. Certificate of Conduct from the Institution last attended, issued within six months from the date of application.

e. In case the candidate claim any sort of reservation or special consideration, or scholarships, documents to prove such claim.

f. Certificate from revenue officials to prove the community, for consideration under community merit.

SELECTION PROCEDURE

Admissions are made purely on the basis of merit (subject to any orders that may be passed by the Courts). Merit is assessed on the basis of marks obtained by adding marks obtained in the Entrance Examination and the marks obtained for Mathematics, Physics and Chemistry/ or equivalent in the qualifying examination. The marks for the subject will be apportioned in the ratio of 50:50.

The marks obtained for the qualifying examination will be subjected to the normalization process as shown below. Normalized mark will be computed using the formula below.

$$Y_{OH} = M_H + S_H \left\{\frac{X_O - M_O}{S_O}\right\}$$

M_H and S_H denote the mean and standard deviation of the marks in a subject (Mathematics, Physics and Chemistry/Equivalent) of all the candidates who have applied in the Institution under the Higher secondary stream (H) of Kerala.

M_O and S_O denote the mean and standard deviation of marks in a subject (Mathematics, Physics and Chemistry/Equivalent) of all the candidates who have applied in the Institution in another stream O.

Y_{OH} is the mark of the candidate in the other stream (O) normalized with respect to the Higher Secondary (H) mark of Kerala.

Please note, since the normalized marks depend on the total applicants of a particular college (BJI in this case), the index marks of the applicants may vary from college to college.

Percentage of seats reserved under various categories are as follows.

Total number of seats in each branch	60
Allotment by the Commissioner for Entrance Examinations	30
College Merit	30
College Merit is apportioned as below	
Non-resident Indians [NRI]	9
Open merit	10
Community quota	11

Candidates belonging to all denominations of Christian community are eligible to be considered in the community quota seats.

Furnishing false information would result in the forfeiture of the candidate as well as cancellation of admission to the course if admitted, and in addition will attract the relevant provisions of the criminal law of the land.

Merit list for the different categories will be published in the college website/College notice boards of the Institution. Selected candidates should appear for the interview and final selection unfailingly.

Candidates can give their higher option choices on the date of admission at the admission office. However such higher option requests will be considered only till the commencement of classes. All the higher option preferences will stand cancelled from the date of commencement of classes

DATA VERIFICATION

Details of all applications received including consideration for weightage/ preferences, reservations, marks etc.. will be published on the website of the institution on the appointed date. Candidates are advised to verify the same and notify discrepancies

and clerical errors, if any, within the stipulated time limit. No further requests for correction will be entertained.

ADMISSIONS

For genuine reasons, management reserve the right to deny admission to any candidate even if otherwise eligible. The reason for the same will be recorded and informed to the candidate on request.

Candidates are advised to visit the Institution's website for all further notifications and appear for interview and admission as notified therein. The process of interview will continue till the seats are filled.

Order of selection

The order of selection will be as follows

1- Open Merit
2- Community Merit (binding all Christian denominations)
3- NRI seats

Selected candidates shall take admission at the appointed time and date in the Institution after paying tuition fees and other fees, failing which the offer of admissions will be cancelled. The fees to be paid for admission to the college is given here under.

B TECH FEES STRUCTURE (CIVIL & MECHANICAL ENGINEERING)				
	First year	Second year	Third year	Fourth year
Admission fee	500			
Tuition fee	75000	75000	75000	75000
Add on course	10000	10000	10000	10000
Refundable Deposit	Nil			
Caution deposit*(refundable)*	10000			
University fee	4800			
1st sem exam fee	1700			

Sports and Arts	500			
Insurance	100	100	100	100
Total	102600	85100	85100	85100

B. TECH FEES STRUCTURE (EEE AND ECE DEPARTMENTS)				
	First year	Second year	Third year	Fourth year
Admission fee	500			
Tuition fee	50000	50000	50000	50000
Add on course	10000	10000	10000	10000
Refundable Deposit	Nil			
Caution deposit *(refundable)*	10000			
University fee	4800			
1st sem exam fee	1700			
Sports and Arts	500			
Insurance	100	100	100	100
Total	77600	60100	60100	60100

Amounts payable to the University should be paid by the candidate extra, through the college. (University fees to be paid will be published every year by the University.)

ORIGINAL CERTIFICATES.

All original certificates as mentioned below have to be produced in original at the time of admission along with two self-attested copies.

Students are advised to keep one set of self-attested copy of all the original certificates with them for future use.

1. 10th certificate. (10th Certificate as proof of the date of birth) in lieu of this certificate of birth issued by competent authorities will also be accepted.
2. Admit card of the Entrance Examination conducted by the Commissioner of Entrance Examination for 2020

3. Candidate's data sheet showing their rank in the Entrance Examination.
4. Mark list of the qualifying examination (+2) (*Kerala state HSC issues only a single certificate showing mark list and other details. CBSE and ISC issues mark list and pass certificate separate.*)
5. Certificate of Good Conduct from the Institution last attended, issued within six months from the date of application.
6. Transfer Certificate from the Institution last attended.
7. In case the candidate claim any sort of reservation or special consideration, or scholarships, documents to prove such claim.
8. Certificate from revenue officials to prove the community, for consideration under community merit.
9. Physical fitness certificate issued by a registered medical practitioner of modern medicine.
10. Equivalence/recognition certificate of the qualifying examination in case of candidate qualified from other educational agencies.
11. Migration Certificate.
12. 6 copies of their pass port size photograph.
13. Attested copy of the Aadhar card.

SCHOLARSHIPS AND FEE CONCESSIONS

KEAM 2020 RANK HOLDERS ARE GIVEN MERIT SCHOLARSHIPS DETAILED BELOW

KEAM 2020 RANK	FEES TO PAY (Rs)
1 – 5,000	10,000
5,001 – 10,000	25,000
10,001 – 15,000	35,000
15,001 -20,000	40,000
21,000 -25,000	45,000

NOTE

Students securing admission under NCC,NSS and Sports quotas are eligible for 10% rebate in Tuition fees.

Management Scholarships

As a mark of its Social obligation, BJI Management offers scholarships to students with good academic track record and who comes from financially backward back grounds depending on their annual income. Applications to this fees concession /scholarships are to be submitted to the College Management and a decision on this is taken by a board constituted for the purpose. Selected candidates will be informed accordingly. Scholarships awarded will continue in the following years strictly based on the academic performance of the student.

In addition to these, Students of various Social and Economic sectors are eligible for Govt. sponsored scholarship as well. Details are as follows.

1- Tuition Fee Waiver Scheme.

Candidates for this scheme is selected by the State Entrance Commission and the list of the selected candidates will be sent to the college,

and the selected student's full tuition fees will be waived

2- **E-Grantz Scholarship**

This is meant for professional education of SC/ST students admitted on Govt.merit. Complete Tuition fees along with hostel fees (if the candidate stays in the college hostel) and other miscellaneous fees will be paid by the Kerala State SC/ST development Department.

3- Single Girl Child Scholarship

The candidate should be the only child for the parents and should be female child to qualify for the scholarship. Their annual income

should not exceed 6 lakhs. Monthly scholarship amount is Rs.1000/-

4- Fisheries Lump Sum Grant.

Eligibility criteria.

1- Either of the parent should be member of the Fishermen welfare Association.

2- Admission through Govt.Quota (Allotment memo should be produced for claiming this scholarship) is a pre-requisite for claiming the scholarship. (Exemption to this clause is granted for MBA students)

5- Merit Cum Means (MCM) Scholarships.

MCM scholarships are sponsored by the Central Government and offered to students belonging to Christian (all denominations), Muslims and Other Economically Backward Classes (OEC) **with an annual income not more than 6 lakhs.**

Selection is on the basis of marks secured in their respective Higher secondary examinations. Rank lists are prepared on national level and the scholarship amount will be 25,000/- annually.

HOSTEL AND TRANSPORTATION

Hostel Facility available for both Boys and Girls

Transportation Facility	College Buses ply between the campus and important points in the city and its suburbs.
Distance from the nearest Railway station:	$^1/_2$ km.
Distance from the nearest KSRTC bus stand	2 kms

Distance from the nearest
Air port (Trivandrum) 75 kms

HIGHLIGHTS OF BISHOP JEROME INSTITUTE.

1- Professional Education provided in a Christian atmosphere
2- Eco friendly campus, centrally located in the heart of the city.
3- Integrated Campus with Engineering, Architecture and MBA courses.
4- Fully equipped modern laboratories and workshops.
5- High Academic Standard and uncompromised standard of Discipline
6- An excellent team of academicians, highly qualified and with impeccable academic track records, a good number of them engaged in research and on the way to Doctorate in their fields, dedicated and conscientious to the profession.
7- Placements with reputed firms
8- Monitoring students for the continuous improvement
9- Remedial tutorials for weak students of the lot.
10-Experiential learning with research orientation.
11-Continuous interface with industry.
12-Focus in e-learning.
13-Fully equipped Central library with over 12000 volumes and online access to e-journals.
14-Hostel facilities for both boys and girls, managed and run by Rev.priests and Rev.sisters respectively.

CI*A bird's eye view of the campus*

DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Department : Civil Engineering

The Department of Civil Engineering has been a part of BJI since inception in 2010. The department offers 4-Year B.Tech Degree Programme in Civil Engineering with an annual intake of 60 students. The Department has well-qualified faculty members and laboratory staff. The Department has well-equipped laboratories. Being the broadest of engineering fields, Civil Engineering curriculum is divided into several sub disciplines and is in such a way that the students are given exposure to Structural Engineering, Geotechnical Engineering, Transportation Engineering, Construction Engineering, Water Resources Engineering, Environmental Engineering and Surveying. The course enables students to learn analysis, design, execution and maintenance of structures like buildings, bridges, dams, roads, tunnels, offshore structures, airports, harbours, water supply and water and waste water treatment plants etc.

Facilities

The highlight and strength of the Civil Department is the well set laboratories which maintains all standards and quality

LABORATORIES

1. **Strength of Materials Lab**

The department has a well-equipped 'Strength of Materials Laboratory' for testing the properties of engineering materials used in various constructions. The equipment in this lab consist of Universal Testing Machine of 100 tonne capacity, Compression Testing Machine, Torsion Testing Machine, Spring Testing Machine, Hardness Testing Machine, Fatigue Testing Machine, Impact Testing Machine etc.

2. Concrete Lab

The Concrete Lab provides facilities for mix design, pouring, curing and testing of concrete specimens and members. The properties of basic construction materials like cement, fresh concrete, hardened concrete, bricks and tiles can be evaluated. The various apparatus includes Vicat Apparatus, Le Chateliers' flask, Le Chateliers' mould, IS sieves, Slump Cone, Cube and Cylinder Moulds etc. The machinery includes Compression Testing Machine (2000kN capacity), Flexure Testing Machine (100kN capacity), Hot Air Oven (250°C), Tile Testing Machine, Sieve Shaker, Vibration Machine, Consistometer, Vibrating Table and Concrete Mixer. Other certain facilities like Hot Air Oven, Casting Yard, and Curing Tank is also available.

3. Geo Technical Engineering Lab

This laboratory has equipment for testing the properties of soil both in field and in lab. It is equipped with instruments and machineries for conducting laboratory tests. Tests to determine the index properties, particle size distribution, shear parameters and consolidation characteristics and permeability of soil can be conducted in the laboratory. The lab is equipped with instruments for conducting the Plate Load Test, Standard Penetration Test, Shear Strength, Specific Gravity Relative Density etc.

4. Transportation Engineering Lab

Transportation Engineering Lab has facility for testing the properties of bitumen aggregates and soil. The various tests performed for finding the quality of aggregates include crushing value test, abrasion test, impact value test, specific gravity test and shape test. Test on bitumen includes viscosity test, ductility test, softening point test, penetration test, specific gravity test, flash and fire point test. Test on soil includes compaction test and CBR test. Lab also has facilities for doing bituminous mix design

by Marshall Stability Apparatus. The supporting equipment for the mix design such as asphalt mixer and automatic compactor are also available in the lab. Bituminous Extractor is also available in the lab, which is used to determine the percentage of bitumen in bituminous mixes.

5. **Survey Lab**

Survey Lab has instruments for almost all sorts of field works from conventional to modern methods of surveying. It includes instruments like plane table, precision theodolites, levelling instruments etc. A total station, an electronic device which measures horizontal and vertical angles and slope distances in a single integrated unit, will be added to the collection very soon.

6. **Environmental Engineering Lab**

The Environmental Lab has the provision to analyse the water qualities like pH, dissolved Oxygen, total solids, hardness, residual Chlorine, alkalinity etc. The Lab is well equipped with machineries like pH Meter, Visible Spectrophotometer, Jar Test Apparatus, BOD Incubator, Colorimeter, Nephelometer, Water Bath, Hot Air Oven, Muffle Furnace etc.

7. **Computer Aided Design (CAD) Lab**

The basic aim of the fully equipped lab is to prepare Civil Engineering Drawings – plan, section and elevation of buildings. The lab also aims at enabling the students to apply spreadsheets in Civil Engineering. The use of structural analysis software for analysis of various structures is the hallmark of this lab.

LAB TESTING CELL

Testing cell is functioning in a well-planned manner. Many testing works from external agencies are undertaken by the department

ACHIEVEMENTS

FACULTY ACHIEVEMENTS

Prof. Gouri Mohan L , Ms. Jisha B. S and Ms. Agnes Shiji Joy are pursuing with their PhD. works

Faculty Development Programs - Short Term Courses and Workshops

1. Ms.Tintu Mary C attended FDP on "Employability skill in a time of disruption" at Rajadhani Institute of Engg. and Technology, Nagaroor, Trivandrum from 22/11/2018 –24/11/2018.
2. Ms. Rinku Mary J attended FDP on Advanced Structural Analysis organized by Dept. of Civil Engg., Marian Engg. College Trivandrum from 9 – 13 July 2018
3. Ms.Rinku Mary J and Ms. Angelina Catherine B attended FDP on Design of Steel and Timber structures organized by Dept. of Civil Engg., Marian Engg. College Trivandrum from 25-29 June 2018.
4. Ms. Nimita Francy, Ms.Rinku Mary J, and Athira M of Civil Dept. attended KTU approved FDP conducted by College of Architecture Trivandrum in association with Glass Academy Foundation from 21-23 May 2018.
5. Mr. Navin S S attended a workshop on "Outcome Based NBA Accreditation with emphasis on how to prepare SAR" organized by Dept. of Mechanical Engineering, College of Engineering Perumon from 11-13 January 2018
6. Ms. Bhageerathy K.P attended a short term course on Technological Advancements in Materials for Construction organized in TKM College of Engineering Kollam from 08/01/2018 to 13/01/2018

Faculty Development Programme Organized in the Department

1. FDP on Concrete Mix Design -A one day Faculty development program on CONCRETE MIX DESIGN was conducted by India Cements Ltd. for the Civil Engineering faculties and technical staff of BJI on 6/06/2018 . The speaker of the program was Er. Hemanth T, Technical Head of India Cements Ltd. He spoke about 'Quality Requirements of Concrete'. After the detailed class a hands-on workshop on Mix Design was conducted.

2. One day training programme on Structural Analysis and Design (STAAD) Software was conducted by Inter CAD Systems Private Limited for the Civil Engineering Faculties of BJI on 15/12/17

3. One day training programme on PRIMAVERA Software was conducted by Inter CAD Systems Private Limited for the Civil Engineering Faculties of BJI on 17/02/18

4. Ms. Neethu Chandran, Mr. Navin S S, Ms. Angelina Catherine B, Asst. Professors attended an online talk on Introduction on New Design Softwares that mainly includes the application of Fusion 360 (Blee Watches, Application in medical field (Maxillofacial Surgery) on 20/04/2018

Highlights of Student's achievements

1. Ms. Jasmin Jacob (2013-17) batch secured **5th** rank in Kerala University
2. Mr. Vineeth Russell (2015-19) batch secured **8th** rank in KTU
3. Ms. Akshara J (2016-20) batch secured 10 CGPA in S5 results
4. Ms. Namitha Joy (2017-21) batch secured 10 CGPA in S4 results
5. Ms. Athira Dersana D R (2017-21) batch secured 10 CGPA in S4 results
6. Ms. Sruthy Vijay (2017-21) batch secured 10 CGPA in S2 results

Student Chapters

Student Chapters of Professional bodies like Indian Concrete Institute (ICI), Institution of Engineers (IEI) are very active in the department. The students of the department

are very enthusiastic in securing certification of various courses through NPTEL (National Program on Technology Enhanced Learning) which is a joint initiative of the IIT's and IISc. This has also boosted the quality of the students to a higher level. A number of students from Civil Engineering department is actively participating and working in IEDC (Innovation and Entrepreneurship Development Cell). Ms. Athira Dersana, Akshaya G Ajay and Rachel Hepsan (S3 CE) established a start up under IEDC which was a training programme on career development for the school students. Adersh S B, Suresh Kumar (S7 CE) submitted their project in Arduino Wokshop under IEDC and got certificate.

Student Clubs

The students of the department are very active in keeping the very clubs live and vibrant. The various clubs functioning are Literary Club, Environmental Club, Dance Club, Music Club, Quiz club and Sports Club. The Literary club brings out a magazine and newsletter of the department projecting its achievements and activities every year.

Student Association (ERECTUS)

The student association of the department is very enthusiastic in conducting programmes very frequently. Hence it forms a great platform for the students to horne and develop their skills and leadership qualities.

DEPARTMENTAL ACHIEVEMENTS

- The activities done as a part of SEED like NIVEDITHAM, bench construction using pet bottles, elimination of paper cups in the campus etc were widely recognised by the Mathrubhumi SEED co-ordinators and the institute was awarded for the same.
- The ICI Student Chapter of our department was awarded with the title "The Best Emerging Student Chapter" because of the various activities conducted under the ICI banner.

Placement details of 2016-20 Batch

●IBM

1. Meenakshi R S
2. Gopika S Binoy

● **Sutherland Global Services**

1. Amritesh S
2. Sharon Francis
3. Ashley H Fernandez
4. Indhra Baiju
5. Krishnapriya J
6. Meenakshi R S
7. Parvathy A

● **Hinduja Global Solutions**

1. Anie K Lal
2. Gowri L
3. Jisha Johnson
4. Amala Anil

● **Accenta Education**

1. Haida Madonna Harrison
2. Thahzeen Sulthana A
3. Sreelekshmi S K
4. Arya T Raj
5. Navami I
6. Rino Y Alexander
5. Gowri L
6. Jyothi Jose

● Allianz

1. Gowri L
2. Bincy Susan Baby

CURRICULUM I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	PHT 110	ENGINEERING PHYSICS B	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 101	LIFE SKILLS	2-0-2	4	--
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**23/24 ***	**17**

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 102	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	PHT 110	ENGINEERING PHYSICS B	3-1-0	4	4

	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 102	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	EST 102	PROGRAMMING IN C	2-1-2	5	4
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**28/29**	**21**

SEMESTER 3

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT201	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	CET201	MECHANICS OF SOLIDS	3-1-0	4	4
C	CET203	FLUID MECHANICS& HYDRAULICS	3-1-0	4	4
D	CET205	SURVEYING & GEOMATICS	4-0-0	4	4
E 1/2	EST200	DESIGN & ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN201	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	CEL201	CIVIL ENGINEERING PLANNING &DRAFTING LAB	0-0-3	3	2
T	CEL203	SURVEY LAB	0-0-3	3	2
R/M	VAC	Remedial/Minor course	3-1-0	4 *	4
TOTAL				**26/30**	**22/26**

SEMESTER 4

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT202	PROBABILITY, STATISTICS AND NUMERICAL METHODS	3-1-0	4	4
B	CET202	ENGINEERING GEOLOGY	3-0-1	4	4
C	CET204	GEOTECHNICAL ENGINEERING – I	4-0-0	4	4
D	CET206	TRANSPORTATION ENGINEERING	4-0-0	4	4
E 1/2	EST200	DESIGN & ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN202	CONSTITUTION OF INDIA	2-0-0	2	--
S	CEL202	MATERIAL TESTING LAB– I	0-0-3	3	2
T	CEL204	FLUID MECHANICS LAB	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				**26/30**	**22/26**

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	CET301	STRUCTURAL ANALYSIS – I	3-1-0	4	4
B	CET303	DESIGN OF CONCRETE STRUCTURES	3-1-0	4	4
C	CET305	GEOTECHNICAL ENGINEERING – II	4-0-0	4	4
D	CET307	HYDROLOGY & WATER RESOURCES ENGINEERING	4-0-0	4	4
E	CET309	CONSTRUCTION TECHNOLOGY& MANAGEMENT	3-0-0	3	3
F	MCN301	DISASTER MANAGEMENT	2-0-0	2	--
S	CEL331	MATERIAL TESTING LAB – II	0-0-3	3	2
T	CEL333	GEOTECHNICAL ENGINEERING LAB	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				**27/31**	**23/27**

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	CET302	STRUCTURAL ANALYSIS – II	3-1-0	4	4
B	CET304	ENVIRONMENTAL ENGINEERING	4-0-0	4	4
C	CET306	DESIGN OF HYDRAULIC STRUCTURES	4-0-0	4	4
D	CETXXX	PROGRAM ELECTIVE I	3-0-0	3	3
E	HUT300	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
F	CET308	COMREHENSIVE COURSE WORK	1-0-0	1	1
S	CEL332	TRANSPORTATION ENGINEERING LAB	0-0-3	3	2
T	CEL334	CIVIL ENGINEERING SOFTWARE LAB	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				**25/29**	**23/27**

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	CET312	ADVANCED COMPUTATIONAL METHODS	3-0-0	3	3
	CET322	GEOTECHNICAL INVESTIGATION	3-0-0		
	CET332	TRAFFIC ENGINEERING & MANAGEMENT	3-0-0		
	CET342	MECHANICS OF FLUID FLOW	3-0-0		
	CET352	ADVANCED CONCRETE TECHNOLOGY	3-0-0		
	CET362	ENVIRONMENTAL IMPACT ASSESSMENT	3-0-0		
	CET372	FUNCTIONAL DESIGN OF BUILDINGS	3-0-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	CET401	DESIGN OF STEEL STRUCTURES	3-0-0	3	3
B	CETXXX	PROGRAM ELECTIVE II	3-0-0	3	3
C	CETXXX	OPEN ELECTIVE	3-0-0	3	3
D	MCN401	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	CEL411	ENVIRONMENTAL ENGG LAB	0-0-3	3	2
T	CEQ413	SEMINAR	0-0-3	3	2
U	CED415	PROJECT PHASE I	0-0-6	6	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				**24/28**	**15/19**

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	CET413	PRESTRESSED CONCRETE	3-0-0	3	3
	CET423	GROUND IMPROVEMENT TECHNIQUES	3-0-0		
	CET433	HIGHWAY MATERIALS AND DESIGN	3-0-0		
	CET443	APPLIED HYDROLOGY	3-0-0		
	CET453	CONSTRUCTION PLANNING & MANAGEMENT	3-0-0		
	CET463	ADVANCED ENVIRONMENTAL ENGINEERING	3-0-0		
	CET473	OPTIMISATION TECHNIQUES IN CIVIL ENGINEERING	3-0-0		

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	CET415	ENVIRONMENTAL IMPACT ASSESSMENT	2-1-0	3	3
	CET425	APPLIED EARTH SYSTEMS	2-1-0		
	CET435	INFORMATICS FOR INFRASTRUCTURE MANAGEMENT	2-1-0		
	CET445	DISASTER MAAGEMENT	2-1-0		
	CET455	ENVIRONMENTAL HEALTH AND SAFETY	2-1-0		
	CET465	GEOINFORMATICS	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	CET402	QUANTITY SURVEYING & VALUATION	3-0-0	3	3
B	CETXXX	PROGRAM ELECTIVE III	3-0-0	3	3
C	CETXXX	PROGRAM ELECTIVE IV	3-0-0	3	3
D	CETXXX	PROGRAM ELECTIVE V	3-0-0	3	3
E	CET404	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	CED416	PROJECT PHASE II	0-0-12	12	4
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				**25/29**	**17/21**

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	CET414	ADVANCED STRUCTURAL DESIGN	3-0-0	3	3
	CET424	GEOENVIRONMENTAL ENGINEERING	3-0-0		
	CET434	RAILWAY AND TUNNEL ENGINEERING	3-0-0		
	CET444	IRRIGATION & DRAINAGE ENGINEERING	3-0-0		
	CET454	CONSTRUCTION METHODS & EQUIPMENT	3-0-0		

	CET464	AIRQUALITY MANAGEMENT	3-0-0		
	CET474	URBAN PLANNING & ARCHITECTURE	3-0-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	CET416	BRIDGE ENGINEERING	3-0-0	3	3
	CET426	ADVANCED FOUNDATION DESIGN	3-0-0		
	CET436	TRANSPORTATION PLANNING	3-0-0		
	CET446	INFORMATICS FOR INFRASTRUCTURE MANAGEMENT	3-0-0		
	CET456	REPAIR AND REHABILITATION OF BUILDINGS	3-0-0		
	CET466	ENVIRONMENTAL REMOTESENSING	3-0-0		
	CET476	BULDING SERVICES	3-0-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	CET418	EARTHQUAKERESISTANT DESIGN	3-0-0	3	3
	CET428	SOIL STRUCTURE INTERACTION	3-0-0		
	CET438	AIRPORT, SEAPORT AND HARBOUR ENGINEERING	3-0-0		
	CET448	HYDROCLIMATOLOGY	3-0-0		
	CET458	SUSTAINABLE CONSTRUCTION	3-0-0		
	CET468	CLIMATE CHANGE & SUSTAINABILITY	3-0-0		
	CET478	BUILDING INFORMATION MODELLING	3-0-0		

MINOR COURSES

Semester	BASKET I				BASKET II				BASKET III			
	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT
S3	CET281	Building construction & structural systems	4	4	CET283	Introduction to Geotechnical Engineering	4	4	CET285	Informatics for Infrastructure Management	4	4

S4	CET282	Building drawing	4	4	CET284	Introduction to Transportation Engineering	4	4	CET286	Climate change & hazard mitigation	4	4
S5	CET381	Structural mechanics	4	4	CET383	Eco-friendly transportation systems	4	4	CET385	Sustainability analysis & design	4	4
S6	CET382	Estimation & costing	4	4	CET384	Geotechnical investigation & ground improvement techniques	4	4	CET386	Environmental health& safety	4	4
S7	CED481	MINI PROJECT	4	4	CED481	MINI PROJECT	4	4	CED481	MINI PROJECT	4	4
S8	CED482	MINI PROJECT	4	4	CED482	MINI PROJECT	4	4	CED482	MINI PROJECT	4	4

HONOURS

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Semester	GROUP I				GROUP II				GROUP III			
	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT
S4	CET292	ADVANCED MECHANICS OF SOLIDS	4	4	CET294	PAVEMENT CONSTRUCTION AND MANAGEMENT	4	4	CET296	GEOGRAPHICAL INFORMATION SYSTEMS	4	4
S5	CET393	STRUCTURAL DYNAMICS	4	4	CET395	TRANSPORTATION SYSTEMS MANAGEMENT	4	4	CET397	GROUND WATER HYDROLOGY	4	4
S6	CET394	FINITE ELEMENT METHODS	4	4	CET396	EARTH DAMS AND EARTH RETAINING STRUCTURES	4	4	CET398	ENVIRONMENTAL POLLUTION MODELLING	4	4
S7	CET495	MODERN CONSTRUCTION MATERIALS	4	4	CET497	SOIL DYNAMICS AND MACHINE FOUNDATIONS	4	4	CET499	ENVIRONMENTAL POLLUTION CONTROL TECHNIQUES	4	4
S8	CED496	MINI PROJECT	4	4	CED496	MINI PROJECT	4	4	CED496	MINI PROJECT	4	4

DEPARTMENT : *MECHANICAL ENGINEERING*

Facilities:

- Full fledged laboratories in the core areas of Mechanical Engineering such as Thermal field, Fluid mechanics , Manufacturing process etc.
- CAD/CAM laboratories with latest soft wares such as ANSYS, Solid works, CFX FLUENT.
- Computer numerical controlled machineries such as CNC lathe & Milling machines

Achievements:

i) Department

- Successfully organized national conference on "Advanced Technologies in Mechanical Engineering", NATCON 2016.

ii) Faculty

- Three faculty members Asst. Professor Abhishek P ,Asst. Professor Tony John and Asst. Professor Nevin Nelson are pursuing for PhD under Kerala Technological University.
- Mr.Abhishek P has published a journal paper titled "Thermodynamic modeling of hybrid adsorption system" in Journal of physics.
- Mr. Nevin Nelson has published a journal paper titled "Stress analysis of solid rocket case" in International research journal of Engineering and Technology.
- Mr.Godwin Benedict participated in National integration program as the contingent leader of Kerala and Lakshadweep team at Ahammadabad, Gujarath.
- Mr. Godwin Benedict received an award provided by Govt. of Kerala, Directorate of Technical Education for "Punarjjani" project aimed at reinstating basic health and care facilities in Govt. Victoria hospital Kollam.

iii) Students

- Ms. Ajmi Midhilaj of 2016-20 batch has secured grade point of 10 in the third semester KTU University examination.
- Mr. Athul A and Mr. Jinu Johnson of 2018-22 batch have secured grade point of 10 in the second semester KTU University examination.
- Ms. Ajmi Midhilaj of 2016-20 has secured first position among the out going students of BJI for the academic year 2019-20 with cumulative grade point of 9.7.

- Mr. Justin Prasad, Mr.Allwyn S D'cruz, Mr.Aswin Lal M and Mr. Athul Joy of 2016-20 have published a journal paper based on their final year project work in "International Journal of Machine Tools and Maintenance Engineering" .
- Project titled as "Design and fabrication of Pnuematic gear shift mechanism in two wheelers" developed by students of 2015-19 batch.
- Prince Jose of 2016-20 batch secured second place in a technical event "CAD N' CRAFT" organized by GEC Kozhicode.
- It's a proud achievement of our final year students (2016-20) Mr.Prince Jose and Ms. Akshaya Antony by getting placements in TCS and Sutherland company respectively.

Industry interaction details

- Industrial visit for all semesters and mandatory internship program for all students.
- Students have done their internship program & industrial visit in various industries such as IRE Ltd, KMML, Cochin Shipyard Ltd, Banglore aircraft industries private ltd, New Holland Industry, Delhi etc.

Dept. Level programs

- Seminars, work shops and hands-on training on various fields of Mechanical. Engineering is being organized by "Exergy", The association of Mechanical Department of BJI.
- Faculty Development Programs by Eminent Resource persons from reputed institutions (ISRO, NIIST, IIST etc).
- Consultancy works in CNC machines.

Student activity details

- Our students have participated in various technical events, workshops and hands-on training organized by other Institutions.
- Internship program in Computer Numerical Control (CNC) machines. By this the students got awareness and hands on training in the latest trends in manufacturing field.
- Active participation in IEDC programs.

Student extracurricular activities

- Our students have represented the college and bagged prizes in various sports events organized by KTU.
- NSS volunteers from our department have participated in various NSS activities.

Laboratory

- ***Computer Aided Drafting, Modeling and Analysis Lab***

Computer-aided design is the use of computer systems to assist in the creation, modification, analysis, or optimization of a design. CAD facilitates easier development of products and product management integration. It also helps greater modeling and even provides a basis for virtual networking. In the engineering world, CAD is extremely important and is widely used to design and develop products. Training is imparted to the students on software such as AutoCAD and Solid Works in this laboratory. This enables them to solve problems involving 2-D and 3-D modeling, structural, fluid and thermal analysis.

- ***Fluid Mechanics and Machines lab***

In this lab, we strive to understand the various concepts regarding fluid flow and hydraulic energy. The lab deals with both open channel (notches, weirs etc.) and closed channel (Orifice Meter, Venturi Meter etc.) flows. Apart from these we also study the various turbines (Kaplan, Francis and Pelton turbines), Hydraulic pumps (Reciprocating, Centrifugal and gear pumps) and basic concepts about floating bodies (metacentric height). All branches of engineering needs mechanical engineers to execute their goals. for example, thermal energy dissipation from electronic components needs better heat transfer methods for its life.

- ***IC Engines Lab***

The heart of any automobile is its engine. Hence the study of engines is of vital importance in improving their performance. In this lab, the students are introduced to different types of engines and are taught how to analyze various engine parameters. They also learn about the different fuels that are in use today. The various experiments they undertake helps them to understand the working of IC engines and the factors that affect their performance.

- ***Production Engineering and Machine Tools Lab***

In this lab, students are introduced to the world of production techniques and machines. Here they deal with various machines like lathes, shaping machines, grinders, milling machines, slotting machine etc., used for manufacturing of machine components. The different machining techniques they learn include turning, knurling, thread cutting, milling, shaping, drilling, grinding etc. We also have a fully automated CNC (Computer Numeric Control) machine which is very popular nowadays for conventional machining.

- ***Thermal Engineering Lab***

This lab deals with the basic concepts of conduction, convection and radiation along with the study of Air compressors and Blowers. The various experimental setups used in the lab are heat transfer through composite walls, natural and forced convection heat transfer, pressure gauge and thermo couple calibration, heat transfer by radiation, Air conditioning and refrigeration test rig, heat exchangers etc.

- ***Mechanical Engineering Lab***

This lab is fully equipped with a number of sophisticated measuring instruments that help students explore different areas of metrology and inspection, in the various engineering applications. The lab encompasses many useful linear and angular measuring devices such as Slip Gauges, Vernier Calipers, Screw Gauges, Bevel Protractor etc. The lab is also retrofitted with advanced instruments in computer integrated manufacturing like Pick and Place Robotic Arm, Programmable Logic Controller, Coordinate Measuring Instrument etc.

CURRICULUM

CURRICULUM I TO VIII: B. TECH MECHANICAL ENGINEERING

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	PHT 110	ENGINEERING PHYSICS B	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 101	LIFE SKILLS	2-0-2	4	--
S	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1

1/2					
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**23/24 ***	**17**

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 102	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	PHT 110	ENGINEERING PHYSICS B	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 102	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	EST 102	PROGRAMMING IN C	2-1-2	5	4
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**28/29**	**21**

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT201	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	MET201	MECHANICS OF SOLIDS	3-1-0	4	4
C	MET203	MECHANICS OF FLUIDS	3-1-0	4	4
D	MET205	METALLURGY & MATERIAL SCIENCE	3-1-0	4	4
E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN201	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	MEL201	COMPUTER AIDED MACHINE DRAWING	0-0-3	3	2
T	MEL203	MATERIALS TESTING LAB	0-0-3	3	2
R/M	VAC	REMEDIAL/MINOR COURSE	3-1-0	4**	4
TOTAL				**26/30**	**22/26**

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT202	PROBABILITY, STATISTICS AND NUMERICAL METHODS	3-1-0	4	4
B	MET202	ENGINEERING THERMODYNAMICS	3-1-0	4	4
C	MET204	MANUFACTURING PROCESS	3-1-0	4	4
D	MET206	FLUID MACHINERY	3-1-0	4	4

E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN202	CONSTITUTION OF INDIA	2-0-0	2	--
S	MEL202	FM & HM LAB	0-0-3	3	2
T	MEL204	MACHINE TOOLS LAB-I	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**26/30**	**22/26**

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MET301	MECHANICS OF MACHINERY	3-1-0	4	4
B	MET303	THERMAL ENGINEERING	3-1-0	4	4
C	MET305	INDUSTRIAL & SYSTEMS ENGINEERING	3-1-0	4	4
D	MET307	MACHINE TOOLS AND METROLOGY	3-1-0	4	4
E 1/2	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	MCN301	DISASTER MANAGEMENT	2-0-0	2	--
S	MEL331	MACHINE TOOLS LAB-II	0-0-3	3	2
T	MEL333	THERMAL ENGINEERING LAB-I	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4

TOTAL	27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MET302	HEAT & MASS TRANSFER	3-1-0	4	4
B	MET304	DYNAMICS OF MACHINERY & MACHINE DESIGN	3-1-0	4	4
C	MET306	ADVANCED MANUFACTURING ENGINEERING	3-1-0	4	4
D	METXXX	PROGRAM ELECTIVE I	2-1-0	3	3
E ½	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	MET308	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	MEL332	COMPUTER AIDED DESIGN & ANALYSIS LAB	0-0-3	3	2
T	MEL334	THERMAL ENGINEERING LAB-II	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4*	4
TOTAL				**25/29**	**23/27**

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	MET312	**NONDESTRUCTIVE TESTING**	2-1-0	3	3
	MET322	**DATA ANALYTICS FOR ENGINEERS**	2-1-0		
	MET332	**ADVANCED MECHANICS OF SOLIDS**	2-1-0		
	MET342	**IC ENGINE COMBUSTION AND POLLUTION**	2-1-0		
	MET352	**AUTOMOBILE ENGINEERING**	2-1-0		
	MET362	**PRODUCT DESIGN AND DEVELOPMENT**	2-1-0		

	MET372	**ADVANCED METAL JOINING TECHNIQUES**	2-1-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MET401	DESIGN OF MACHINE ELEMENTS	2-1-0	3	3
B	METXXX	PROGRAM ELECTIVE II	2-1-0	3	3
C	METXXX	OPEN ELECTIVE	2-1-0	3	3
D	MCN401	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	MEL411	MECHANICAL ENGINEERING LAB	0-0-3	3	2
T	MEQ413	SEMINAR	0-0-3	3	2
U	MED415	PROJECT PHASE I	0-0-6	6	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**24/28**	**15/19**

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	MET413	**ADVANCED METHODS IN NONDESTRUCTIVE TESTING**	2-1-0	3	3
	MET423	**OPTIMIZATION TECHNIQUES AND APPLICATIONS**	2-1-0		
	MET433	**FINITE ELEMENT METHOD**	2-1-0		
	MET443	**AEROSPACE ENGINEERING**	2-1-0		
	MET453	**HYBRID AND ELECTRIC VEHICLES**	2-1-0		
	MET463	**OPERATIONS MANAGEMENT**	2-1-0		
	MET473	**REFRIGERATION AND AIR CONDITIONING SYSTEMS DESIGN**	2-1-0		

OPEN ELECTIVE

The open elective is offered in semester 7. Each program should specify the courses (maximum 5) they would like to offer as electives for other programs. The courses listed below are offered to the **students of all undergraduate branches offered in the college other than Mechanical Engineering program under KTU**

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	MET415	INTRODUCTION TO BUSINESS ANALYTICS	2-1-0	3	3
	MET425	QUANTITATIVE TECHNIQUES FOR ENGINEERS	2-1-0		
	MET435	AUTOMOTIVE TECHNOLOGY	2-1-0		
	MET445	RENEWABLE ENERGY ENGINEERING	2-1-0		
	MET455	QUALITY ENGINEERING AND MANAGEMENT	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MET402	MECHATRONICS	2-1-0	3	3
B	METXXX	PROGRAM ELECTIVE III	2-1-0	3	3
C	METXXX	PROGRAM ELECTIVE IV	2-1-0	3	3
D	METXXX	PROGRAM ELECTIVE V	2-1-0	3	3
E	MET404	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	MED416	PROJECT PHASE II	0-0-12	12	4
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**25/28**	**17/21**

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT

B	MET414	QUALITY MANAGEMENT	2-1-0	3	3
	MET424	DECISIONS WITH METAHEURISTICS	2-1-0		
	MET434	PRESSURE VESSEL AND PIPING DESIGN	2-1-0		
	MET444	COMPUTATIONAL FLUID DYNAMICS	2-1-0		
	MET454	INDUSTRIAL TRIBOLOGY	2-1-0		
	MET464	MICRO AND NANO MANUFACTURING	2-1-0		
	MET474	HEATING AND VENTILATION SYSTEMS DESIGN	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	MET 416	COMPOSITE MATERIALS	2-1-0	3	3
	MET 426	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	2-1-0		
	MET 436	ACOUSTICS AND NOISE CONTROL	2-1-0		
	MET 446	HEAT TRANSFER EQUIPMENT DESIGN	2-1-0		
	MET 456	ROBOTICS AND AUTOMATION	2-1-0		
	MET 466	TECHNOLOGY MANAGEMENT	2-1-0		
	MET 476	CRYOGENIC ENGINEERING	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	MET 418	RELIABILITY ENGINEERING	2-1-0	3	3
	MET 428	INDUSTRIAL INTERNET OF THINGS	2-1-0		
	MET438	FRACTURE MECHANICS	2-1-0		
	MET 448	GAS TURBINES AND JET PROPULSION	2-1-0		
	MET 458	ADVANCED ENERGY ENGINEERING	2-1-0		
	MET 468	ADDITIVE MANUFACTURING	2-1-0		
	MET 478	POWER PLANT ENGINEERING	2-1-0		

MINOR

Minor is an additional credential a student may earn if s/he does 20 credits worth of additional learning in a discipline other than her/his major discipline of B.Tech. degree. The objective is to permit a student to customize their Engineering degree to suit their specific interests. Upon completion of an Engineering Minor, a student will be better equipped to perform interdisciplinary research and will be better employable. Engineering Minors allow a student to

gain interdisciplinary experience and exposure to concepts and perspectives that may not be a part of their major degree programs.

The academic units offering minors in their discipline will prescribe the set of courses and/or other activities like projects necessary for earning a minor in that discipline. A specialist basket of 3-6 courses is identified for each Minor. Each basket may rest on one or more foundation courses. A basket may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. S/he accumulates credits by registering for the required courses, and if the requirements for a particular minor are met within the time limit for the course, the minor will be awarded. This will be mentioned in the Degree Certificate as "Bachelor of Technology in xxx with Minor in yyy". The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the programme, that minor will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

(i) The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from third to eight semesters for all branches. The minor courses shall be identified by **M slot courses.**

(ii) Registration is permitted for Minor at the beginning of third semester. Total credits required is 182 (162 + 20 credits from value added courses)

(iii) Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses listed in the curriculum for minor, of which one course shall be a mini project based on the chosen area. They can do miniproject either in S7 or in S8. The remaining 8 credits could be acquired by undergoing 2 MOOCs recommended by the Board of studies and approved by the Academic Council or through courses listed in the curriculum. The classes for Minor shall be conducted along with regular classes and no extra time shall be required for conducting the courses.

(iv) There won't be any supplementary examination for the courses chosen for Minor.

(v) On completion of the program, "Bachelor of Technology in xxx with Minor in yyy" will be awarded.

(vi) The registration for minor program will commence from semester 3 and the all academic units offering minors in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 3 baskets. The basket of courses may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. Reshuffling of courses between various baskets will not be allowed. There is option to skip any two courses listed here and to opt for equivalent MOOC courses approved by the Academic Council. In any case, they should carry out a mini project based on the chosen area in S7 or S8. Students who have registered **for B.Tech Minor in MECHANICAL ENGINEERING Branch** can opt to study the courses listed below:

	BASKET I	**BASKET II**	**BASKET III**

Semester	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT
S3	MET251	MECHANICS OF MATERIALS	4	4	MET253	FLUID MECHANICS & MACHINERY	4	4	MET255	MATERIAL SCIENCE & TECHNOLOGY	4	4
S4	MET252	THEORY OF MACHINES	4	4	MET254	THERMODYNAMICS	4	4	MET256	MANUFACTURING TECHNOLOGY	4	4
S5	MET351	DYNAMICS OF MACHINES	4	4	MET353	THERMAL ENGINEERING	4	4	MET355	MACHINE TOOLS ENGINEERING	4	4
S6	MET352	MACHINE DESIGN	4	4	MET354	HEAT TRANSFER	4	4	MET356	INDUSTRIAL ENGINEERING	4	4
S7	MED451	MINIPROJECT	4	4	MED451	MINIPROJECT	4	4	MED451	MINIPROJECT	4	4
S8	MED452	MINIPROJECT	4	4	MED452	MINIPROJECT	4	4	MED452	MINIPROJECT	4	4

HONOURS

Honours is an additional credential a student may earn if s/he opts for the extra 20 credits needed for this in her/his own discipline. Honours is not indicative of class. KTU is providing this option for academically extra brilliant students to acquire Honours. Honours is intended for a student to gain expertise/specialise in an area inside his/her major B.Tech discipline and to enrich knowledge in emerging/advanced areas in the branch of engineering concerned. It is particularly suited for students aiming to pursue higher studies. Upon completion of Honours, a student will be better equipped to perform research in her/his branch of engineering. On successful accumulation of credits at the end of the programme, this will be mentioned in the Degree Certificate as “Bachelor of Technology in xxx, with Honours.” The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the programme, Honours will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

The courses shall be grouped into maximum of 3 groups, each group representing a particular specialization in the branch. The students shall select only the courses from same group in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. The internal evaluation, examination and grading shall be exactly as for other mandatory courses. The Honours courses shall be identified by H slot courses.

(i) The curriculum/syllabus committee/BOS shall prepare syllabus for courses to be included in the curriculum from fourth to eight semesters for all branches. The honours courses shall be identified by H slot courses.

(ii) Registration is permitted for Honours at the beginning of fourth semester. Total credits required is 182 (162 + 20 credits from value added courses).

(iii) Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses listed in the curriculum for honours, of which one course shall be a mini project based on the chosen area. The remaining 8 credits could be acquired by undergoing 2 MOOCs recommended by the Board of studies and approved by the Academic Council or through courses listed in the curriculum. The classes for Honours shall be conducted along with regular classes and no extra time shall be required for conducting the courses. The students should earn a grade of 'C' or better for all courses under honours.

(iv) There won't be any supplementary examination for the courses chosen for honours.

(v) On successful accumulation of credits at the end of the programme, "Bachelor of Technology in xxx, with Honours" will be awarded if overall CGPA is greater than or equal to 8.5, earned a grade of 'C' or better for all courses chosen for honours and without any history of 'F' Grade.

(vi) The registration for honours program will commence from semester 4 and the all academic units offering honours in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 3 groups, each group representing a particular specialization in the branch. The students shall select only the courses from same group in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. There is option to skip any two courses listed here and to opt for equivalent MOOC courses approved by the Academic Council. In any case, they should carry out a mini project based on the chosen area in S8. Students who have registered for **B.Tech Honours in MECHANICAL ENGINEERING** can opt to study the courses listed below:

SEMESTER	GROUP I				GROUP II				GROUP III			
	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT
S4	MET272	CONTINUUM MECHANICS	4	4	MET274	ADVANCED MECHANICS OF FLUIDS	4	4	MET276	MATERIALS IN MANUFACTURING	4	4
S5	MET373	EXPERIMENTAL STRESS ANALYSIS	4	4	MET375	ADVANCED THERMODYNAMICS	4	4	MET377	FLUID POWER AUTOMATION	4	4
S6	MET374	ADVANCED DESIGN SYNTHESIS	4	4	MET376	COMPRESSIBLE FLUID FLOW	4	4	MET378	ADVANCED NUMERICAL	4	4

										CONTROLLED MACHINING		
S7	MET475	ADVANCED THEORY OF VIBRATIONS	4	4	MET477	COMPUTATIONAL METHODS IN FLUID FLOW & HEAT TRANSFER	4	4	MET479	PRECISION MACHINING	4	4
S8	MED476	MINIPROJECT	4	4	MED476	MINIPROJECT	4	4	MED476	MINIPROJECT	4	4

INDUCTION PROGRAM

There will be three weeks induction program for first semester students. It is a unique three-week immersion Foundation Programme designed especially for the fresher's which includes a wide range of activities right from workshops, lectures and seminars to sports tournaments, social work and much more. The programme is designed to mould students into well-rounded individuals, aware and sensitized to local and global conditions and foster their creativity, inculcate values and ethics, and help students to discover their passion. Foundation Programme also serves as a platform for the fresher's to interact with their batchmates and seniors and start working as a team with them. The program is structured around the following five themes:

The programme is designed keeping in mind the following objectives:

- **Values and Ethics**: Focus on fostering a strong sense of ethical judgment and moral fortitude.
- **Creativity**: Provide channels to exhibit and develop individual creativity by expressing themselves through art, craft, music, singing, media, dramatics, and other creative activities.
- **Leadership, Communication and Teamwork**: Develop a culture of teamwork and group communication.
- **Social Awareness**: Nurture a deeper understanding of the local and global world and our place in at as concerned citizens of the world.

DEPARTMENT: ELECTRICAL & ELECTRONICS ENGINEERING

FACILITIES:

- Fully equipped laboratories in the core areas of Electrical Engineering such as Electrical Machines Lab, Power Systems Lab, Control Sytems Lab, Power Electronics Lab, Circuits and Measurements Lab, Digital Electronics Lab, Electrical workshop etc.
- Software Lab, Microprocessor Lab and a Central Computing Lab with software facilities like Turbo C, MATLAB, Simulink, LabVIEW, MiPower etc.
- Microprocessor Lab with 8085 and 8086 microprocessor kits
- Well maintained student library and staff library
- Tutorial and remedial class facilities.

LABORATORY:

1) Electrical Machines Lab

Electrical Machines laboratory is intended specifically to meet the needs of modern courses in electrical machines. This lab helps the students to augment their concepts about the fundamentals of transformers and rotating machines. At undergraduate level this lab is equipped to help teach the characteristics and operations of DC series and shunt motor, DC shunt and compound generator, single-phase induction motor, three-phase induction motor, three-phase synchronous motor, single-phase transformer and three-phase transformer and finally the starting methods, speed control and performance of 3-phase induction motors.

2) Power System Lab

Power system Laboratory comprises of simulation, protection and calibration of high voltage equipments. Facilities are available for power frequency testing and impulse voltage testing of electrical equipments, determining the characteristics of different types of electromagnetic and static relays, testing of insulation of cables, earth resistance measurement,

measurement of dielectric strength of transformer oil etc. Varieties of Power system Simulation packages like Load flow, MATLAB/ Simulink and MiPower are available.

3) Systems and Control Lab

Control and instrumentation systems are at the very heart of the technology-based world. In this lab we perform predetermination and verification of frequency response characteristics of Lag and Lead networks, R-L-C circuit, determination of transfer Function of AC and DC servomotors, study of various types of synchros, PID controllers, study of performance characteristics and response analysis of a typical temperature/ Flow/ Level control system.This lab also covers the industrial implementation of advanced control systems via different computer tools such as MATLAB and Simulink.

4) Power Electronics Lab

The Power Electronics Laboratory is intended for conducting various experiments using power electronic devices like SCR, TRIAC, Power MOSFET, IGBT, etc. The lab is equipped withchopper& invertor control units, thyristor controllers, function generators, signal generators, oscilloscopes and multimeters..

5) Electrical Measurements Lab

The most modern and accurate testing instruments are set up in the Electrical MeasurementsLab. This lab covers the investigation of Wheatstone Bridges and Potentiometers, Linear and non-linear signal amplification, closed and open loop control, PID control, study of Op-amp circuits and testing of energy meters.

6) Electronic Circuits Lab

Electronics Lab is equipped with components such as diodes, transistors, operational amplifiers, oscilloscope, power supplies and function generators required to practically implement the theoretical concepts of electronic systems.

7) Digital Electronics Lab

Digital Systems Lab is designed for training the students on digital logic concepts. The lab consists of oscilloscopes, digital trainers, digital multi-meters, function generators etc.

8) Microprocessor Lab and Software Lab

Microprocessor Lab provides an opportunity to learn the 8085 and 8086 microprocessor kits and the supporting accessories. This lab is also used to train the practical implementation of Microprocessor and Interfacing Techniques. Software Lab is a dedicated space for computer programming in C language. Computer systems with high-end configuration are installed to provide efficient computing facilities for the trainees.

9) Electrical Workshop

Electrical Workshop deals with the basics of wiring systems, domestic wiring, basic wiring of household equipments etc. It brings light into basic estimation of materials required for a given wiring layout. The basic operation of electrical protection devices are also dealt with.

ACHIEVEMENTS:

1) DEPARTMENT ACHIEVEMENTS

- Successfully organized National Conference NATCON 2017 on 17th February 2017 along with Department of Electronics and Communication
- Students have done their internship programs & industrial visit in various industries, substations and Generating stations.
- Seminars, workshops and hands-on training on various fields of Electrical Engineering is being organized by “Tesla”, the association of Electrical Engineering Department of BJI.
- Faculty Development Program on ‘Power Quality and Smart Grids” was conducted from 18th to 19th July 2018
- Organized and conducted IEEE PES Quiz for all the Engineering students along with Department of Electronics and Communication every year.

2) FACULTY ACHIEVEMENTS

- Five faculty members Prof. Channu Lal, Ass.t Prof. Jishu Mary Gomez, Asst. Prof. Sreelekshmi R S, Asst. Prof. Swathy M, Asst. Prof. Pretty Mary Tom are persuing PhD under various universities.

- Prof. Channu Lal published a paper titled" **Design and analysis of PSS and SVC controller using crossover GSA approach"** TEST magazine, pp 6220-6227, published on 30-1-2020(SCOPUS)

- Asst. Prof. Pretty Mary Tom published a paper titled **"Augmentation of Low voltage Ride Through in AC Microgrid using fault current limiting function of Supercapacitor",** TEST magazine, January 2020, pp 6289-6298. (SCOPUS)

- Prof. Channu Lal attended an FDP conducted by College of Engineering Perumon titled "**ELECTRIC AND HYBRID VEHICLES**" from 18th December to 22nd December 2019
- Ms. Pretty Mary Tom & Ms. Silpa James attended FDP on "**Electric Vehicles – Development Integration & Challenges**" at TKM College of Engineering, Kollam, sponsored by APJ Abdul Kalam Technological University.(2019)
- Ms. Pretty Mary Tom attended five day National Level Faculty Development Programme on "**Research Initiatives in Renewable Energy Systems**" from 21-25July 2020, organized by Muthoot Institute of Technology & Science.
- Ms. Pretty Mary Tom attended five Day Faculty Development Programme on "**LateX Document Preparation System**" from 17-21 August 2020 organized by Marthoma College in association with Spoken Tutorial IIT Bombay.
- Ms. Pretty Mary Tom, MS. Anusha A S, Ms. Reshma Kuriakose & Ms. Silpa James attended 5 day online FDP on "**Emerging Trends & Potential Energy Storages in Renewable Systems"** organized by Department of Electrical & Electronics Engineering of Musaliar College of Engineering & Technology in association with KSEB EA & IEEE SB from 3rd to 7th August, 2020
- Ms. Beena Varghese M. attended a two day Workshop on "**Power Electronics and drives**" at T K M C E.,Kollam.

- Ms. Pretty Mary Tom attended Online Workshop on Universal Human Values on the theme "**Inculcating Universal Human Values in Technical Education**" during 20-24 June 2020, organized by All India Council for Technical Education (AICTE).
- Prof. Channu Lal, Ms. Pretty Mary Tom, Mr. Rahul R, Ms. Anusha A S, & Ms. Silpa James attended 3 day workshop on **"Effective Online Teaching Tools"** organized by Mar Baselios College of Engineering and Technology. Thiruvananthapuram, from 29th to 31st July, 2020.
- Ms. Beena Varghese M. attended workshop on **"Control System"** at TKMCE Kollam
- Prof. Channu Lal, Ms. Pretty Mary Tom, Mr. Rahul R, Ms. Anusha A S, Ms. Reshma Kuriakose & Ms. Silpa James attended webinar on **"Energy & Environment: Problems Facing the Third World and their Probable Solutions for Sustainable Development"** organized by Electrical and Electronics Engineering Department,Government College of Engineering, Kannur on 01st August 2020.
- Ms. Swathy M, Ms. Pretty Mary Tom, Mr. Rahul R, Ms. Bhavana V, Ms. Anusha A S, Ms. Reshma Kuriakose & Ms. Silpa James attended webinar on "**Recent Trends in Optimal Power Flow Problem**" on 26th July 2020, organised by Department of Electrical and Electronics Engineering, SHM Engineering College, Kadakkal.
- Ms. Pretty Mary Tom, Mr. Rahul R, Ms. Anusha A S, & Ms. Silpa James attended webinar on " **An Overview of Power Transmission**" organised by Department of Electrical and Electronics Engineering, Holy Grace Academy of Engineering, Mala on 8th August 2020.
- Prof. Channu Lal, Ms. Swathy , Ms. Pretty Mary Tom, Mr. Rahul R, Ms. Anusha A S, Ms. Reshma Kuriakose & Ms. Silpa James Webinar on "**Career & Innovation**" organised by Vidya Academy of Science &Technology,Kilimanoor on 29th July 2020.
- Prof. Channu Lal, Ms. Anusha A S, Ms. Reshma Kuriakose attended webinar on **"HYBRID AND ELECTRIC VEHICLE:SCOPE AND CHALLENGES**" organized by THEJUS ENGINEERING COLLEGE, EEE Department THRISSUR on 14th August 2020
- Ms. Anusha A S & Ms. Reshma Kuriakose attended webinar on **CYBER SECURITY AND ETHICAL HACKING** on 22nd August organised by SHM college Kadakkal.

- Ms. Pretty Mary Tom attended webinar on "**Microgrid Management**" organised by IEEE Power and Energy Society SB of Vimal Jyoti Engineering College on 10th July 2020.
- Ms. Pretty Mary Tom attended webinar on webinar on "**HOMER"** organised by Mar Baselios Christian College, on 21st July 2020.
- Ms. Pretty Mary Tom attended webinar on Webinar on "**Smart grid Technology & its Opportunities**" organised by Jyoti College of Engineering on 26th June 2020.
- Ms. Pretty Mary Tom attended webinar on International Webinar on "**Communicative English Skills for Engineering Students and Faculty**" organised by Mar Baselios Institute of Technology & Science from 28th-30th June 2020.
- Ms. Anusha A s attended International webinar on **"Emerging Trends in Electric Vehicle".** Organized by VIDYA ACADEMY OF SCIENCE AND TECHNOLOGY TECHNICAL CAMPUS KILIMANOOR on 26th July 2020
- Ms. Reshma Kuriakose attended webinar on **"Your first step into industry as Electrical Engineer" from UKF college of Engg on 22nd July**
- Ms. Reshma Kuriakose attended webinar on **"Impact of Electric Vehicle Charging Station in Electrical Distribution System"** from Mahaguru Institute of Technology on 22nd August 2020

3) STUDENT ACHIEVEMENTS

- 6 students from 2016-2020 Batch were placed in Sutherland Global Solutions
- Anandhu S completed a training in "Web Designing & Development" in July 2020 by Apponix
- Aneesha S, Anjali S, Dalice Peters, Sandhya Stanly, Sandra Stanly participated in online quiz competition based on life of Gandhi, organized by NSS unit of TKM College of Engineering in connection with 150th birth anniversary celebration of Mahatma Gandhi.
- Aneesha S & Sandra Stanly participated in a national level online quiz on "Aptitude & Reasoning skills" organized by Department of Humanities & Sciences, Annamacharya Institute of Technology & Sciences, Rajampet from 16.06.2020 to 20.6.2020

- Anjali S & Sandra Stanly participated in online national level quiz on NAAC conducted by Department of Electrical & Electronics Engineering, Mandsaur University, Mandsaur on 18-20 June, 2020
- Aneesha S, Anjali S & Sandra Stanley participated in GENIOS 2.0, Online Aptitude Contest organized by IEEE Computer Society, Geethanjali College of Engineering & Technology Student Branch Chapter on 13th June 2020.
- Anjali S & Sandra Stanly participated in IAS CMD Online Workshop conducted by IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur conducted on 16th May, 2020.
- Aneesha S, Anjali S & Sandra Stanly attended online workshop on "Augmented Reality" organized by The Institution of Engineers (India), VKCET chapter on 7th August 2020
- Anjali S & Sandra Stanly participated in Electrocross hosted by IEEE Student Branch College of Engineering Chengannur as part of IEEE Kochi Hub Inter Student Branch cluster competition.
- Aneesha S & Sandra Stanly attended online training in " Biotechnology for Humanitarian Projects" organized by IEEE SIGHT chapter of Viswa Jyothi College of Engineering & Technology on May 26th, 2020
- Sreelekshmi Rani completed a course on Electrical Power Systems authorized by University at Buffalo & The State University of New York offered through Coursera.
- Afna Shahjahan & Stigin S completed an online course on "Become a Full Stack Web Developer- Beginner to Advanced" in Udemy in April 2020.
- Jais P Johnson & Roy Thomas completed online course on "Electric Vehicles – Part 1" in NPTEL during February – March 2020.
- Amy Rose Dennison completed a course on "Python Programming Beginners Tutorial: Python 3 Programming" in June 2020 on Udemy.
- Lloyd Alfred Stanley completed a course in 'Safety & Health in Construction' from Alison in November 2019
- Vishnu Sugathan completed an online course on "The fundamentals of Digital Marketing" by Google on 30/10/2019.

- Adarsh S Chandran & Neha R participated in CUESTIONARIO TECNICO (Quiz) as part of Tharang organized by IEEE Student branch College of Engineering, Perumon on 10-12 August 2020
- Sandra Stanly & Sandhya Stanly participated in "AI & Face recognition Workshop" conducted by IEEE SB & IEDC CELL, College of Engineering Attingal on 3rd Nov, 2019
- Sandra Stanly attended online training on "Introduction to Project Management" organized by IEEE SIGHT chapter of Viswa Jyothi College of Engineering & Technology on April 18th, 2020.
- Aneesha S successfully completed IT quiz on Computer Knowledge organized by OM Computer classes, Parel on 21st June , 2020.
- Aneesha S attended online quiz on Environment Day conducted on June 5, 2020.
- Sandhya Stanly & Sandra Stanly attended online training in " Artificial Intelligence in Humanitarian Projects" organized by IEEE SIGHT chapter of Viswa Jyothi College of Engineering & Technology on April 18th, 2020
- Sandra Stanly participated in SPECTRUM WAR April Edition conducted by IEEE LINK.
- Ashley Joy, Neha R & Stefy Wilson participated in International Webinar on "Career & Innovation" organized by Department of Electrical & Electronics Engineering of Vidya Academy of Science & Technology Technical Campus, Kilimanoor on July 29, 2020
- Aneesha S & Sandra Stanly participated in two day Webinar series on "Electrified Transportation" organized by Institution's Innovation Council, TKMCE in association with The Institution of Engineers (India) EEE Chapter and EEE Department, TKM College of Engineering, Kollam on 6th & 7th June, 2020
- Abhijith Anil participated in Webinar on "Hybrid Electic Vehicles" on 1st September 2020 organized by Department of Electrical & Electronics Engineering, Joginpally BR Engineering College in association with NoviTech, Ernakulam.
- Sandra Stanley attended a Webinar "Introduction to Machine Learning" organized by IEEE Student Branch of Amal Jyothi College of Engineering conducted on May 22, 2020.

- Sandra Stanley attended a Webinar on " Latest Trends in Healthcare Informatics" organized by IEEE Computer Society Chapter & IEEE Industrial Applications Society Chapter of IEEE Student Branch SJCET on 25th April, 2020.
- Sandra Stanly attended a Webinar on Introdution to Nanosensors conducted by IEEE IAS SBC Jawaharlal College of Engineering and Technology on 5th May 2020
- Sandra Stanly attended a Webinar on "Control Systems with Matlab & Simulink" organized by Power and Energy Society of IEEE SCT SB and PES Kerala Chapter.
- Sandra Stanly attended a Webinar on "Microstrip Antenna Design" organized by ECE Department JCET on 21st May 2020.
- Sandra Stanly attended a Webinar on Application of ECU's in CAR Automation" conducted by Department of ECE of Jerusalem College of Engineering, Chennai on July 25, 2020.
- Anjali S attended Webinar on Prospects of Renewable Energy in Kerala organized by IEEE PES SBC, College of Engineering, Thrikaripur on 24th May 2020.
- Aneesha S, Sandhya Stanly & Sandra Stanly attended a Webinar on GIS & Remote Sensing in Surveying conducted by IEEE SB JCET on 21st May 2020.
- Aneesha S, Anjali S, Dalice Peters, Sandhya Stanly & Sandra Stanly attended a Webinar on New Trends in Industrial Lighting conducted by IEEE IAS SBC JCET on 5th May 2020
- Aneesha S, Sandhya Stanly & Sandra Stanly attended a Webinar on "Introduction to Aurdino Simulation & PCB Designing Tools' conducted by IEEE RAS SB Chapter of IEEE Student Branch, Adi Shankara Institute of Engineering & Technology on 6th May 2020.
- Aneesha S, Anjali S & Sandra Stanley attended a Webinar on "Usage of LinkedIn to create a brand" hosted by Panimalar Institute of Technology, Chennai on May 16, 2020.
- Anjali S & Sandra Stanley attended a Webinar on "Volunteering with IEEE" organized by IEEE Student Branch of Amal Jyothi College of Engineering conducted on May 23, 2020
- Anjali S & Sandra Stanly attended a Webinar on "Current Trends in IT and Reality" hosted by Panimalar Institute of Technology, Chennai on May 11, 2020

- Anjali S & Sandra Stanly attended a Webinar on "Grid connected and Stand alone Solar Plant Design using PVSyst" conducted by IEEE SBC of St. Joseph's Institute of Technology on 7th May, 2020
- Aneesha S, Anjali S & Sandra Stanly attended a Webinar on "Unmanned Vehicles" conducted by IAS Society IEEE SCT SB on 7th May 2020.
- Aneesha S & Sandra Stanly attended a Webinar on " Opportunities in PES SB Chapter & HPSBCP Report Preparation" organized by IEEE PES SBC Musliar College of Engg., Chirayinkeezhu in association with IEEE PES Kerala Chapter on 24 May 2020.
- Aneesha S, Anjali S & Sandra Stanly attended a Webinar on "Designing with Canva" organized by IEEE Student Branch of Amal Jyothi College of Engineering conducted on May 24, 2020.
- Anjali S & Sandra Stanly attended a Webinar on "Invisibility Cloak" organized by IEEE Student Branch of Amal Jyothi College of Engineering conducted on May 21, 2020.
- Aneesha S, Anjali S & Sandra Stanly attended a Webinar on "IOT" conducted by IEEE IAS SBC JCET & ECE Department JCET on 26th May 2020.
- Aneesha S, Anjali S & Sandra Stanly attended a Webinar on "Use of Remote Energy Monitoring & Data Analysis for Energy Saving" organized by ECE Department JCET on 27th May 2020.
- Sandra Stanly, Aneesha S & Anjali S attended a Webinar on " Know your Society: All about IEEE PES" conducted by IEEE PES SBC of IEEE SB, Adi Sankara Institute of Engineering & Technology on 17th May, 2020.
- Aneesha S , Anjali S & Sandra Stanly attended a Webinar on " Simulation and PCB designing using Proteus" conducted by IEEE RAS SB Chapter of IEEE Student Branch, Adi Sankara Institute of Engineering & Technology on 11th May, 2020.
- Aneesha S, Anjali S & Sandra Stanly attended a Webinar on "Significance of grid connected PV in current scenario" conducted by IEEE IAS SB Chapter of IEEE Student Branch, Adi Sankara Institute of Engineering & Technology on 12th May, 2020.
- Aneesha S & Anjali S attended Webinar on "Introduction to Signal Processing" conducted by IEEE SPS SBC of IEEE SB ASIET on 15th May.
- The following students attended the 7 Day NSS Special camp held at N.Chellappan Pillai Memorial HSS, Mukhathala in February, 2020

- Maria Johnson & Klessin Mathew participated in the online QUIZ completion organized by NSS unit of TKM college of Engineering Kollam on 1/03/2020
- Arya Anil- attended online course "Programming for everybody" on 9/7/2020
- Athira J & Archa Sreemon – attended the online course "Technical English for engineers" (NPTEL) (September 2020)
- Archa Sreemon attended webinar on "Microsoft Word" on 27/5/2020.
- Rithin Justin & Roshan R- participated in the Participated in the online QUIZ completion organized by NSS unit of TKM college of Engineering Kollam on 28/02/2020
- Muhzin Nazer participated in "Power Quiz 2019" at Bishop Jerome Institute, organized by KSEB Officers Association on 3rd Oct 2019.
- Muhzin Nazer participated in "MBIFL'20 LITERARY QUIZ" conducted by Mathrubhumi International Festival of Letters on 20th Jan 2020.
- Beteena John Bosco participated in Webinar on "Accelerate your career in Data Science and machine learning " held by IEEE student branch, college of Engineering, Perumon on 12th June 2020
- Beteena John Bosco attended "International Virtual Tec Conclave 2020", held by IEEE IA/IE/PE LS chapter, Kerala from 12th June to 14th June 2020
- Beteena John Bosco participated in Webinar on " Introduction to Data Science held by IEEE CS chapter of Viswajyothi college of engineering and Technology, Vazhakulam on 14th June 2020
- Beteena John Bosco participated in Online Quiz held by NSS unit of TKM college of Engineering on 23rd July 2020
- Beteena John Bosco attended online workshop on "Data structures Heap" held by Coding Blocks on 1st Aug 2020
- Beteena John Bosco participated in Group Discussion held by IEEE student branch, College of Engineering, Perumon on 2nd Aug 2020
- Beteena John Bosco participated in "SPELL BOUND" held by IEEE student branch, College of Engineering, Perumon on 9th Aug 2020
- Vishnu S attended online course on "Switch mode power supply testing 101" conducted by Keysight Technologies on 9th Aug 2020.

- Binoy Fernandez, Vishnu S attended online course on “Networking and Security 101” conducted by Keysight Technologies on 10th Aug 2020.
- Abin A J, Vishnu S attended online course on “Behind the BNC: Oscilloscope front end desing” conducted by Keysight Technologies on 11th Aug 2020.
- Vishnu S attended online course on “Oscilloscope Probes 201” conducted by Keysight Technologies on 12th Aug 2020.
- Lincy Lyndon participated in Quiz (CUESTIONARIO TECNICO) conducted by IEEE student branch, College of Engineering, Perumon from 10th Aug to 12th Aug 2020
- Archana S, Gadha Aravind, Judith Jose, Souparnika Ani Krishnan, Vishnu S participated in PIT IEEE Bootcamp on “ Internet of things”, conducted by Panimalar Institute of Technology, Chennai from 12th Aug to 14th Aug 2020.
- Vishnu S attended online course on “Oscilloscope Probes 101” conducted by Keysight Technologies on 13th Aug 2020.
- Abin A J, Aji Sidarth, Akhil Peter,Akshai Sreemon, Archana S, Binoy Fernandez Gadha Aravind, Harikrishnan P G, Judith Jose, Lincy Lyndon, Saino K J, Sona Antony, Souparnika Ani Krishnan,Vandhitha M S, Vijith Varghese, Vishnu S participated in Webinar on “Hybrid Electric Vehicle: scope and challenges”, organized by Thejus Engineering College on 14th Aug 2020
- Archana S, Vandhitha M S participated in Webinar on “Natural Language Processing organized by VNR Vignana Jyothi Institute of Engineering and Technology on 15th Aug 2020.
- Beteena John Bosco participated in “Urja Nidhi” held by IEEE PES on 16th Aug 2020
- Archana S participated in Webinar on “Recent trends in Robotics” conducted by Rao Bahadur Y. Mahabaleswarappa Engineering College, Pantech E Learning on 20th Aug 2020.
- Souparnika Ani Krishnan, Vijith Varghese, Vishnu S participated in “Boot Camp on Electric vehicle” conducted by Panimalar Institute of Technology from 20th Aug to 22nd Aug 2020.
- Muhzin Nazer participated in “MBIFL’20 LITERARY QUIZ” conducted by Mathrubhumi International Festival of Letters on 20th Jan 2020.

- Binoy Fernandez completed an online course on ‘ 5C’s of IOT by Keysight Technologies on 20th Sep 2020
- Dalice Peters attended a workshop on Beat Boxing as part of Ragam 20 conducted by National Institute of Technology, Calicut from January 10 to 12, 2020.
- Neha R participated in 800m, Shot-put, Discus Throw & Javelin Throw in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Stigin S participated in Volleyball in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Anand S participated in 100m, 200m & 4 x 100m relay in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Krishnaprasad participated in 800m relay in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Daniel J participated in Shot-put, Javelin throw, long jump in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Akash Mane participated in 200m, long jump & javelin throw in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute.
- Christa Cyril participated in 800m & discus throw in the Annual Sports Meet 2019 – 2020 held at Bishop Jerome Institute
- Akhil Peter participated in inter university football tournament on 25th October 2019
- Akhil Peter participated in interstate throw ball tournament on 26th January 2020.
- Akhil Peter participated in inter university athletic meet (1500m, 800m) on 5th February 2020.
- Akhil Peter participated in football tournament hosted by Marian College Trivandrum on 8th February 2020.

CURRICULUM I TO VIII: B. TECH ELECTRICAL ENGINEERING

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	PHT 100	ENGINEERING PHYSICS A	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 101	LIFE SKILLS	2-0-2	4	--
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**23/24 ***	**17**

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 102	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	PHT 100	ENGINEERING PHYSICS A	3-1-0	4	4

	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 102	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	EST 102	PROGRAMMING IN C	2-1-2	5	4
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**28/29**	**21**

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT201	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	EET201	CIRCUITS AND NETWORKS	2-2-0	4	4
C	EET203	MEASUREMENTS AND INSTRUMENTATION	3-1-0	4	4
D	EET205	ANALOG ELECTRONICS	3-1-0	4	4
E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2

F	MCN201	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	EEL201	CIRCUITS AND MEASUREMENTS LAB	0-0-3	3	2
T	EEL203	ANALOG ELECTRONICS LAB	0-0-3	3	2
R/M	VAC	REMEDIAL/MINOR COURSE	3-1-0	4*	4
TOTAL				**26/30**	**22/26**

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT204	PROBABILITY, RANDOM PROCESSES AND NUMERICAL METHODS	3-1-0	4	4
B	EET202	DC MACHINES AND TRANSFORMERS	2-2-0	4	4
C	EET204	ELECTROMAGNETIC THEORY	3-1-0	4	4
D	EET206	DIGITAL ELECTRONICS	3-1-0	4	4
E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN202	CONSTITUTION OF INDIA	2-0-0	2	--
S	EEL202	ELECTRICAL MACHINES LAB I	0-0-3	3	2
T	EEL204	DIGITAL ELECTRONICS LAB	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**26/30**	**22/26**

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT

A	EET301	POWER SYSTEMS I	3-1-0	4	4
B	EET303	MICROPROCESSORS AND MICROCONTROLLERS	3-1-0	4	4
C	EET305	SIGNALS AND SYSTEMS	3-1-0	4	4
D	EET307	SYNCHRONOUS AND INDUCTION MACHINES	3-1-0	4	4
E 1/2	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	MCN301	DISASTER MANAGEMENT	2-0-0	2	--
S	EEL331	MICROPROCESSORS AND MICROCONTROLLERS LAB	0-0-3	3	2
T	EEL333	ELECTRICAL MACHINES LAB-II	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**27/31**	**23/27**

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	EET302	LINEAR CONTROL SYSTEMS	2-2-0	4	4
B	EET304	POWER SYSTEMS II	3-1-0	4	4
C	EET306	POWER ELECTRONICS	3-1-0	4	4
D	EETXXX	PROGRAM ELECTIVE I	2-1-0	3	3
E ½	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	EET308	COMPREHENSIVE COURSE WORK	1-0-0	1	1

S	EEL332	POWER SYSTEMS LAB	0-0-3	3	2
T	EEL334	POWER ELECTRONICS LAB	0-0-3	3	2
R/M/H	VAC	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4*	4
TOTAL				**28/32**	**23/27**

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	EET312	BIOMEDICAL INSTRUMENTATION	2-1-0	3	3
	EET322	RENEWABLE ENERGY SYSTEMS	2-1-0		
	EET332	COMPUTER ORGANIZATION	2-1-0		
	EET342	HIGH VOLTAGE ENGINEERING	2-1-0		
	EET352	OBJECT ORIENTED PROGRAMMING	2-1-0		
	EET362	MATERIAL SCIENCE	2-1-0		
	EET372	SOFT COMPUTING	2-1-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	EET401	ADVANCED CONTROL SYSTEMS	2-1-0	3	3
B	EETXXX	PROGRAM ELECTIVE II	2-1-0	3	3
C	EETXXX	OPEN ELECTIVE	2-1-0	3	3
D	MCN401	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	EEL411	CONTROL SYSTEMS LAB	0-0-3	3	2
T	EEQ413	SEMINAR	0-0-3	3	2
U	EED415	PROJECT PHASE I	0-0-6	6	2
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4

TOTAL	24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	EET413	ELECTRIC DRIVES	2-1-0	3	3
	EET423	DIGITAL CONTROL SYSTEMS	2-1-0		
	EET433	MODERN OPERATING SYSTEMS	2-1-0		
	EET443	DATA STRUCTURES	2-1-0		
	EET453	DIGITAL SIGNAL PROCESSING	2-1-0		
	EET463	ILLUMINATION TECHNOLOGY	2-1-0		
	EET473	DIGITAL PROTECTION OF POWER SYSTEMS	2-1-0		

OPEN ELECTIVE

The open elective is offered in semester 7. Each program should specify the courses (maximum 5) they would like to offer as electives for other programs. The courses listed below are offered to the **students of all undergraduate branches offered in the college other than Electrical Engineering program under KTU**

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	EET415	CONTROL SYSTEMS ENGINEERING	2-1-0	3	3
	EET425	INTRODUCTION TO POWER PROCESSING	2-1-0		
	EET435	RENEWABLE ENERGY SYSTEMS	2-1-0		
	EET445	ELECTRIC VEHICLES	2-1-0		
	EET455	ENERGY MANAGEMENT	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	EET402	ELECTRICAL SYSTEM DESIGN AND ESTIMATION	2-1-0	3	3
B	EETXXX	PROGRAM ELECTIVE III	2-1-0	3	3
C	EETXXX	PROGRAM ELECTIVE IV	2-1-0	3	3

D	EETXXX	PROGRAM ELECTIVE V	2-1-0	3	3
E	EET404	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
U	EED416	PROJECT PHASE II	0-0-12	12	4
R/M/H	VAC	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				**25/29**	**17/21**

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	EET414	**ROBOTICS**	2-1-0	3	3
	EET424	**ENERGY MANAGEMENT**	2-1-0		
	EET434	**SMART GRID TECHNOLOGIES**	2-1-0		
	EET444	**ELECTRICAL MACHINE DESIGN**	2-1-0		
	EET454	**SWITCHED MODE POWER CONVERTERS**	2-1-0		
	EET464	**COMPUTER AIDED POWER SYSTEM ANALYSIS**	2-1-0		
	EET474	**MACHINE LEARNING**	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	EET 416	**NON LINEAR SYSTEMS**	2-1-0	3	3
	EET 426	**SPECIAL ELECTRIC MACHINES**	2-1-0		
	EET 436	**POWER QUALITY**	2-1-0		
	EET 446	**COMPUTER NETWORKS**	2-1-0		
	EET 456	**DESIGN OF POWER ELECTRONIC SYSTEMS**	2-1-0		
	EET 466	**HVDC AND FACTS**	2-1-0		
	EET 476	**ADVANCED ELECTRONIC DESIGN**	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
	EET 418	**ELECTRIC AND HYBRID VEHICLES**	2-1-0		
	EET 428	**INTERNET OF THINGS**	2-1-0		

D	EET438	**ENERGY STORAGE SYSTEMS**	2-1-0	3	3
	EET 448	**ROBUST AND ADAPTIVE CONTROL**	2-1-0		
	EET 458	**SOLAR PV SYSTEMS**	2-1-0		
	EET 468	INDUSTRIAL INSTRUMENTATION &AUTOMATION	2-1-0		
	EET 478	BIG DATA ANALYTICS	2-1-0		

Semester	BASKET I				BASKET II				BASKET III			
	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT	Course No.	Course Name	HOURS	CREDIT
S3	EET281	ELECTRIC CIRCUITS	4	4	EET283	INTRODUCTION TO POWER ENGINEERING	4	4	EET285	DYNAMIC CIRCUITS AND SYSTEMS	4	4
S4	EET282	ELECTRICAL MACHINES	4	4	EET284	ENERGY SYSTEMS	4	4	EET286	PRINCIPLES OF INSTRUMENTATION	4	4
S5	EET381	SOLID STATE POWER CONVERSION	4	4	EET383	SOLAR AND WIND ENERGY CONVERSION SYSTEMS	4	4	EET385	CONTROL SYSTEMS	4	4
S6	EET382	POWER SEMICONDUCTOR DRIVES	4	4	EET384	INSTRUMENTATION &AUTOMATION OF POWER PLANTS	4	4	EET386	DIGITAL CONTROL	4	4
S7	EED481	MINIPROJECT	4	4	EED481	MINIPROJECT	4	4	EED481	MINIPROJECT	4	4
S8	EED482	MINIPROJECT	4	4	EED482	MINIPROJECT	4	4	EED482	MINIPROJECT	4	4

HONOURS

B.Tech Honours in ELECTRICAL ENGINEERING can opt to study the courses listed below:

SEMESTER	GROUP I				GROUP II				GROUP III			
	Course No.	Course Name	HOU	CRED	Course No.	Course Name	HOU	CRED	Course No.	Course Name	HOURS	CRED

			RS	IT			RS	IT				IT
S4	EET292	NETWORK ANALYSIS AND SYNTHESIS	4	4	EET294	NETWORK ANALYSIS AND SYNTHESIS	4	4	EET296	NETWORK ANALYSIS AND SYNTHESIS	4	4
S5	EET393	DIGITAL SIMULATION	4	4	EET395	DIGITAL SIMULATION	4	4	EET397	DIGITAL SIMULATION	4	4
S6	EET394	GENERALISED MACHINE THEORY	4	4	EET396	ANALYSIS OF POWER ELECTRONIC CIRCUITS	4	4	EET398	OPERATION AND CONTROL OF POWER SYSTEMS	4	4
S7	EET495	OPERATION AND CONTROL OF GENERATORS	4	4	EET497	DYNAMICS OF POWER CONVERTERS	4	4	EET499	CONTROL AND DYNAMICS OF MICROGRIDS	4	4
S8	EED496	MINIPROJECT	4	4	EED496	MINIPROJECT	4	4	EED496	MINIPROJECT	4	4

INDUCTION PROGRAM

There will be three weeks induction program for first semester students. It is a unique three-week immersion Foundation Programme designed especially for the fresher's which includes a wide range of activities right from workshops, lectures and seminars to sports tournaments, social work and much more. The programme is designed to mould students into well-rounded individuals, aware and sensitized to local and global conditions and foster their creativity, inculcate values and ethics, and help students to discover their passion. Foundation Programme also serves as a platform for the fresher's to interact with their batchmates and seniors and start working as a team with them. The program is structured around the following five themes:

The programme is designed keeping in mind the following objectives:

- **Values and Ethics**: Focus on fostering a strong sense of ethical judgment and moral fortitude.
- **Creativity**: Provide channels to exhibit and develop individual creativity by expressing themselves through art, craft, music, singing, media, dramatics, and other creative activities.
- **Leadership, Communication and Teamwork**: Develop a culture of teamwork and group communication.
- **Social Awareness**: Nurture a deeper understanding of the local and global world and our place in at as concerned citizens of the world.

DEPARTMENT : Electronics & Communication Engineering

Facilities

:The contents are organized ini such a way so as to help the students to receive a clear understanding of various fields in Electronics & Communication Engineering

1. Electronic Devices & Circuits Lab
2. Digital Integrated Circuits Lab
3. Analog Integrated Circuits Lab
4. Communication Engineering Lab
5. Digital Signal Processing Lab
6. Microcontroller Lab
7. Industrial Electronics Lab
8. Communication Systems Lab
9. Microwave & Optical Communication Lab

Achievements:

i) Faculty

1. Ms. Chinnu Jacob, Assistant Professor, ECE Dept published a paper titled " Pulmonary Nodule Detection Techniques in CT images: New Strategies & challenges" in 6th International Conference on Advanced Computing & Communication Systems(ICACCS)

Faculty Develoment Programme Attended by Faculty

1. Ms. Anju D S has attended a one week international workshop on Metamaterial & its applications organized by IEEE Delhi section Antenna & Propagation Society(APS) chapter Jaipur from 27th to 31st July 2020.
2. Mr. Roy S attended a Faculty Development Programme on The joy of computing using Python organized by NPTEL AICTE.
3. Ms. Chinnu Jacob has participated in the 5 day international faculty development programme on Exploring the Nuances of Deep learning for Research Applications- A deeper experience organized by Karunya Institute of technology & sciences, Coimbatore from 13th to 17th July 2020
4. Ms. Chinnu Jacob has also participated in Three day faculty development programme on Research Methodology & Scientific Writing organized by IQAC, Sree Budha College of Engineering, Alappuzha from June 29th to July 1st 2020.
5. Mr. Bino N has participated in the two days FDP on Introduction to Machine Learning Using Python conducted by Dept of ECE & CSE on 30th July 2020 to 1st August 2020.
6. Mr. Bino N has participated in a webinar on Life of a semiconductor engineer conducted

by Dept of ECE, Albertian Institute of Science & Technology on 1st August 2020.

7. Mr. Bino N has participated in ECHO WEBINAR SERIES 2K20 on 5G NR: The next generation wireless access technology conducted by Dept of ECE, Federal Institute of Science & Technology on 8th August 2020.
8. Mr. Bino N has participated in International Webinar on How to turn engineers to entrepreneurs conducted by IEDC & Covid'19 Cell, MBITS, on 9th to 11th August 2020.
9. Mr. Bino N has attended a webinar on Interactive tools for effective online classes organized by Rajagiri School of Engineering & Technology, Kochi on 16th August 2020.
10. Mr. Bino N has attended a National level online faculty development programme on Emerging research Trends in VLSI, MEMS & Signal Processing organized by Dept of ECE, Saintgits College of Engineering, Kottayam on 10th to 13th August 2020.
11. Mr. Bino N has participated in the five days Online IoT Product Development workshop conducted by Dept of EC, Sree Budha College of Engg, Pattoor on 27th July 2020 to 31st July 2020.
12. Mr. Bino N has participated in Webinar on COVID-19: Business Impact & How to prepare for the challenges conducted by Sree Budha College of Engg, Pattoor on 17th July 2020
13. Mr. Bino N has attended a five days online faculty development programme on Current Tends in Electronics & Communication organized by Dept of ECE, Younus College of Engineering on 21st to 25th August 2020.
14. Mr. Bino N has participated in the five days Online Faculty Development Programme on The New Normal Post Covid Oppurtunities in Electronic Industry conducted by Dept of EC, Sree Budha College of Engg, Pattoor on 20th July 2020 to 21st July 2020
15. Ms. Arya Bauldwin has participated in the 5 day faculty development programme on Digital Circuit Design Using Verilog HDL organized by TKM College of Engineering, Kollam from 7th to 11th September 2020
16. Mr. Praveen K C has attended a webinar on Interactive tools for effective online classes organized by Rajagiri School of Engineering & Technology, Kochi on 16th August 2020.
17. Ms. Deepthi Felix has participated in the online faculty development programme on Circuits & Systems- Network Theory organized by Circuits & Systems society IEEE Kerala section in association with Department of Electronics & Communication Engineering, TKM College of Engineering, Kollam from 14th to 18th September 2020.

Students

1. Ms. Chirayana Santhosh, Mr. Jacob P Edward & Ms. Vrindha Varghese of S6 ECE attended a webinar on communication skills handled by Mr. Shinto Joseph, Direrctor,South East Asia Operations,LDRA India on 15th September 2020.
2. Ms. Chirayana Santhosh of S6 ECE attended a NPTEL course on Enhancing soft skills & personality & get a score of 99%.
3. Ms. Chirayana Santhosh, Mr. Jacob P Edward & Ms. Vrindha Varghese of S6 ECE also get a certificate of completion from Udemy on Python Programming Beginners Tutorial: Python 3 Programming online course on june 18th june 2020.
4. Ms. Chirayana Santhosh & Ms. Vrindha Varghese of S6 ECE & NSS unit 537 achieved second position in the event LOOP dance in the state level online NSS fest Phoenix 2020, conducted byb APJ Abdul Kalam Technological Univeristy NSS cell under the initiative of NSS units of TKM institute of technology, Kolam.
5. Mr. Jacob P Edward of S6 ECE attended a NPTEL course on Enhancing soft skills & personality& get a score of 100%.
6. Ms. Vrindha Varghese of S6 ECE attended a webinar on Emerging job oppurtunities in the post covid era organized by the department of Electronics & Communication Engineering,

M Dasan Institute of Technology(M-DIT) Kozhikode on 10th August 2020.

7. Ms. Hima J of S6 ECE has attended a NPTEL course on Product Design & innovation & get a score of 74%
8. Ms. Jaseena N of S6 ECE has attended a NPTEL course on Introduction to cognitive psychology & get a score of 86%
9. Ms. Aneeta Joseph of S6 ECE has attended a NPTEL course on Design, Technology & Innovation & get a score of 87%
10. Ms. Delna Thomas of S6 ECE has attended a NPTEL course on Soft Skill Development & get a score of 89%
11. Three of the students from 2016-2020 batch got placement in Sutherland Global Solutions.
12. Ms. Twinkle Bapsy M of 2016-2020 batch got placement in BYJU'S App

Lab Details

1) Electronic Devices & Circuits Lab

This Lab deals with basic electronic components and equipment. The students will be introduced to various electronic circuits like RC coupled amplifier, diode characteristics. This Lab serves as a means for the students to have an overall view about various analog circuits and its applications.

2) Digital Integrated Circuits Lab

Here the students will be exposed to various digital components like logic gates, flip flops, and their applications using their corresponding integrated circuits. The students will learn to design and implement various combinational and sequential circuits such as encoders, decoders, multiplexers, counters, shift registers, etc. that are indispensible to our modern-day digital world.

3) Analog Integrated Circuits Lab

This lab is equipped with all necessary devices and components to process analog signals in real time with the help of integrated circuits. This lab is of much importance since all the real world signals are analog in nature. It empowers the student to excel in various practical circuits like amplifiers, filters, voltage regulators, mathematical operators (adder, subtractor, and comparator), Digital to analog converters and analog to digital converters using ICs like 741, 555, 723, etc.

4) Communication Engineering Lab

The various analog modulation schemes like AM,FM,PM using integrated circuits are familiarized by the students. They get an overall view about the basic communication schemes.

5) Digital Signal Processing Lab

It is a simulation lab where the students get exposure tovarious Digital Signal Processing applications like MATLAB programming used in digital image processing, Simulink in Control system applications etc.

6) Microcontroller Lab

Here the students explore usage of Assembly Language for programming microcontroller circuits which gives a basic idea about embedded systems design. At the end of this Lab session, students will be familiarized with real time applications. Tis lab is equipped with interfacing devices like ADC, DAC, LCD, stepper motor, DC motor etc.

7) Industrial Electronics Lab

This lab helps the students to gain in depth knowledge in practical circuit design, particularly industrial applications. It enables the students to develop various devices like inverters, dc choppers, dimmer, temperature or light sensitive circuits, PWM generation, etc.

8) Communication Systems Lab

Digital modulation schemes like BASK, BFSK, BPSK, delta modulation and different coding and error correction techniques in the communication system are analysed and verified by the student. Software simulation of the above schemes is also done using MATLAB.

9) Microwave & Optical Communication Lab

An overview of various characteristic and functional behavior of microwave components like Klystron, Gunn diode, directional couplers, antennas, TEE using microwave test bench are familiarized in this lab. Optical experiments based on LED, LASER, photodiode are studied. P of splice joint and fiber losses are dealt with using optical time domain reflectometer.

CURRICULUM

I TO VIII: B.Tech ELECTRONICS & COMMUNICATION ENGINEERING

Every course of B. Tech. Program shall be placed in one of the nine categories as listed in table below.

Sl. No	Category	Code	Credits
1	Humanities and Social Sciences including Management courses	HMC	8
2	Basic Science courses	BSC	26
3	Engineering Science Courses	ESC	22
4	Program Core Courses	PCC	76
5	Program Elective Courses	PEC	15
6	Open Elective Courses	OEC	3
7	Project work and Seminar	PWS	10
8	Mandatory Non-credit Courses (P/F) with grade	MNC	-----
9	Mandatory Student Activities (P/F)	MSA	2

	Total Mandatory Credits	162	
10	Value Added Course (Optional)	VAC	20

No semester shall have more than six lecture-based courses and two laboratory and/or drawing/seminar/project courses in the curriculum.

Semester-wise credit distribution shall be as below:

Semester	1	2	3	4	5	6	7	8	Total
Credits	17	21	22	22	23	23	15	17	160
Activity Points	50				50				---
Credits for Activity	2								2
Grand.Total									162

Basic Science Courses: Maths, Physics, Chemistry, Biology for Engineers, Life Science etc

Engineering science courses: Basic Electrical, Engineering Graphics, Programming, Workshop, Basic Electronics, Basic Civil, Engineering Mechanics, Mechanical Engineering, Thermodynamics, Design Engineering, Materials Engineering etc.

Humanities and Social Sciences including Management courses: English, Humanities, Professional Ethics, Management, Finance & Accounting, Life skills, Professional Communication, Economics etc

Mandatory non-credit courses: Sustainable Engineering, Constitution of India/Essence of Indian Knowledge Tradition, Industrial Safety Engineering, disaster management etc.

Course Code and Course Number

Each course is denoted by a unique code consisting of three alphabets followed by three numerals like E C L 2 0 1. The first two letter code refers to the department offering the course. EC stands for course in Electronics & Communication, course code MA refers to a course in Mathematics, course code ES refers to a course in Engineering Science etc. Third letter stands for the nature of the course as indicated in the following table.

Code	Description
T	Theory based courses (other the lecture hours, these courses can have tutorial and practical hours, e.g., L-T-P structures 3-0-0, 3-1-2, 3-0-2 etc.)
L	Laboratory based courses (where performance is evaluated primarily on the basis of practical or laboratory work with LTP structures like 0-0-3, 1-0-3, 0-1-3 etc.)
N	Non-credit courses
D	Project based courses (Major, Mini Projects)
Q	Seminar Courses

Course Number is a three digit number and the first digit refers to the Academic year in which the course is normally offered, i.e. 1, 2, 3, or 4 for the B. Tech. Programme of four year duration. Of the other two digits, the last digit identifies whether the course is offered normally in the odd (odd number), even (even number) or in both the semesters (zero). The middle number could be any digit. ECL 201 is a laboratory course offered in EC department for third semester, MAT 101 is a course in Mathematics offered in the first semester, EET 344 is a course in Electrical Engineering offered in the sixth semester, PHT 110 is a course in Physics offered both the first and second semesters, EST 102 is a course in Basic Engineering offered by one or many departments. These course numbers are to be given in the curriculum and syllabi.

Departments

Each course is offered by a Department and their two-letter course prefix is given in Table 2.

Table 2: Departments and their codes

Sl.No	Department	Course Prefix	Sl.No	Department	Course Prefix
01	Aeronautical Engg	AO	16	Information Technology	IT
02	Applied Electronics & Instrumentation	AE	17	Instrumentation & Control	IC
03	Automobile	AU	18	Mandatory Courses	MC
04	Biomedical Engg	BM	19	Mathematics	MA
05	Biotechnology	BT	20	Mechanical Engg	ME
06	Chemical Engg	CH	21	Mechatronics	MR
07	Chemistry	CY	22	Metallurgy	MT
08	Civil Engg	CE	23	Mechanical (Auto)	MU
09	Computer Science	CS	24	Mechanical(Prod)	MP
10	Electrical & Electronics	EE	25	Naval & Ship Building	SB
11	Electronics & Biomedical	EB	26	Physics	PH
12	Electronics & Communication	EC	27	Polymer Engg	PO
13	Food Technology	FT	28	Production Engg	PE
14	Humanities	HU	29	Robotics and Automation	RA
15	Industrial Engg	IE	30	Safety & Fire Engg	FS

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	PHT 100	ENGINEERING PHYSICS A	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUN 101	LIFE SKILLS	2-0-2	4	--
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**23/24 ***	**17**

*Minimum hours per week

Note:

To make up for the hours lost due to induction program, one extra hour may be allotted to each course

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 102	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	PHT 100	ENGINEERING PHYSICS A	3-1-0	4	4
	CYT 100	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	EST 100	ENGINEERING MECHANICS	2-1-0	3	3
	EST 110	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	EST 130	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	HUT 102	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	EST 102	PROGRAMMING IN C	2-1-2	5	4
S 1/2	PHL 120	ENGINEERING PHYSICS LAB	0-0-2	2	1
	CYL 120	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	ESL 120	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				**28/29**	**21**

NOTE:

1. Engineering Physics A and Engineering Chemistry shall be offered in both semesters. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Engineering Physics A in SI and Engineering Chemistry in S2 & vice versa. Students opting for Engineering Physics A in a semester should attend Physics Lab in the same semester and students opting for Engineering Chemistry in one semester should attend Engineering Chemistry Lab in the same semester.

2. Engineering Mechanics and Engineering Graphics shall be offered in both semesters. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Engineering Mechanics in SI and Engineering Graphics in S2 & vice versa.
3. Basics of Civil & Mechanical Engineering and Basics of Electrical & Electronics Engineering shall be offered in both semesters. Basics of Civil & Mechanical Engineering contain equal weightage for

Civil Engineering and Mechanical Engineering. Slot for the course is D with CIE marks of 25 each and ESE marks of 50 each. Students belonging to branches of AEI, EI, BME, ECE, EEE, ICE, CSE, IT, RA can choose this course in S1.

Basics of Electrical & Electronics Engineering contain equal weightage for Electrical Engineering and Electronics Engineering. Slot for the course is D with CIE marks of 25 each and ESE marks of 50 each. Students belonging to AERO, AUTO, CE, FSE, IE, ME, MECHATRONICS, PE, METTULURGY,

BT, BCE, CHEM, FT, POLY can choose this course in S1. Students having Basics of Civil & Mechanical Engineering in one semester should attend Civil & Mechanical Workshop in the same semester and students having Basics of Electrical & Electronics Engineering in a semester should attend Electrical & Electronics Workshop in the same semester.

4. LIFE SKILLS

Life skills are those competencies that provide the means for an individual to be resourceful and positive while taking on life's vicissitudes. Development of one's personality by being aware of the self, connecting with others, reflecting on the abstract and the concrete, leading and generating change, and staying rooted in time-tested values and principles is being aimed at. This course is designed to enhance the employability and maximize the potential of the students by introducing them to the principles that underlie personal and professional success, and help them acquire the skills needed to apply these principles in their lives and careers.

5. PROFESSIONAL COMMUNICATION

Objective is to develop in the under-graduate students of engineering a level of competence in English required for independent and effective communication for their professional needs. Coverage: Listening, Barriers to listening, Steps to overcome them, Purposive listening practice, Use of technology in the professional world. Speaking, Fluency & accuracy in speech, Positive thinking, Improving self-expression, Tonal variations, Group discussion practice, Reading, Speed reading practice, Use of extensive readers, Analytical and critical reading practice, Writing Professional Correspondence, Formal and informal letters, Tone in formal writing, Introduction to reports. Study Skills, Use of dictionary, thesaurus etc., Importance of contents page, cover & back pages, Bibliography, Language Lab.

Semester III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT201	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	ECT 201	SOLID STATE DEVICES	3-1-0	4	4
C	ECT 203	LOGIC CIRCUIT DESIGN	3-1-0	4	4
D	ECT 205	NETWORK THEORY	3-1-0	4	4
E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN201	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	ECL 201	SCIENTIFIC COMPUTING LAB	0-0-3	3	2
T	ECL 203	LOGIC DESIGN LAB	0-0-3	3	2
R/M	VAC	Remedial/Minor course	3-1-0	4**	4
		TOTAL		26/30	22/26

NOTE:

1. Design & Engineering and Professional Ethics shall be offered in both S3 and S4. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Design & Engineering in S3 and Professional Ethics in S4 & vice versa.

2. *All Institutions shall keep 4 hours exclusively for Remedial class/Minor course (Thursdays from 3 to 5 PM and Fridays from 2 to 4 PM). If a student does not opt for minor programme, he/she can be given remedial class.

Semester IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	MAT 204	PROBABILITY, RANDOM PROCESS AND NUMERICAL METHODS	3-1-0	4	4
B	ECT 202	ANALOG CIRCUITS	3-1-0	4	4
C	ECT 204	SIGNALS AND SYSTEMS	3-1-0	4	4
D	ECT 206	COMPUTER ARCHITECTURE AND MICROCONTROLLERS	3-1-0	4	4
E 1/2	EST200	DESIGN AND ENGINEERING	2-0-0	2	2
	HUT200	PROFESSIONAL ETHICS	2-0-0	2	2
F	MCN202	CONSTITUTION OF INDIA	2-0-0	2	--
S	ECL 202	ANALOG CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	ECL 204	MICROCONTROLLER LAB	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4**	4
		TOTAL		26/30	22/26

NOTE:

1. Design & Engineering and Professional Ethics shall be offered in both S3 and S4. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Design & Engineering in S3 and Professional Ethics in S4 & vice versa.

2. *All Institutions should keep 4 hours exclusively for Remedial class/Minor course (Thursdays from 3 to 5 PM and Fridays from 2 to 4 PM). If a student does not opt for minor programme, he/she can be given remedial class.

Semester V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	ECT 301	LINEAR INTEGRATED CIRCUITS	3-1-0	4	4
B	ECT 303	DIGITAL SIGNAL PROCESSING	3-1-0	4	4
C	ECT 305	ANALOG AND DIGITAL COMMUNICATION	3-1-0	4	4
D	ECT 307	CONTROL SYSTEMS	3-1-0	4	4
E 1/2	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	MCN301	DISASTER MANAGEMENT	2-0-0	2	--
S	ECL 331	ANALOG INTEGRATED CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	ECL 333	DIGITAL SIGNAL PROCESSING LAB	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4**	4
		TOTAL		**27/31**	**23/27**

NOTE:

1. Industrial Economics & Foreign Trade and Management for Engineers shall be offered in both S5 and S6. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Industrial Economics & Foreign Trade in S5 and Management for Engineers in S6 and vice versa.

2. *All Institutions should keep 4 hours exclusively for Remedial class/Minor/Honours course (Tuesdays from 3 to 5 PM and Wednesdays from 3 to 5 PM). If a student does not opt for minor/honours programme, he/she can be given remedial class.

Semester VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	ECT 302	ELECTROMAGNETICS	3-1-0	4	4
B	ECT 304	VLSI CIRCUIT DESIGN	3-1-0	4	4
C	ECT 306	INFORMATION THEORY AND CODING	3-1-0	4	4
D	ECTXXX	PROGRAM ELECTIVE I	2-1-0	3	3
E ½	HUT300	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	HUT310	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	ECT 308	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	ECL 332	COMMUNICATION LAB	0-0-3	3	2
T	ECD 334	MINIPROJECT	0-0-3	3	2
R/M/H	VAC	Remedial/Minor/Honours course	3-1-0	4**	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	ECT 312	Digital System Design	2-1-0	3	3
	ECT 322	Power Electronics	2-1-0		
	ECT 332	Data Analysis	2-1-0		
	ECT 342	Embedded Systems	2-1-0		
	ECT 352	Digital Image Processing	2-1-0		
	ECT 362	Introduction to MEMS	2-1-0		
	ECT 372	Quantum Computing	2-1-0		

NOTE:

1. Industrial Economics & Foreign Trade and Management for Engineers shall be offered in both S5 and S6. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Industrial Economics & Foreign Trade in S5 and Management for Engineers in S6 and vice versa.

2. *All Institutions should keep 4 hours exclusively for Remedial class/Minor/Honours course (Tuesdays from 3 to 5 PM and Wednesdays from 2 to 4 PM). If a student does not opt for minor/honours programme, he/she can be given remedial class.
3. Comprehensive Course Work: The comprehensive course work in the sixth semester of study shall have a written test of 50 marks. The written examination will be of objective type similar to the GATE examination and will be conducted by the University. **Syllabus for comprehensive examination shall be prepared by the respective BoS choosing any 5 core courses studied from semester 3 to 5.** The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practising questions based on the core courses listed in the curriculum.
4. Mini project: It is introduced in sixth semester with a specific objective to strengthen the understanding of student's fundamentals through application of theoretical concepts. Mini project can help to boost their skills and widen the horizon of their thinking. The ultimate aim of an engineering student is to resolve a problem by applying theoretical knowledge. Doing more projects increases problem-solving skills. Students should identify a topic of interest in consultation with Faculty/Advisor. Review the literature and gather information pertaining to the chosen topic. State the objectives and develop a methodology to achieve the objectives. Carryout the design/fabrication or develop codes/programs to achieve the objectives. Demonstrate the novelty of the project through the results and outputs. The progress of the mini project is evaluated based on a minimum of two reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The product has to be demonstrated for its full design specifications. Innovative design concepts, reliability considerations, aesthetics/ergonomic aspects taken care of in the project shall be given due weight. The internal evaluation will be made based on the product, the report and a viva- voce examination, conducted by a 3 member committee appointed by Head of the Department comprising HoD or a senior faculty member, Academic coordinator for that program, project guide/coordinator.

   Total marks: 150, CIE 75 marks and ESE 75 marks

   Split up for CIE

Attendance	10
Guide	15
Project Report	10

   Evaluation by the Committee (will be evaluating the level of completion and demonstration of functionality/specifications, presentation, oral examination, work knowledge and involvement) : 40

Semester VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	ECT 401	WIRELESS COMMUNICATION	2-1-0	3	3
B	ECTXXX	PROGRAM ELECTIVE II	2-1-0	3	3
C	ECTXXX	OPEN ELECTIVE	2-1-0	3	3
D	MCN401	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	ECL 411	ELECTROMAGNETICS LAB	0-0-3	3	2
T	ECQ 413	SEMINAR	0-0-3	3	2
U	ECD 415	PROJECT PHASE I	0-0-6	6	2
R/M/H	VAC	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	ECT 413	Optical Fiber Communication	2-1-0	3	3
	ECT 423	Computer Networks	2-1-0		
	ECT 433	Opto-electronic Devices	2-1-0		
	ECT 443	Antenna and Wave propagration	2-1-0		
	ECT 453	Error Control Codes	2-1-0		
	ECT 463	Machine Learning	2-1-0		
	ECT 473	DSP Architectures	2-1-0		

OPEN ELECTIVE (OE)

The open elective is offered in semester 7. Each program should specify the courses (maximum 5) they would like to offer as electives for other programs. The courses listed below are offered by **the Department of ELECTRONICS AND COMMUNICATION ENGINEERING for students of other undergraduate branches offered in the college under KTU.**

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	ECT 415	Mechatronics	2-1-0	3	3
	ECT 425	Biomedical Instrumentation	2-1-0		
	ECT 435	Electronic Hardware for Engineers	2-1-0		
	ECT 445	IoT and Applications	2-1-0		
	ECT 455	Entertainment Electronics	2-1-0		

NOTE:

1. *All Institutions should keep 4 hours exclusively for Remedial class/Minor/Honours course (Mondays from 10 to 12 and Wednesdays from 10 to 12 Noon). If a student does not opt for minor/honours programme, he/she can be given remedial class.
2. Seminar: To encourage and motivate the students to read and collect recent and reliable information from their area of interest confined to the relevant discipline from technical publications including peer reviewed journals, conference, books, project reports etc., prepare a report based on a central theme and present it before a peer audience. Each student shall present the seminar for about 20 minutes duration on the selected topic. The report and the presentation shall be evaluated by a team of faculty members comprising Academic coordinator for that program, seminar coordinator and seminar guide based on style of presentation, technical content, adequacy of references, depth of knowledge and overall quality of the report.

   Total marks: 100, only CIE, minimum required to pass 50

Attendance	10
Guide	20
Technical Content of the Report	30
Presentation	40

3. Project Phase I: A Project topic must be selected either from research literature or the students themselves may propose suitable topics in consultation with their guides. The object of Project Work I is to enable the student to take up investigative study in the broad field of Electronics and Communication Engineering, either fully theoretical/practical or involving both theoretical and practical work to be assigned by the Department on a group of three/four students, under the guidance of a Supervisor. This is expected to provide a good initiation for the student(s) in R&D work. The assignment to normally include:
   - Survey and study of published literature on the assigned topic;
   - Preparing an Action Plan for conducting the investigation, including team work;
   - Working out a preliminary Approach to the Problem relating to the assigned topic;
   - Block level design documentation
   - Conducting preliminary Analysis/ Modelling/ Simulation/ Experiment/ Design/ Feasibility;

- Preparing a Written Report on the Study conducted for presentation to the Department;
- Final Seminar, as oral Presentation before the evaluation committee.

Total marks: 100, only CIE, minimum required to pass 50

Guide : 30

Interim evaluation by the evaluation committee : 20

Final Seminar : 30

The report evaluated by the evaluation committee : 20

The evaluation committee comprises HoD or a senior faculty member, Project coordinator and project supervisor.

Semester VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	ECT 402	INSTRUMENTATION	2-1-0	3	3
B	ECTXXX	PROGRAM ELECTIVE III	2-1-0	3	3
C	ECTXXX	PROGRAM ELECTIVE IV	2-1-0	3	3
D	ECTXXX	PROGRAM ELECTIVE V	2-1-0	3	3
E	ECT 404	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	ECD 416	PROJECT PHASE II	0-0-12	12	4
R/M/H	VAC	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				25/28	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	ECT 414	Biomedical Engineering	2-1-0	3	3
	ECT 424	Satellite Communication	2-1-0		
	ECT 434	Secure Communication	2-1-0		
	ECT 444	Pattern Recognition	2-1-0		
	ECT 454	RF Circuit Design	2-1-0		
	ECT 464	Mixed Signal Circuit Design	2-1-0		
	ECT 474	Entrepreneurship	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	ECT 416	Modern Communication Systems	2-1-0	3	3
	ECT 426	Real Time Operating Systems	2-1-0		
	ECT 436	Adaptive Signal Processing	2-1-0		
	ECT 446	Microwave Devices and Circuits	2-1-0		
	ECT 456	Speech and Audio Processing	2-1-0		
	ECT 466	Analog CMOS Design	2-1-0		
	ECT 476	Robotics	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	ECT 418	Mechatronics	2-1-0	3	3
	ECT 428	Optimization Techniques	2-1-0		
	ECT 438	Computer Vision	2-1-0		
	ECT 448	Low Power VLSI	2-1-0		
	ECT 458	Internet of Things	2-1-0		
	ECT 468	Renewable Energy Systems	2-1-0		
	ECT 478	Organic Electronics	2-1-0		

NOTE:

1. *All Institutions should keep 4 hours exclusively for Remedial class/Minor/Honours course (Mondays from 10 to 12 and Wednesdays from 10 to 12). If a student does not opt for minor/honours programme, he/she can be given remedial class.
2. Comprehensive Course Viva: The comprehensive course viva in the eighth semester of study shall have a viva voce for 50 marks. The viva voce shall be conducted based on the core subjects studied from third to eighth semester. The viva voce will be conducted by the same three member committee assigned for final project phase II evaluation towards the end of the semester. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practising questions based on the core courses listed in the curriculum. The mark will be treated as internal and should be uploaded along with internal marks of other courses.

3. Project Phase II: The object of Project Work II & Dissertation is to enable the student to extend further the investigative study taken up in Project 1, either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a Supervisor from the Department alone or jointly with a Supervisor drawn from R&D laboratory/Industry. This is expected to provide a good training for the student(s) in R&D work and technical leadership. The assignment to normally include:
    - In depth study of the topic assigned in the light of the Report prepared under PhaseI;
    - Review and finalization of the Approach to the Problem relating to the assigned topic;
    - Detailed Analysis/Modelling/Simulation/Design/Problem Solving/Experiment as needed;
    - Final development of product/process, testing, results, conclusions and future directions;
    - Preparing a paper for Conference presentation/Publication in Journals, if possible;
    - Preparing a Dissertation in the standard format for being evaluated by the Department;
    - Final Presentation before a Committee

Total marks: 150, only CIE, minimum required to pass 75

Guide	30
Interim evaluation, 2 times in the semester by the evaluation committee	50
Quality of the report evaluated by the above committee	30

(The evaluation committee comprises HoD or a senior faculty member, Project coordinator and project supervisor).

Final evaluation by a three member committee	40

(The final evaluation committee comprises Project coordinator, expert from Industry/research Institute and a senior faculty from a sister department. The same committee will conduct comprehensive course viva for 50 marks).

MINOR

Minor is an additional credential a student may earn if s/he does 20 credits worth of additional learning in a discipline other than her/his major discipline of B.Tech degree. The objective is to permit a student to customize their Engineering degree to suit their specific interests. Upon completion of an Engineering Minor, a student will be better equipped to perform interdisciplinary research and will be better employable. Engineering Minors allow a student to gain interdisciplinary experience and exposure to concepts and perspectives that may not be a part of their major degree programs.

The academic units offering minors in their discipline will prescribe the set of courses and/or other activities like projects necessary for earning a minor in that discipline. A specialist basket of 3-6 courses is identified for each Minor. Each basket may rest on one or more foundation courses. A basket may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. S/he accumulates credits by registering for the required courses, and if the requirements for a particular minor are met within the time limit for the course, the minor will be awarded. This will be mentioned in the Degree Certificate as "Bachelor of Technology in xxx with Minor in yyy". The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the programme, that minor will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

(i) The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from third to eight semesters for all branches. The minor courses shall be identified by **M slot courses**.

(ii) Registration is permitted for Minor at the beginning of third semester. Total credits required is 182 (162 + 20 credits from value added courses)

(iii) Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses listed in the curriculum for minor, of which one course shall be a mini project based on the chosen area. They can do miniproject either in S7 or in S8. The remaining 8 credits could be acquired by undergoing 2 MOOCs recommended by the Board of studies and approved by the Academic Council or through courses listed in the curriculum. The classes for Minor shall be conducted along with regular classes and no extra time shall be required for conducting the courses.

(iv) There won't be any supplementary examination for the courses chosen for Minor.

(v) On completion of the program, "Bachelor of Technology in xxx with Minor in yyy" will be awarded.

(vi) The registration for minor program will commence from semester 3 and the all academic units offering minors in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 3 baskets. The basket of courses may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. Reshuffling of courses between various baskets will not be allowed. In any case, they should carry out a mini project based on the chosen area in S7 or S8. Students who have registered for B.Tech Minor in **ELECTRONICS AND COMMUNICATION** can opt to study the courses listed below:

SEMESTER	BASKET I				BASKET II				BASKET III			
	COURSE NO.	COURSE NAME	HOURS	CREDIT	HOURS	COURSE NO.	COURSE NAME	HOURS	CREDIT	COURSE NO.	COURSE NAME	HOURS	CREDIT
S3	ECT281	ELECTRONIC CIRCUITS	4	4		ECT283	ANALOG COMMUNICATION	4	4	ECT285	INTRODUCTION TO SIGNALS AND SYSTEMS	4	4
S4	ECT282	MICROCONTROLLERS	4	4		ECT284	DIGITAL COMMUNICATION	4	4	ECT286	INTRODUCTION TO DIGITAL SIGNAL PROCESSING	4	4
S5	ECT381	EMBEDDED SYSTEM DESIGN	4	4		ECT383	COMMUNICATION SYSTEMS	4	4	ECT385	TOPICS IN DIGITAL IMAGE PROCESSING	4	4
S6	ECT382	VLSI CIRCUITS	4	4		ECT384	DATA NETWORKS	4	4	ECT386	TOPICS IN COMPUTER VISION	4	4
S7	ECD481	MINIPROJECT	4	4		ECD481	MINIPROJECT	4	4	ECD481	MINIPROJECT	4	4
S8	ECD482	MINIPROJECT	4	4		ECD482	MINIPROJECT	4	4	ECD482	MINIPROJECT	4	4

HONOURS

Honours is an additional credential a student may earn if s/he opts for the extra 20 credits needed for this in her/his own discipline. Honours is not indicative of class. KTU is providing this option for academically extra brilliant students to acquire Honours. Honours is intended for a student to gain expertise/specialise in an area inside his/her major B.Tech discipline and to enrich knowledge in emerging/advanced areas in the branch of engineering concerned. It is particularly suited for students aiming to pursue higher studies. Upon completion of Honours, a student will be better equipped to perform research in her/his branch of engineering. On successful accumulation of credits at the end of the programme, this will be mentioned in the Degree Certificate as “Bachelor of Technology in xxx, with Honours.” The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the

programme, Honours will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

The courses shall be grouped into maximum of 3 groups, each group representing a particular specialization in the branch. The students shall select only the courses from same group in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. The internal evaluation, examination and grading shall be exactly as for other mandatory courses. The Honours courses shall be identified by H slot courses.

(i) The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from fourth to eight semesters for all branches. The honours courses shall be identified by H slot courses.

(ii) Registration is permitted for Honours at the beginning of fourth semester. Total credits required is 182 (162 + 20 credits from value added courses).

(iii) Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses listed in the curriculum for honours, of which one course shall be a mini project based on the chosen area. The remaining 8 credits could be acquired by undergoing 2 MOOCs recommended by the Board of studies and approved by the Academic Council or through courses listed in the curriculum. The classes for Honours shall be conducted along with regular classes and no extra time shall be required for conducting the courses. The students should earn a grade of 'C' or better for all courses under honours.

(iv) There won't be any supplementary examination for the courses chosen for honours.

(v) On successful accumulation of credits at the end of the programme, "Bachelor of Technology in xxx, with Honours" will be awarded if overall CGPA is greater than or equal to 8.5, earned a grade of 'C' or better for all courses chosen for honours and without any history of 'F' Grade.

(vi) The registration for Honours program will commence from semester 4 and the all academic units offering honours in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 3 groups, each group representing a particular specialization in the branch. The students shall select only the courses from same group in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. In any case, they should carry out a mini project based on the chosen area in S8. Students who have registered for B.Tech Honours in **ELECTRONICS AND COMMUNICATION ENGINEERING** can opt to study the courses listed below:

	GROUP I				GROUP II				GROUP III			
SEMESTER	COURSE NO.	COURSE NAME	HOURS	CREDIT	COURSE NO.	COURSE NAME	HOURS	CREDIT	COURSE NO.	COURSE NAME	HOURS	CREDIT
S4	ECT292	NANOELECTRONICS	4	4	ECT294	STOCHASTIC PROCESSES FOR COMMUNICATION	4	4	ECT296	STOCHASTIC SIGNAL PROCESSING	4	4
S5	ECT393	FPGA BASED SYSTEM DESIGN	4	4	ECT395	DETECTION AND ESTIMATION THEORY	4	4	ECT397	COMPUTATIONAL TOOLS FOR SIGNAL PROCESSING	4	4
S6	ECT394	ELECTRONIC DESIGN AND AUTOMATION TOOLS	4	4	ECT396	MIMO AND MULTIUSER COMMUNICATION SYSTEMS	4	4	ECT398	DETECTION AND ESTIMATION THEORY	4	4
S7	ECT495	RF MEMS	4	4	ECT497	DESIGN AND ANALYSIS OF ANTENNAS	4	4	ECT499	MULTIRATE SIGNAL PROCESSING AND WAVELETS	4	4
S8	ECD496	MINIPROJECT	4	4	ECD496	MINIPROJECT	4	4	ECD496	MINIPROJECT	4	4

INDUCTION PROGRAM

There will be three weeks induction program for first semester students. It is a unique three-week immersion Foundation Programme designed especially for the fresher's which includes a wide range of activities right from workshops, lectures and seminars to sports tournaments, social work and much more. The programme is designed to mould students into well-rounded individuals, aware and sensitized to local and global conditions and foster their creativity, inculcate values and ethics, and help students to discover their passion. Foundation Programme also serves as a platform for the fresher's to interact with their batchmates and seniors and start working as a team with them. The program is structured around the following five themes:

The programme is designed keeping in mind the following objectives:

- **Values and Ethics**: Focus on fostering a strong sense of ethical judgment and moral fortitude.
- **Creativity**: Provide channels to exhibit and develop individual creativity by expressing themselves through art, craft, music, singing, media, dramatics, and other creative activities.
- **Leadership, Communication and Teamwork**: Develop a culture of teamwork and group communication.

- **Social Awareness**: Nurture a deeper understanding of the local and global world and our place in at as concerned citizens of the world.

- **Physical Activities & Sports**: Engage students in sports and physical activity to ensure healthy physical and mental growth.