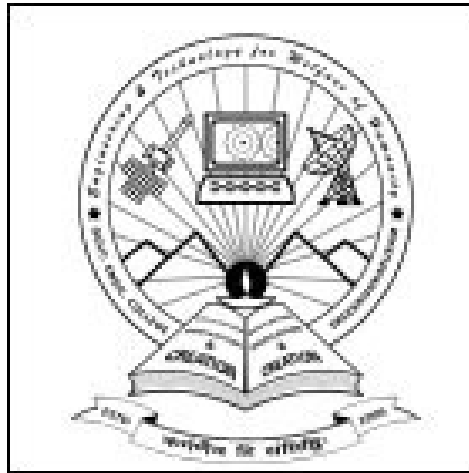


**DEPARTMENT OF MECHANICAL ENGINEERING**

**INFORMATION BULLETIN 2022-2023**



**GOVERNMENT ENGINEERING COLLEGE PALAKKAD  
SREEKRISHNAPURAM**

**PALAKKAD 695035  
KERALA, INDIA**  
Phone/Fax 0466 2260350  
Web : [www.gecksp.ac.in](http://www.gecksp.ac.in)  
E-mail : [principal@gecksp.ac.in](mailto:principal@gecksp.ac.in)

<b>Contents</b>		<b>Page</b>
		<b>No</b>
1	COLLEGE AT A GLANCE	3
2	DEPARTMENT OF MECHANICAL ENGINEERING	5
3	FACILITIES	6
4	KERALA TECHNOLOGICAL UNIVESITY ORDINANCE	7
5	ACADEMIC CALENDER	9
6	CURRICULUM AND SCHEME OF EXAMINATION	12
7	STAFF DIRECTORY	30

# 1 COLLEGE AT A GLANCE

## 1.1 Introduction

Government Engineering College, Sreekrishnapuram, Palakkad was established by the Government of Kerala in the academic year 1999-2000. Within a shortspan of time since inception, the college has achieved notable academic excellence. The college has been affiliated to the A.P.J. Abdul Kalam Kerala Technological University (KTU). It is under the administrative control of the Director of Technical Education, Government of Kerala. The present principal is Dr. P.C. Reghuraj.

The college offers 4-year full-time B.Tech courses in the following branches: 1. Computer Science and Engineering, 2. Electronics and Communication Engineering, 3. Information Technology 4. Mechanical Engineering, 5. Electrical and Electronics Engineering and M.Tech course in Computational Linguistics

## 1.2 Location

The campus is situated in Palakkad district at a walking distance from Mannampatta junction. It is only 25 km from the Ottapalam railway station and 35 km from Palakkad railway station. The nearest bus station is the 1 km away.

## 1.3 Governance

The college is functioning under administrative control of Department of Higher Education, Govt. of Kerala.

## Board of Governors

The Governance of the institution is done under the guidance of Board of Governors. The governing body of the institution is collectively responsible for overseeing the institutions' activities, determining its future direction, and fostering an environment in which the institutional mission is achieved.

The BoG of the institution is chaired by . Dr. A. K. Nandakumaran, Professor, Dept. of Mathematics, IISc Bangalore

1	Dr. A. K. Nandakumaran, Professor, Dept. of Mathematics, IISc Bangalore, E-Mail: nands@math.iisc.ernet.in, Ph:8023517577	Chairperson	Educationalist
2	Dr. K P Indiradevi Director of Technical Education DTE, Thiruvananthapuram. Email: indiradevikp@gmail.com	Member	(Ex-officio) Educationalist
3	Dr Jayakumar .S (Ex-officio) Director SPFU Email: spfu.teqip.kerala@gmail.com	Member	(Ex-officio) Educationalist
4	Dr.Asokan.T Professor, Mechanical Dept. IIT Madras,Email : asok@iitm.ac.in	Member	Educationalist

5	Joint Secretary/Additional Secretary Higher Education Dept. Thiruvananthapuram	Member	(Ex-officio) State Government Nominee
6	Dr.RameshUnnikrishnan Regional Officer & Director, AICTE- South Western Regional Office (SWRO) Trivandrum, Email : rameshtrivandrum@rediffmail.com	Member	Educationalist (AICTE Nominee)
7	Dr. B.S. Manoj, Professor& Head (Avionics / Computer Networking), Indian Institute of Space Science and Technology, Thiruvananthapuram E-Mail: bsmanoj@ieee.org, Ph: 9400016607.	Member	Educationalist
8	Joint Secretary/Additional Secretary, Finance Dept. Thiruvananthapuram.E-mail:ganiloffice@gmail.com,	Member	(Ex-officio) State Government Nominee
9	Controller of Examination KTU,Email: controller@ktu.edu.in	Member	University Nominee
10	Dr. P C. Reghu Raj Principal, GEC Sreekrishnapuram, Palakkad. E-Mail:pcreghu@gmail.com, Ph: 9447315446.	Member Secretary	(Ex-officio) Educationalist
11	Dr. P C Rafeeque Professor and Head- CSE Dept. GEC, Sreekrishnapuram, Palakkad E-Mail: rafeeqpc@yahoo.co.in, Ph: 9495785370.	Institutional Member	Educationalist
12	Dr. K.R.Jayadevan Professor and Head- ME Dept. GEC, Sreekrishnapuram, Palakkad. E-Mail:jayadevankr@gecksp.ac.in. Ph: 9447236580	Institutional Member	Educationalist

### **Vision of the Institute**

Excellence through the wings of science and technology.

### **Mission of the institute**

To transform youth to talented engineers with creativity and integrity who can meet the technological challenges for the service of society.

## **2 DEPARTMENT OF MECHANICAL ENGINEERING**

The Department of Mechanical Engineering at Government Engineering College, Sreekrishnapuram hill was established in the academic year 2012 and is now headed by Dr. K.R. Jayadevan. The department offers a four-year B.Tech course in Mechanical Engineering. The faculty of Mechanical Engineering are well qualified and academic as well as industrial expertise is not at dearth.

### **Vision of the Department**

“To become a recognised center for imparting outstanding education, research, and consultancy in mechanical engineering”

### **Mission of the Department**

- Impart quality education to mould successful engineers.
- Provide state-of-the-art infrastructure and research facilities.
- Strive for continuous improvement in overall quality of teaching, research, and consultancy.

### **Program Educational Objectives [PEOS]**

PEO-1: Equip students with sound knowledge in mechanical engineering and enable them to solve engineering problems for the betterment of society.

PEO2: Ignite passion for engineering and motivation to learn and adapt to ever-changing technological world with strong awareness of sustainable development.

PEO-3: Instil confidence to apply knowledge and skillset to solve newer problems, with strong sense of ethics, values and commitment to the society and environment.

PEO-4: Inculcate teamwork skills, leadership, innovation, and entrepreneurial attitude.

### **Program Specific Outcomes (PSOs)**

PSO-1: Professional competence: Apply engineering knowledge, technical and managerial skills in an engineering industry.

PSO-2: Technical excellence: Create passion in mechanical engineering to pursue higher studies and research.

PSO-3: Social responsibility: Use technology for sustainable development

### 3 FACILITIES

(a) CAD Lab:

Provides training in programming languages such as C and C++, Autocad, Designing, Modelling and analysis softwares.

(b) Thermal Engineering laboratory:

The lab is equipped with various experimental setups like composite wall, metal rod, lagged pipe, forced convection, free convection, refrigeration test, and multistage compressors, emissivity apparatus, heat pipe apparatus, Stefan Boltzman Heat Exchanges, Pressure and Temperature and Pressure Calibrators, two stroke and four stroke single cylinder and multicylinder petrol and diesel engine test set up with different types of loading systems, Morse test facility, Retardation test facility, Heat balance test facility, fuel and lubricant properties test facility, compressors and blower.

(c) Instrumentation laboratory:

It is equipped with basic measuring instruments and modern instruments like sine bar, profile projector, metallurgical microscope, autocollimator, surface roughness tester, LVDT, strain gauges etc.

(d) Basic mechanical engineering workshops:

Facilities include fitting, carpentry, smithy, foundry, sheet metal, plumbing, welding etc.

(e) Fluid Lab:

The lab is equipped with flow measurement set up's such as orifices, notches, venturimeter, pipe friction apparatus, metacentric height apparatus, Bernoulli's theorem apparatus, Reynolds experiment set up, Pumps and Turbines, Computerised Turbine Test Rigs.

(f) Production engineering lab:

The lab is equipped with Lathe, Milling, shaper, planer, grinding, slotting, drilling, cutting and CNC lathe

## **4. KERALA TECHNOLOGICAL UNIVERSITY ORDINANCE (B.Tech 2019 Scheme)**

### **4.1 Admission to Bachelor of Technology / B.Tech. / B.Tech. (Honours)**

- (a) Eligibility for admission to the B.Tech., programme, admission policy and procedure shall be decided from time to time by following the guidelines issued by the Government of Kerala and the Government of India and other statutory body such as AICTE.
- (b) Subject to Clause 1(a), Admission to B.Tech., shall be based on the guidelines given by the State and Central Governments on reservation. Candidates for admission to B.Tech., programme shall have passed the Higher Secondary Examination, Kerala or 12th Standard V.H.S.E., C.B.S.E., I.S.C or any other examination considered equivalent to the above mentioned ones. Other eligibility criteria for admission is currently prescribed by the Government of Kerala through Government orders which is based on the entrance examination conducted by the Commissioner for Entrance Examinations, Government of Kerala and the marks in the qualifying examination subject to the relaxations allowed for backward classes and other communities as specified from time to time.
- (c) The Branches of study and number of students admitted are to be based on the approval by the All India Council for Technical Education and the Kerala Technological University.
- (d) Notwithstanding all that is stated above, the admission policy may be modified from time to time by the University, particularly to conform to directions from the Government of Kerala and the Government of India.
- (e) The B.Tech / B.Tech. (Honours) programme is a credit based programme. The duration of the B. Tech / B. Tech (Honours) programme will normally be four academic years spanning 8 semesters. The maximum duration shall be six academic years spanning 12 semesters.

### **4.2 Examination**

- (a) At the end of the semester, end semester examination will be conducted in all lecture based courses offered in the semester and will normally be of three hours duration, unless otherwise specified. Supplementary examinations shall be conducted before the commencement of the next semester, for students who are eligible and have registered for them.
- (b) Students, who have completed a course but could not write the end semester examination for valid reasons like illness or personal exigencies, are allowed to write the supplementary examination or the end semester examination at the next opportunity and earn the credits without having to register for the course again provided they meet other eligibility criteria.
- (c) The main eligibility criteria for the end semester examination are attendance in the course, internal marks and no pending disciplinary action. The minimum attendance for appearing for the end semester examination is 75 percent in each course. Further, the internal evaluation marks in the course should be 45 percent or above. Students who do not meet these eligibility criteria are awarded an FE grade and have to register for the course again.
- (d) Students who could not write the end semester examination due to health reasons or other exigencies can register for the supplementary examination, with the approval of the principal provided they have 45 percent or above marks in the internal evaluations for the course. Candidates who received F grade can also write the supplementary examination. Grades awarded in the supplementary examination will be taken as the end semester grades in these courses.

### **4.3 Eligibility for Award of Degree**

The award of B. Tech. / B. Tech. (Honours) degree shall be based on the recommendation of the Academic Committee and the approval of the Board of Governors and in accordance with the academic regulations, if any, issued for the said purpose by the University.

Award of B. Tech. Degree

A student will be eligible for the award of B. Tech. Degree of the University on satisfying the following requirements.

- i) Earned credits for all the core courses and the Project.
- ii) Earned the required minimum credits as specified in the curriculum for the branch of study.
- iii) No pending disciplinary action.

### **4.4 Fee charged by the University**

Fee charged for the programme shall be decided by the University from time to time and informed to all concerned for compliance.

### **4.5 Discipline of the student – Action against breach of discipline**

Every college shall have a Student's Welfare Committee and a Disciplinary Action Committee, constituted by the Principal of the college. Each college should have a Grievance Redressal and Appeals Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college.

### **4.6 Breach of guidelines and unfair practices in Examinations**

These are viewed seriously and appropriate actions are to be taken by the colleges.

a. Language of Instruction and Examination


Unless otherwise stated, the language of instruction and examinations shall be English.

b. Academic Calendar

The University shall publish in its website the academic calendar for every academic semester indicating the commencement of the semester and beginning of instruction. It will specify the course registration and enrolment dates, the schedule for mandatory internal tests for theory courses, dates by which laboratory/practical evaluations are to be completed.



## 5. ACADEMIC CALENDER

		 <b>APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY</b> <b>Academic Calendar - September 2022 to January 2023</b> <b>B.Tech S7/S5/S3, BHMCT S5/S3, M.Plan S3, M.Arch S3</b>											
Sep-22				Oct-22				Nov-22					
Days	Date	Description	Class	Days	Date	Description	Class	Days	Date	Description	Class		
Thu	1			Sat	1		17	Tue	1		39		
Fri	2			Sun	2	<b>Gandhi Jayanthi</b>		Wed	2		40		
Sat	3			Mon	3		18	Thu	3		41		
Sun	4			Tue	4	<b>Mahanavami</b>		Fri	4		42		
Mon	5			Wed	5	<b>Vijayadasami</b>		Sat	5		43		
Tue	6			Thu	6		19	Sun	6		44		
Wed	7	<b>First Onam</b>		Fri	7		20	Mon	7		44		
Thu	8	<b>Thiruvonam</b>		Sat	8	<b>Milad-i-sherif</b>		Tue	8		45		
Fri	9	<b>Third Onam</b>		Sun	9			Wed	9		46		
Sat	10	<b>Fourth Onam</b>		Mon	10		21	Thu	10		47		
Sun	11			Tue	11		22	Fri	11	First Series test to be completed for B.Tech S7/S5/S3,BHMCT S5/S3, M.Arch S3, M.Plan S3	48		
Mon	12	Commencement of classes for B.Tech S3, BHMCT S5	1	Wed	12	Course Selection and Mapping Begins for B.Tech S5, BHMCT S3,M.Arch S3, M.Plan S3	23	Sat	12				
Tue	13	Commencement of classes for B.Tech S7	2	Thu	13		24	Sun	13				
Wed	14		3	Fri	14		25	Mon	14		49		
Thu	15		4	Sat	15		26	Tue	15		50		
Fri	16		5	Sun	16			Wed	16		51		
Sat	17		6	Mon	17		27	Thu	17		52		
Sun	18			Tue	18	Course Selection and Mapping Ends for B.Tech S5, BHMCT S3,M.Arch S3, M.Plan S3	28	Fri	18		53		
Mon	19	Commencement of classes for B.Tech S5, M.Arch S3, M.Plan S3	7	Wed	19		29	Sat	19		54		
Tue	20		8	Thu	20		30	Sun	20				
Wed	21	Sree Narayana Guru Samadhi Day		Fri	21		31	Mon	21	Exam Registration begins for B.Tech S7/S5/S3,BHMCT S5/S3,M.Arch S3, M.Plan S3	55		
Thu	22	Commencement of classes for BHMCT S3	9	Sat	22		32	Tue	22	Second CC Meetings for B.Tech S7/S5/S3,BHMCT S5/S3,M.Arch S3,	56		
Fri	23		10	Sun	23			Wed	23		57		
Sat	24		11	Mon	24	<b>Deepavali</b>		Thu	24		58		
Sun	25			Tue	25		33	Fri	25		59		
Mon	26	Course Selection and Mapping Begins for B.Tech S7/S3, BHMCT S5	12	Wed	26		34	Sat	26		60		
Tue	27	First CC Meetings for B.Tech S7/S5/S3,BHMCT S5/S3, M.Arch S3, M.Plan S3	13	Thu	27		35	Sun	27				
Wed	28		14	Fri	28		36	Mon	28		61		
Thu	29		15	Sat	29		37	Tue	29		62		
Fri	30	Course Selection and Mapping Ends for B.Tech S7/S3, BHMCT S5	16	Sun	30			Wed	30	Exam Registration ends for B.Tech S7/S5/S3,BHMCT S5/S3,M.Arch S3, M.Plan S3	63		
				Mon	31		38						



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

**Academic Calendar - September 2022 to January 2023**

**B.Tech S7/S5/S3, BHMCT S5/S3, M.Plan S3, M.Arch S3**

Dec-22			Jan-23			
Days	Date	Description	Days	Date	Description	Class
Thu	1		Sun	1		
Fri	2		Mon	2	<b>Mannam Jayanthi</b>	
Sat	3		Tue	3	Third CC Meetings for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3 <b>Commencement of End Semester Examination for B.Tech S3, BHMCT S5</b>	83
Sun	4		Wed	4	<b>Commencement of End Semester Examination for B.Tech S7</b>	84
Mon	5		Thu	5		85
Tue	6		Fri	6	<b>Publish IA Marks for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3</b>	86
Wed	7		Sat	7	<b>Class Ends Publish Attendance for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3</b>	87
Thu	8		Sun	8		
Fri	9	Second Series test to be completed for B.Tech S7/S3, BHMCT S5	Mon	9		88
Sat	10		Tue	10		89
Sun	11		Wed	11		90
Mon	12		Thu	12		91
Tue	13		Fri	13		92
Wed	14	Second Series test to be completed for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	Sat	14		
Thu	15		Sun	15		
Fri	16		Mon	16	<b>Commencement of End Semester Examination for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3</b>	93
Sat	17	Third CC Meetings for B.Tech S7/S3, BHMCT S5	Tue	17		94
Sun	18		Wed	18		95
Mon	19		Thu	19		96
Tue	20	<b>Publish IA Marks for B.Tech S3, BHMCT S5</b>	Fri	20		97
Wed	21	<b>Class Ends Publish Attendance for B.Tech S3, BHMCT S5</b>	Sat	21		98
Thu	22	<b>Publish IA Marks for B.Tech S7</b>	Sun	22		
Fri	23	<b>Class Ends Publish Attendance for B.Tech S7</b>	Mon	23		
Sat	24		Tue	24		
Sun	25	<b>Christmas</b>	Wed	25		
Mon	26		Thu	26	<b>Republic Day</b>	
Tue	27		Fri	27		
Wed	28		Sat	28		
Thu	29		Sun	29		
Fri	30		Mon	30		
Sat	31		Tue	31		



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

**Academic Calendar - September 2022 to January 2023**

**B.Tech S7/S5/S3, BHMCT S5/S3, M.Plan S3, M.Arch S3**

**Odd Semester(2022-2023)**

Sl.No	Important Events	Important Dates
1	Commencement of classes for B.Tech S3, BHMCT S5	12-09-2022
2	Commencement of classes for B.Tech S7	13-09-2022
3	Commencement of classes for B.Tech S5, M.Arch S3, M.Plan S3	19-09-2022
4	Commencement of classes for BHMCT S3	22-09-2022
5	First and Second CC Meetings for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	27-09-2022, 22-11-2022
6	Third CC Meetings for B.Tech S7/S3, BHMCT S5	17-12-2022
7	Third CC Meetings for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	03-01-2023
8	Course Selection and Mapping Begins for B.Tech S7/S3, BHMCT S5	26-09-2022
9	Course Selection and Mapping Ends for B.Tech S7/S3, BHMCT S5	30-09-2022
10	Course Selection and Mapping Begins for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	12-10-2022
11	Course Selection and Mapping Ends for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	18-10-2022
12	First Series test to be completed for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	11-11-2022
13	Second Series test to be completed for B.Tech S7/S3, BHMCT S5	09-12-2022
14	Second Series test to be completed for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	14-12-2022
15	Exam Registration begins for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	21-11-2022
16	Exam Registration ends for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	30-11-2022
17	Publish IA Marks for B.Tech S3, BHMCT S5	20-12-2022
18	Class Ends Publish Attendance for B.Tech S3, BHMCT S5	21-12-2022
19	Publish IA Marks for B.Tech S7	22-12-2022
20	Class Ends Publish Attendance for B.Tech S7	23-12-2022
21	Publish IA Marks for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	06-01-2023
22	Class Ends Publish Attendance for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	07-01-2023
23	M.Arch S3, M.Plan S3 Jury Examination	09-01-2023
24	Commencement of End Semester Examination for B.Tech S3, BHMCT S5	03-01-2023
25	Commencement of End Semester Examination for B.Tech S7	04-01-2023
26	Commencement of End Semester Examination for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	16-01-2023

**6. CURRICULUM AND SCHEME OF EXAMINATION B.Tech Degree Course (2019 Scheme)**

**CURRICULUM I TO VIII: B. TECH MECHANICAL 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
	<b>Total Mandatory Credits</b>	<b>162</b>	
10	Value Added Course (Optional)	VAC	20

**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	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
<b>TOTAL</b>				<b>23/24 *</b>	<b>17</b>

\*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 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	HUN 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
<b>TOTAL</b>				<b>28/29</b>	<b>21</b>

**NOTE:**

1. Engineering Physics B 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 B in S1 and Engineering Chemistry in S2 & vice versa. Students opting for Engineering Physics B 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 S1 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	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
<b>TOTAL</b>				<b>26/30</b>	<b>22/26</b>

**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	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
<b>TOTAL</b>				<b>26/30</b>	<b>22/26</b>

**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	CREDI T
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
<b>TOTAL</b>				<b>27/31</b>	<b>23/27</b>

### 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	MET302	HEAT & MASS TRANSFER	3-1-0	4	4
B	MET304	DYNAMICS AND DESIGN OF MACHINERY	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
<b>TOTAL</b>				<b>25/29</b>	<b>23/27</b>

## PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	MET312	NONDESTRUCTIVE TESTING	2-1-0	3	3
	MET322	COMPUTATIONAL FLUID DYNAMICS	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		

### 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 2 to 4 PM and Wednesdays from 2 to 4 PM). If a student does not opt for minor/honors 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 online 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.

### 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
<b>TOTAL</b>				<b>24/28</b>	<b>15/19</b>

**PROGRAM ELECTIVE II**

<b>SLOT</b>	<b>COURSE NO.</b>	<b>COURSES</b>	<b>L-T-P</b>	<b>HOURS</b>	<b>CREDIT</b>
<b>B</b>	MET413	ADVANCED METHODS IN NONDESTRUCTIVE TESTING	2-1-0	<b>3</b>	<b>3</b>
	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	AIR CONDITIONING AND REFRIGERATION	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 by the **Department of MECHANICAL ENGINEERING** for students of other undergraduate branches offered in the college under KTU.

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	MET415	INTRODUCTION TO BUSINESSANALYTICS	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		

**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

Seminar Diary	10
Guide	20
Report	20
Presentation	40

3. Project Phase I: The course 'Project Work' is mainly intended to evoke the innovation and invention skills in a student. The course will provide an opportunity to synthesize and apply the knowledge and analytical skills learned, to be developed as a prototype or simulation. The project extends to 2 semesters and will be evaluated in the 7th and 8th semester separately, based on the achieved objectives. One third of the project credits shall be completed in 7th semester and two third in 8th semester. It is recommended that the projects may be finalized in the thrust areas of the respective engineering stream or as interdisciplinary projects. Importance should be given to address societal problems and developing indigenous technologies. The assignment to normally include:

- Literature study/survey of published literature on the assigned topic
- Formulation of objectives
- Formulation of hypothesis/ design/ methodology
- Formulation of work plan and task allocation.
- Block level design documentation
- Seeking project funds from various agencies
- Preliminary Analysis/Modeling/Simulation/Experiment/ Design/Feasibility study
- Preparation of Phase 1 report

Total marks: 100, only CIE, minimum required to pass 50	Guide	30
Interim evaluation by the Evaluation committee		20
Final evaluation by the Evaluation committee		30
Phase – I Report (By 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	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
<b>TOTAL</b>				<b>25/28</b>	<b>17/21</b>

**PROGRAM ELECTIVE III**

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	MET414	QUALITY MANAGEMENT	2-1-0	3	3
	MET424	INDUSTRIAL HYDRAULICS	2-1-0		
	MET434	PRESSURE VESSEL AND PIPING DESIGN	2-1-0		
	MET444	DATA ANALYTICS FOR ENGINEERS	2-1-0		
	MET454	INDUSTRIAL TRIBOLOGY	2-1-0		
	MET464	MICRO AND NANO MANUFACTURING	2-1-0		
	MET474	HEATING AND VENTILATION SYSTEMS	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	PROJECT PLANNING AND MANAGEMENT	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		

**NOTE**

- \*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/honors programme, he/she can be given remedial class.
- 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 syllabus mentioned for comprehensive course work in the sixth 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.
- 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 Phasel;
  - 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 a 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 the final evaluation 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 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 MECHANICAL ENGINEERING Branch** can opt to study the courses listed below:

S e m e s t e r	BASKET I				BASKET II				BASKET III			
	Course No.	Course Name	H O U R S	CR E D I T S	Course No.	Course Name	H O U R S	CR E D I T S	Course No.	Course Name	H O U R S	CR E D I T S
S3	MET281	MECHANICS OF MATERIALS	4	4	MET283	FLUID MECHANICS & MACHINERY	4	4	MET285	MATERIAL SCIENCE & TECHNOLOGY	4	4
S4	MET282	THEORY OF MACHINES	4	4	MET284	THERMODYNAMICS	4	4	MET286	MANUFACTURING TECHNOLOGY	4	4
S5	MET381	DYNAMICS OF MACHINES	4	4	MET383	THERMAL SCIENCE AND ENGINEERING	4	4	MET385	MACHINE TOOLS ENGINEERING	4	4
S6	MET382	MACHINE DESIGN	4	4	MET384	HEAT TRANSFER	4	4	MET386	INDUSTRIAL ENGINEERING	4	4
S7	MED481	MINIPROJECT	4	4	MED481	MINIPROJECT	4	4	MED481	MINIPROJECT	4	4
S8	MED482	MINIPROJECT	4	4	MED482	MINIPROJECT	4	4	MED482	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 MECHANICAL ENGINEERING** can opt to study the courses listed below.

SE ME STER	GROUP I				GROUP II				GROUP III			
	Course No.	Course Name	HOURS	CREDITS	Course No.	Course Name	HOURS	CREDITS	Course No.	Course Name	HOURS	CREDITS
S4	MET292	CONTINUUM MECHANICS	4	4	MET294	ADVANCED MECHANICS OF FLUIDS	4	4	MET296	MATERIALS IN MANUFACTURING	4	4
S5	MET393	EXPERIMENTAL STRESS	4	4	MET395	ADVANCED THERMODYNA	4	4	MET397	FLUID POWER	4	4

		ANALYSIS				MICS				AUTOMATION		
S6	MET394	ADVANCED DESIGN SYNTHESIS	4	4	MET396	COMPRESSIBLE FLUID FLOW	4	4	MET398	ADVANCED NUMERICAL CONTROLLED MACHINING	4	4
S7	MET495	ADVANCED THEORY OF VIBRATIONS	4	4	MET497	COMPUTATIONAL METHODS IN FLUID FLOW & HEAT TRANSFER	4	4	MET499	PRECISION MACHINING	4	4
S8	MED496	MINIPROJECT	4	4	MED496	MINIPROJECT	4	4	MED496	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 it as concerned citizens of the world.

## 7 STAFF DIRECTORY

Faculty information – 2022-2023					
Sl. No.	Name	Qualification	Area of Specialization	Designation	Nature of Association (Regular /Contract/ Adjunct)
1.	Dr. P A Abdul Samad	Ph.D	CFD, Machine Design, FEA	Professor	Regular
2.	Dr. Manesh K K	Ph.D	Materials	Professor	Regular
3.	Dr. K. Balakrishnan	Ph.D	Industrial Engineering	Associate Professor	Regular
4.	Leeju C.J.	M.Tech	Thermal	Assistant Professor	Regular
5.	Askkar Ali P.	M.Tech	Energy Management	Assistant Professor	Regular
6.	Sajith U.K.	M.Tech	Energy Engineering & Management	Assistant Professor	Regular
7.	Navaneeth M.S.	M.Tech	Manufacturing Technology	Assistant Professor	Regular
8.	Muhammed Shafeeq E Y	M.Tech	NDT, Energy Engineering & Management	Assistant Professor	Regular
9.	Akhil R.	ME	Manufacturing	Assistant Professor (Adhoc)	Contractual
10.	Sreelekshmy L	M.Tech	Guidance and Navigation Control	Assistant Professor (Adhoc)	Contractual
11.	Sumanlal M.	M.Tech	Manufacturing	Assistant Professor (Adhoc)	Contractual
12.	Rishad A R	M.Tech	CIM	Assistant Professor (Adhoc)	Contractual
13.	Naveen Itteera	M.Tech	Production	Assistant	Contractual

			Engineering	Professor (Adhoc)	
14.	Abdul Azeez P A	M.Tech	Industrial Refrigeration and Cryogenic Engineering	Assistant Professor (Adhoc)	Contractual
15.	Nandagopan G Pillai	M.Tech	Energy system analysis and design	Assistant Professor (Adhoc)	Contractual
16.	Ajith U	M.Tech	CIM	Assistant Professor (Adhoc)	Contractual
17.	Nidish Kumar A	M.Tech	Thermal Science	Assistant Professor (Adhoc)	Contractual
18.	Abin C Jose	M.Tech	Robotics	Assistant Professor (Adhoc)	Contractual

**TECHNICAL STAFF**

<b>SL no</b>	<b>Name</b>	<b>Designation</b>	<b>Email</b>
1	SUJESH K K	Instructor Gr II	
2	SASIDHARAN A K	Trade Instructor Gr II	
3	RAHUL T K	Trade Instructor Gr II	
4	BIJOY K M	Trade Instructor Gr II	
5	SUDHEER P U	Trade Instructor Gr II	sudheerussanaraffan@gmail.com
6	PRADEESH T	Trade Instructor Gr II	
7	ANIL KUMAR P K	Tradesman	
8	ANOOP		
9	MANEESH K		
	PRAMOD P A	Trade Instructor (Contract)	pramodpa4@gmail.com
10	PRANAV K B	Tradesman	pranavmurali2002@gmail.com
11	SARAVANAN C E	Tradesman	saravanan.tvd@gmail.com
12	PRABHULAN O P	Tradesman (Adhoc)	prabhulanop@gmail.com
13	PRABHAKARAN S		