APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

(A State Government University)

B. Tech Curriculum-2024

Semester I to VIII

Electrical and Computer Engineering

Branch Code: EO

(Group B)

Ambady Nagar , Sreekaryam

Thiruvananthapuram- 695016

FIRST SEMESTER (July-December): Group B														
10 Days Compulsory Induction Program and UHV														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GYMAT101	BSC	GC	Mathematics for Electrical Science-1	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GBPHT121 / GXCYT122	BSC	GC	Physics for Electrical Science / Chemistry for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	GMEST103	ESC	GC	Engineering Graphics and Computer Aided Drawing.	2	0	2	0	4	40	60	3	4
4	D	GXEST104	ESC	GC	Introduction to Electrical & Electronics Engineering (part 1: Electrical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30		
5	F	UCEST105		UC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	L	GXESL106		GC	Basic Electrical and Electronics Engineering Workshop	0	0	2	0	1	50	50*	1	2
7	I** S1/ S2	UCHWT127	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		UCHUT128	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	S_1/ S_2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC***				2			-	
Total										**30/ 32**			**20**	**25/ 26**
Bridge Course (Mathematics or Introduction to Computer Science) *: Total 15 Hrs.														

SECOND SEMESTER (January-June): Group B														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GYMAT201	BSC	GC	Mathematics for Electrical Science-2	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GBPHT121 / GXCYT122	BSC	GC	Physics for Electrical Science / Chemistry for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	GXEST203	ESC	GC	Foundations of Computing: From Hardware Essentials to Web Design	3	0	0	0	4.5	40	60	3	3
4	D	GXEST204	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	PCEOT205	PC	PC	Analog Electronic Circuits	3	1	0	0	5	40	60	4	4
6	F	UCEST206	ESC	UC	Engineering Entrepreneurship & IPR	3	0	0	0	4.5	60	40	3	3
7	I** S1/ S2	UCHWT127	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		UCHUT128	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	L	GXESL208	ESC	GC	IT Workshop	0	0	2	0	1	50	50*	1	2
	S_1/ S_2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC***							1	
Total										**34**			**24**	**27/ 28**

** Internal evaluation by college*

***Valuation for HMC courses will be done at college level, Question papers will be provided by the University.*

****No Grade Points will be awarded for the MOOC courses, I slot courses and bridge courses.*

- L-T-P-R: Lecture-Tutorial-Practical-Project
- SS (Self Study) Hours= 1.5L+0.5 T+0.5P+R
- CIA: Continuous Internal Assessment, ESE: End Semester Examination

Note: *Physics, Chemistry, Health and Wellness & Life Skill and Professional Communication can be offered in both Semester 1 (S1) and Semester 2 (S2). Institutions are encouraged to guide approximately 50% of their branches to choose between Physics* ***or*** *Chemistry (Slot B) and Health and Wellness* ***or*** *Life Skill and Professional Communication (Slot I) in Semester 1.*

Digital 101 (NASSCOM)		
Sl. No:	**Technologies Covered**	**Hours**
1	Artificial intelligence and Big Data Analytics (AI/BDA)	11
2	Internet of Things (IoT)	2.5
3	Cyber Security	2.5
4	Block Chain	2.5
5	Robotic Process Automation	1.5
6	Augmented Reality and Virtual Reality (AR and VR)	2.5
7	Cloud Computing	2.5
8	3 D Printing and Modelling	2
9	Web, Mobile Dev and Marketing	2
10	Responsible AI	1
	Total Hours	**30**

Skill Enhancement Course: *Digital 101 is an introductory Massive Open Online Course (MOOC) offered by NASSCOM. It is designed to provide students with foundational knowledge and skills in digital technologies, preparing them for further studies and careers in the digital domain. By incorporating the Digital 101 course into the curriculum, KTU ensures that all students gain valuable digital skills early in their academic journey, enhancing their readiness for advanced courses and future careers in technology.*

Course Registration and Completion*:*

- *Students have the flexibility to register and complete the Digital 101 course either in their first semester (S1) or second semester (S2).*
- *The credit for this course (1 credit) will be officially recorded in the second semester grade card.*

THIRD SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GYMAT301	BSC	GC	Mathematics for Electrical Science- 3	3	0	0	0	4.5	40	60	3	3
2	B	PCEET302	PC	PC	Circuits and Networks	3	1	0	0	5	40	60	4	4
3	C	PCEOT303	PC	PC	Data Structures and Algorithms	3	1	0	0	5	40	60	4	4
4	D	PBEOT304	PC-PBL	PB	Digital Electronics and Logic System Design	3	0	0	1	5.5	60	40	4	4
5	F	GNEST305	ESC	GC	Introduction to Artificial Intelligence and Data Science	3	1	0		5	40	60	4	4
6	G S3/S4	UCHUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		UCHUT347			Engineering Ethics and Sustainable Development									
7	L	PCEOL307	PCL	PC	Analog and Digital Electronics Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEOL308	PCL	PC	Data Structures Lab	0	0	3	0	1.5	50	50	2	3
9	R/M		VAC		Remedial/Minor Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**25/29***	**27/31***
Bridge Course for Lateral Entry Students: Total 15 Hrs.														

FOURTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GBMAT401	BSC	GC	Mathematics for Electrical Science - 4	3	0	0	0	4.5	40	60	3	3
2	B	PCEOT402	PC	PC	Electrical Machines	3	1	0	0	5	40	60	4	4
3	C	PCEOT403	PC	PC	Computer Organization and Architecture	3	1	0	0	5	40	60	4	4
4	D	PBEOT404	PC-PBL	PB	Object Oriented Programming Using Java	3	0	0	1	5.5	60	40	4	4
5	E	PEEET41N/ PEEOT41N	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	G S3/S4	UCHUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		UCHUT347			Engineering Ethics and Sustainable Development									
7	L	PCEOL407	PCL	PC	Electrical Machines Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEOL408	PCL	PC	Object Oriented Programming (JAVA) Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/ H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**24/ 28***	**26/ 30***

Note: *Economics for Engineers and Engineering Ethics and Sustainable Development 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 Economics for Engineers in S3 and Engineering Ethics &Sustainable Development in S4 and vice versa.*

PROGRAM ELECTIVE I: PEEOT41N/ PEEET41N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	PEEET411	Electronic Instrumentation	3-0-0-0	3	3
	PEEET412	Renewable Energy Sources	3-0-0-0		3
	PEEET413	Mathematics for Machine Learning	3-0-0-0		3
	PEEET414	Theory of Computation	3-0-0-0		3
	PEEET417	Solid State Devices	3-0-0-0		3
	PEEOT411	Electrical Measurement and Measuring Instruments	3-0-0-0		3

FIFTH SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PCEOT501	PC	PC	Microcontroller and Embedded Systems	3	1	0	0	5	40	60	4	4
2	B	PCEOT502	PC	PC	Power Electronics	3	1	0	0	5	40	60	4	4
3	C	PCEOT503	PC	PC	Power Systems	3	0	0	0	4.5	40	60	3	3
4	D	PBEOT504	PC-PBL	PB	Database Management System	3	0	0	1	5.5	60	40	4	4
5	E	PEEET52N/ PEEOT52N	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	UCHUM506	HMC	UC	Constitution of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	PCEOL507	PCL	PC	Power Electronics Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEOL508	PCL	PC	Microcontroller and Embedded Systems Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
	S_5/ S_6	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**30/ 35**			**23/27***	**24/28***

No Grade Points will be awarded for the MOOC course and I slot course.

Industrial Training:

Students who are not participating in the industrial visit must attend industrial training during that period.

PROGRAM ELECTIVE 2: PEEOT52N/ PEEET52N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	PEEET522	Electric Vehicles	3-0-0-0	3	3
	PEEET523	Digital System Design	3-0-0-0		3
	PEEET524	Software Engineering	3-0-0-0		3
	PEEOT521	Modern Operating Systems	3-0-0-0		3
	PEEOT522	Introduction to Signals and Systems	3-0-0-0		3

SIXTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PCEOT601	PC	PC	Linear Control Systems	3	1	0	0	5	40	60	4	4
2	B	PCEOT602	PC	PC	Computer Communication and Network Security	3	0	0	0	4.5	40	60	3	3
3	C	PEEET63N/ PEEOT63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	PBEOT604	PC-PBL	PB	Machine Learning	3	0	0	1	5.5	60	40	4	4
5	F	GYEST605	ESC	GC	Design Thinking and Product Development (Group Specific Syllabus)	2	0	0	0	3	40	60	2	2
6	O	OEEET61N /IEEET61N	OE/IL E	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	PCEOL607	PCL	PC	Electrical Simulation Lab	0	0	3	0	1.5	50	50	2	3
8	P	PCESP608	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	2	3
9	R/ M/ H		VAC		Remedial/Minor/Honours Course	3	0	0	0	4.5			3*	3*
	S5/ S6	Industrial Visit (Maximum of 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**32/ 36**			**23/26***	**25/28***

Note: Open Electives are such courses which will be offered by other departments. Like CSE department students have to opt open electives from ECE/ME/EEE etc. departments.

Industrial Training:
Students who are not participating in the industrial visit must attend industrial training during that period.

PROGRAM ELECTIVE 3: PEEOT63N/ PEEET63N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
C	PEEET631	Digital protection of power systems	3-0-0-0	3	3
	PEEOT631	R-Programming	3-0-0-0		3
	PEEET633	High Voltage Engineering	3-0-0-0		3
	PEEET634	Internet of Things	3-0-0-0		3
	PEEET636	Digital Signal Processing	3-0-0-0		3
	PEEET637	Cloud Computing	3-0-0-0		3
	PEEET638	Optimization Techniques	3-0-0-0		3

OPEN ELECTIVE 1: OEEET61N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEEET611	Introduction to Control Systems	3-0-0-0	3	3
	OEEET612	Energy Management	3-0-0-0		3
	OEEET613	Renewable Energy Systems	3-0-0-0		3

SEVENTH SEMESTER (July-December)													
Sl. No:	**Slot**	**Course Code**	**Course Tvne**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PEEET74N/ PEEOT74N/ PEEOM74N	PE	PE	PE-4 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	PEEET75N/ PEEOT75N/ PEEOM75N	PE	PE	PE-5 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	OEEET72N /IEEET72N/ OEEEM72N	OE/ ILE	OE/IE	OE/ILE-2 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
4	I*	UEHUT704 / UEHUM70N	HM C	UE	Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	PCEOS705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	PCEOP706/ PCEOI706	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
Total										**26**			**17**	**22**

**No Grade Points will be awarded for the I slot courses*
Students can opt for the internship either in the **7th or 8th semester.*
** Option 1: Work on a Project in the institute/department under the mentorship of faculty members.*
*Option 2: Full semester Internship in an Industry/organization (**7th or 8th semester**)*

Note: Open Electives are such courses which will be offered by other departments.

PROGRAM ELECTIVE 4: PEEOT74N/ PEEET74N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
A	PEEET741	Power System Operation and Control	3-0-0-0	3	3
	PEEET742	Energy Management and Auditing	3-0-0-0		3
	PEEET743	Special Electrical Machines	3-0-0-0		3
	PEEET744	Discrete Time Control Systems	3-0-0-0		3
	PEEET746	Digital Image Processing	3-0-0-0		3
	PEEOT741	Fundamentals of Cyber Security	3-0-0-0		3

PROGRAM ELECTIVE 5: PEEOT75N/ PEEET75N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
B	PEEET751	Power Quality	3-0-0-0	3	3
	PEEET752	Nonlinear Systems and Control	3-0-0-0		3
	PEEET753	Deep Learning	3-0-0-0		3
	PEEET754	Computer Vision	3-0-0-0		3
	PEEOT751	Compiler Design	3-0-0-0		3
	PEEOT752	Electrical System Design	3-0-0-0		3

OPEN ELECTIVE 2: OEEET72N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	OEEET721	Design of Solar PV systems	3-0-0-0	3	3
	OEEET722	Electric and Hybrid Vehicles	3-0-0-0		3
	OEEET723	Introduction to Energy Storage Systems	3-0-0-0		3

Slot I: HMC Elective	
1	Project Management: Planning, Execution, Evaluation and Control
2	Proficiency course in French. (MOOC) (B1 level)
3	Proficiency Course in German (B1 Level). (MOOC)
4	Proficiency Course in Spanish (B1 Level) (MOOC)
5	Introduction to Japanese Language and Culture (N5 level). (MOOC)

EIGHTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PEEET86N/ PEEOT86N/ PEEOM86N	PE	PE	PE-6 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	OEEOT83N /IEEOT83N/ OEEOM83N	OE/ILE	OE/IE	OE/ILE-3 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	I*	UEHUT803/ UEHUM803	HMC	UC	Organizational Behavior and Business Communication (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	1	2
4	P	PCEOP806/ PCEOI806/ PCEOJ806	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase -II (For the students who have not opted for internship in S7/S8)	0	0	0	8	8	100	0	4	8
Total										**20**			**11**	**16**

****No Grade Points will be awarded for the I slot courses***

** Option 2: Full semester Internship in an Industry/organization (**7th or 8th semester**)*

PROGRAM ELECTIVE 6: PEEOT86N/ PEEET86N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
A	PEEET861	Smart Grid Technologies	3-0-0-0	3	3
	PEEET862	HVDC and FACTS	3-0-0-0		3
	PEEET863	Mechatronic Systems	3-0-0-0		3
	PEEET864	Electronic Communication	3-0-0-0		3

OPEN ELECTIVE 3: OEEOT83N/ OEEET83N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	OEEET831	Introduction to Robotics	3-0-0-0	3	3
	OEEET832	PLC and Automation	3-0-0-0		3
	OEEET833	Mechatronic Systems and Control	3-0-0-0		3

HMC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1/S2**	Life Skills and Professional Communication	1
2	**S3/S4**	Economics for Engineers	2
3		Engineering Ethics and Sustainable Development	2
4	**S5**	Constitution Of India. (MOOC)	1
5	**S7**	Elective (Project Management/Foreign Languages)	2
6	**S8**	Organizational Behavior and Business Communication	1
Total Credits			**9**

BSC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Group Specific Mathematics-1	3
2	**S1/S2**	Physics for Engineers	4
3		Chemistry for Engineers	4
4	**S2**	Group Specific Mathematics-2	3
5	**S3**	Group Specific Mathematics-3	3
6	**S4**	Group Specific Mathematics-4	3
Total Credits			**20**

ESC Courses (Group B)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Engineering Graphics and Computer Aided Drawing	3
2		Introduction to Electrical and Electronics Engineering	4
3		Algorithmic Thinking with Python	4
4		Basic Electrical and Electronics Engineering Workshop	1
5	**S2**	Foundations of Computing: From Hardware Essentials to Web Design / Engineering Mechanics (EEE, CP,BR, RA and RU)	3
6		Programming in C	4
7		Engineering Entrepreneurship and IPR	3
8		IT Workshop	1
9	**S3**	Introduction to Artificial Intelligence and Data Science	4
10	**S6**	Design Thinking and Creativity	2
Total Credits			**29**

Programme CoreCourses (PC)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Core 1-Analog Electronic Circuits	4
2	**S3**	Core 2-Circuits and Networks	4
3		Core 3-Data Structures	4
4		Lab 1 -Analog and Digital Electronics Lab	2
5		Lab2 -Data Structures Lab	2
6	**S4**	Core 4 - Electrical Machines	4
7		Core 5 – Computer Organization and Architecture	4
8		Lab 3 - Electrical Machines Lab	2
9		Lab4 –Object Oriented Programming (JAVA) Lab	2
10	**S5**	Core 6 - Microcontrollers and Embedded Systems	4
11		Core 7 - Power Electronics	4
12		Core 8 - Power Systems	3
13		Lab 5 - Microcontrollers and Embedded Systems Lab	2
14		Lab 6 - Power Electronics Lab	2

15	S6	Core 9 - Linear Control Systems	4
16		Core 10 - Computer Networks	3
17		Lab 7 - Electrical Simulation Lab	2
Total Credits (Theory -10, Lab-7)			**52**

Programme Core-Project Based Learning (PBL)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S3**	Core PBL-1	4
2	**S4**	Core PBL-2	4
3	**S5**	Core PBL-3	4
4	**S6**	Core PBL-4	4
Total Credits			**16**

Programme Elective Courses (PE)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S4**	PE-1	3
2	**S5**	PE-2	3
3	**S6**	PE-3	3
4	**S7**	PE-4	3
5		PE-5	3
6	**S8**	PE-6	3
Total Credits			**18**

Open Elective Courses/Industry Elective(OE/IEL)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	OE/ILE-1	3
2	**S7**	OE/ILE-2	3
3	**S8**	OE/ILE-3	3
Total Credits			**9**

Project/ Internship and Seminar			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	Mini Project	2
2	**S7**	Seminar	2
3		Major Project/Internship	4
4	**S8**	Major Project/Internship/Research Project	4
Total Credits			**12**

Activity Points				
Sl. No.	**Group**	**Courses**	**Credits**	**Minimum Credit Requirements**
1	I	NSS, NCC, NSO (National Sports Organization)	1 (40 Points)	3 Credits (One credit from each Group)
2		Arts/Sports/Games		
3		Union/Club Activities		
4	II	English Proficiency Certification (TOFEL, IELTS, BEC etc.)	1 (40 Points)	
5		Aptitude Proficiency Certification (GRE, CAT, GMAT etc.)/ Valid Gate Score.		
6		Short Term Internship (Minimum 2 weeks), Clinical Exposure/Training (Minimum 2 weeks), Conferences/Paper Presentation/ Workshop Activities/ Professional Body Activities, Participation in University level/State Level/ National Level Hackathons		
7	III	Journal Publication, Patents, Start-Up, Innovation, Winners of National/ International Level Hackathons	1 (40 Points)	
8		**Skilling Certificates** (Approved by the University)		

- ***Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfill the curriculum requirement of 3 activity credits.***
- ***For B. Tech Lateral Entry students, 30 points per group are required. A minimum of 90 activity points must be acquired to obtain the 3 activity credits mandated by the curriculum.***

Course classifications of the B. Tech Programmes and Overall Credit Structure			
Sl. No	**Category**	**Code**	**Credits**
1	Humanities and Social Sciences including Management Courses	HMC	9
2	Basic Science Courses	BSC	20
3	Engineering Science Courses	ESC	29
4	Programme (Professional) Core Courses	PCC	52
5	Programme (Professional) Core Courses-Project Based Learning	PBL	16
6	Programme Elective Courses	PEC	18
7	Open Elective Courses/Industry Linked Elective	OEC/ILE	9
8	Mini Project,Project Work/Internship and Seminar	PWS	12
9	Health and Wellness	HWP	1
10	Skill Enhancement Courses (Digital 101)	SEC	1
11	Mandatory Student Activities	MSA	3
Total Credits			**170**