



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

(A State Government University)

**B. Tech Curriculum-2024**

**Semester I to VIII**

**Electronics & Communication Engineering**

**Branch Code: EC**

**(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	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
		GXCYT122			Chemistry for Electrical Science									
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	ESC	UC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	L	GXESL106	ESC	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	S1/ S2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC***				2			-	
<b>Total</b>									<b>30/ 32</b>			<b>20</b>	<b>25/ 26</b>	
<b>Bridge Course (Mathematics or Introduction to Computer Science) *:</b>										<b>Total 15 Hrs.</b>				

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

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	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
		GXCYT122			Chemistry for Electrical Science									
3	C	GXEST203	ESC	GC	Foundations of Computing: From Hardware Essentials to Web Design	3	0	0	0	4.5	40	60	3	3
		GBEST213			Engineering Mechanics (EEE, CP, RA & RU)									
4	D	GXEST204	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	PCECT205	PC	PC	Network Theory	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
	S1/ S2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC***							1	
<b>Total</b>									<b>34</b>			<b>24</b>	<b>27/ 28</b>	

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

- 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
<b>Total Hours</b>		<b>30</b>

**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	PCECT302	PC	PC	Solid State Devices	3	1	0	0	5	40	60	4	4
3	C	PCECT303	PC	PC	Analog Circuits	3	1	0	0	5	40	60	4	4
4	D	PBECT304	PC-PBL	PB	Logic Circuit 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	PCECL307	PCL	PC	Analog Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCECL308	PCL	PC	Logic Circuit Design 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*
<b>Total</b>									<b>31/ 36</b>			<b>25/29*</b>	<b>27/31*</b>	
<b>Bridge Course for Lateral Entry Students: Total 15 Hrs.</b>														

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	PCECT402	PC	PC	Signals and Systems	3	1	0	0	5	40	60	4	4
3	C	PCECT403	PC	PC	Linear Integrated Circuits	3	1	0	0	5	40	60	4	4
4	D	PBECT404	PC-PBL	PB	Microcontrollers	3	0	0	1	5.5	60	40	4	4
5	E	PEECT41N	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	PCECL407	PCL	PC	Linear Integrated Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCECL408	PCL	PC	Microcontroller 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*
<b>Total</b>									<b>31/ 36</b>			<b>24/ 28*</b>	<b>26/ 30*</b>	

**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: PEECT41N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEECT 411	Instrumentation	3-0-0-0	3	3
	PEECT 412	Power Electronics	3-0-0-0		3
	PEECT 413	Machine Learning	3-0-0-0		3
	PEECT 414	Object Oriented Programming	3-0-0-0		3
	PEECT 416	Digital System Design	3-0-0-0		3
	<b>PEECT 415</b>	<b>Digital Systems and VLSI Design</b>	3-0-0-0		<b>5/3</b>

*Note : Level 5 courses in the B. Tech curriculum carry a total of 5 credits, consisting of 3 credits for the Programme Elective and 2 additional credits. The additional 2 credits shall be awarded only if the student meets the eligibility conditions specified in the B. Tech. -2024 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.*

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	PCECT501	PC	PC	Electromagnetics	3	1	0	0	5	40	60	4	4
2	B	PCECT502	PC	PC	Analog & Digital Communication	3	1	0	0	5	40	60	4	4
3	C	PCECT503	PC	PC	Control Systems	3	0	0	0	4.5	40	60	3	3
4	D	PBECT504	PC-PBL	PB	Digital Signal Processing	3	0	0	1	5.5	60	40	4	4
5	E	PEECT52N	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	PCECL507	PCL	PC	DSP Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCECL508	PCL	PC	Communication Lab I	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 <sub>5</sub> /S <sub>6</sub>	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
<b>Total</b>										<b>30/35</b>		<b>23/27*</b>	<b>24/28*</b>	

*\*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: PEECT52N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEECT 521	Biomedical Engineering	3-0-0-0	3	3
	PEECT 522	Data Structures	3-0-0-0		3
	PEECT 523	Sensors and Actuators	3-0-0-0		3
	PEECT524	ARM architecture and programming	3-0-0-0		3
	PEECT 526	High Speed Digital Design	3-0-0-0		3
	PEECT 527	Estimation and Detection	3-0-0-0		3
	PEECT 525	<b>ARM architecture, programming and Interfacing</b>	3-0-0-0	<b>5/3</b>	

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	PCECT601	PC	PC	Advanced Communication Theory	3	1	0	0	5	40	60	4	4
2	B	PCECT602	PC	PC	Microwaves and Antennas	3	0	0	0	4.5	40	60	3	3
3	C	PEECT63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	PBECT604	PC-PBL	PB	VLSI Circuit Design	3	0	0	1	5.5	60	40	4	4
5	F	GXEST605	ESC	GC	Design Thinking and Product Development (Group Specific Syllabus)	2	0	0	0	3	40	60	2	2
6	O	OEECT61N /IEECT61N	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	PCECL607	PCL	PC	Communication Lab II	0	0	3	0	1.5	50	50	2	3
8	P	PCEVP608	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												
<b>Total</b>										<b>32/36</b>		<b>23/26*</b>	<b>25/28*</b>	

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: PEECT63N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	PEECT 631	Computer Networks	3-0-0-0	3	3
	PEECT 632	Digital Image Processing	3-0-0-0		3
	PEECT 633	Secure Communication	3-0-0-0		3
	PEECT 634	Nano-Electronics	3-0-0-0		3
	PEECT 636	Optical Communication	3-0-0-0		3
	PEECT 637	Optimization Techniques	3-0-0-0		3
	PEECT 635	<b>Image Processing Applications</b>	3-0-0-0	<b>5/3</b>	

OPEN ELECTIVE 1: OEECT 61N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEECT 611	Entertainment Electronics	3-0-0-0	3	3
	OEECT 612	Computer Networks	3-0-0-0		3
	OEECT 613	Biomedical Engineering	3-0-0-0		3

SEVENTH 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	PEECT74N/ PEECM74N	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	PEECT75N/ PEECM75N	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	OEECT72N/ IEECT72N/ OEECM72N	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	HMC	UE	Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	PCECS705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	PCECP706/ PCECI706	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
7	R/H		VAC		Remedial/Honours Course	3	0	0	0	4.5			3*	3*
<b>Total</b>										<b>26/ 31</b>			<b>17/20*</b>	<b>22/25*</b>

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

\*Students can opt for the internship either in the 7<sup>th</sup> or 8<sup>th</sup> 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 (7<sup>th</sup> or 8<sup>th</sup> semester)

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

<b>PROGRAM ELECTIVE 4: PEECT74N</b>					
<b>SLOT</b>	<b>COURSE CODE</b>	<b>COURSES</b>	<b>L-T-P-R</b>	<b>HOURS</b>	<b>CREDIT</b>
<b>A</b>	PEECT 741	Advanced Mobile Communication	3-0-0-0	<b>3</b>	3
	PEECT 742	Deep Learning	3-0-0-0		3
	PEECT 743	Robotics and Automation	3-0-0-0		3
	PEECT 744	Coding Theory	3-0-0-0		3
	PEECT 746	Advanced DSP	3-0-0-0		3
	PEECT 747	Cryptography	3-0-0-0		3
	<b>PEECT 745</b>	<b>Deep Learning Techniques</b>	3-0-0-0		<b>5/3</b>

<b>PROGRAM ELECTIVE 5: PEECT75N</b>					
<b>SLOT</b>	<b>COURSE CODE</b>	<b>COURSES</b>	<b>L-T-P-R</b>	<b>HOURS</b>	<b>CREDIT</b>
<b>B</b>	PEECT 751	Satellite and Radar Communication	3-0-0-0	<b>3</b>	3
	PEECT 752	Internet of Things	3-0-0-0		3
	PEECT 753	Real Time Operating System	3-0-0-0		3
	PEECT 754	Mixed Signal Circuits	3-0-0-0		3
	PEECT 756	Speech and Audio Processing	3-0-0-0		3
	PEECT 757	Microwave Devices and Circuits	3-0-0-0		3
	<b>PEECT 755</b>	<b>Mixed Signal Circuit Design</b>	3-0-0-0		<b>5/3</b>

<b>OPEN ELECTIVE 2: OEECT72N</b>					
<b>SLOT</b>	<b>COURSE CODE</b>	<b>COURSES</b>	<b>L-T-P-R</b>	<b>HOURS</b>	<b>CREDIT</b>
<b>O</b>	OEECT 721	Optical Communication	3-0-0-0	<b>3</b>	3
	OEECT 722	Digital Image Processing	3-0-0-0		3
	OEECT 723	Optimization Techniques	3-0-0-0		3

<b>Slot I: HMC Elective</b>	
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	PEECT86N/ PEECM86N	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	OEECT83N /IEECT83N/ OEECM83N	OE/IL E	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	PCECP806/ PCECI806/ PCECJ806	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
<b>Total</b>									<b>20</b>			<b>11</b>	<b>16</b>	

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

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

PROGRAM ELECTIVE 6: PEECT86N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	PEECT861	Wireless Sensor Networks	3-0-0-0	3	3
	PEECT862	RF Engineering	3-0-0-0		3
	PEECT863	Renewable Energy Systems	3-0-0-0		3
	PEECT864	Cyber-Security	3-0-0-0		3
	PEECT866	Low Power VLSI	3-0-0-0		3
	PEECT867	Blockchain	3-0-0-0		3
	PEECT868	Antenna Theory & Wave Propagation	3-0-0-0		3
	PEECT865	Antenna Theory & Design	3-0-0-0		5/3

OPEN ELECTIVE 3: OEECT83N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEECT 831	Internet of Things	3-0-0-0	3	3
	OEECT 832	Satellite and Radar Communication	3-0-0-0		3
	OEECT 833	Robotics	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
<b>Total Credits</b>			<b>9</b>

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
<b>Total Credits</b>			<b>20</b>

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, 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
<b>Total Credits</b>			<b>29</b>

Program Core Courses (PC)			
Sl. No:	Semester	Course Area	Credits
1	S2	Network Theory	4
2	S3	Solid State Devices	4
3		Analog Circuits	4
4		Analog Circuits Lab	2
5		Logic Circuit Design Lab	2
6	S4	Signals and Systems	4
7		Linear Integrated Circuits	4
8		Linear Integrated Circuits Lab	2
9		Microcontroller Lab	2
10	S5	Electromagnetics	4
11		Analog & Digital Communication	4
12		Control Systems	3
13		DSP Lab	2
14		Communication Lab I	2

15	S6	Advanced Communication Theory	4
16		Microwave and Antennas	3
17		Communication Lab II	2
<b>Total Credits (Theory -10, Lab-7)</b>			<b>52</b>

<b>Program Core-Project Based Learning (PBL)</b>			
Sl. No:	Semester	Course Area	Credits
1	S3	Logic Circuit Design	4
2	S4	Microcontrollers	4
3	S5	Digital Signal Processing	4
4	S6	VLSI Circuit Design	4
<b>Total Credits</b>			<b>16</b>

<b>Program Elective Courses (PE)</b>			
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
<b>Total Credits</b>			<b>18</b>

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

<b>Project/ Internship and Seminar</b>			
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
<b>Total Credits</b>			<b>12</b>

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		<b>Skilling Certificates</b> (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
<b>Total Credits</b>			<b>170</b>