VIMAL JYOTHI
ENGINEERING COLLEGE (AUTONOMOUS)
Jyothi Nagar, Chemperi - 670632, Kannur D.T, Kerala

B. Tech CURRICULUM 2024

SEMESTER I TO VIII

Computer Science and Engineering

Branch Code: CS | (Group A)

FIRST SEMESTER (July-December): Group A														
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	GAMAT101	BSC	GC	Mathematics for Computer Science-1	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GAPHT121	BSC	GC	Physics for Computer Science	3	0	2	0	5.5	40	60	4	5
		GXCYT122			Chemistry for Computer Science and Electrical Science									
3	C	GXEST103	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	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.**														

No end semester examination
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).*

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, we 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.

SECOND SEMESTER (January-June): Group A														
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	GAMAT201	BSC	GC	Mathematics for Computer Science-2	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GAPHT121 / GXCYT122	BSC	GC	Physics for Computer Science / Chemistry for Computer Science and 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	PCCST205	PC	PC	Discrete Mathematics	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**

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	GAMAT301	BSC	GC	Mathematics for Computer Science-3	3	0	0	0	4.5	40	60	3	3
2	B	PCCST302	PC	PC	Theory of Computation	3	1	0	0	5	40	60	4	4
3	C	PCCST303	PC	PC	Data Structures and Algorithms	3	1	0	0	5	40	60	4	4
4	D	PBCST304	PC-PBL	PB	Object Oriented Programming	3	0	0	1	5.5	60	40	4	4
5	F	GAEST305	ESC	GC	Digital Electronics & Logic Design	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	PCCSL307	PCL	PC	Data Structures Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCCSL308	PCL	PC	Digital 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	GAMAT401	BSC	GC	Mathematics for Computer Science-4	3	0	0	0	4.5	40	60	3	3
2	B	PCCST402	PC	PC	Database Management Systems	3	1	0	0	5	40	60	4	4
3	C	PCCST403	PC	PC	Operating Systems	3	1	0	0	5	40	60	4	4
4	D	PBCST404	PC-PBL	PB	Computer Organization and Architecture	3	0	0	1	5.5	60	40	4	4
5	E	PECST41N	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	G S3/S4	UCHUT346 / UCHUT347	HMC	UC	Economics for Engineers / Engineering Ethics and Sustainable Development	2	0	0	0	3	50	50	2	2
7	L	PCCSL407	PCL	PC	Operating Systems Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCCSL408	PCL	PC	DBMS 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***

PROGRAM ELECTIVE I: PECST41N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	PECST411	Software Engineering	3-0-0-0	**3**	3
	PECST412	Pattern Recognition	3-0-0-0		3
	PECST413	Functional Programming	3-0-0-0		3
	PECST414	Coding Theory	3-0-0-0		3
	PECST415	VLSI Design	3-0-0-0		3
	PECST416	Signals And Systems	3-0-0-0		3
	PECST417	Soft Computing	3-0-0-0		3
	PECST418	Computational Geometry	3-0-0-0		3
	PECST419	Cyber Ethics, Privacy, And Legal Issues	3-0-0-0		3
	PECST495	Advanced Data Structures	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	PCCST501	PC	PC	Computer Networks	3	1	0	0	5	40	60	4	4
2	B	PCCST502	PC	PC	Design and Analysis of Algorithms	3	1	0	0	5	40	60	4	4
3	C	PCCST503	PC	PC	Machine Learning	3	0	0	0	4.5	40	60	3	3
4	D	PBCST504	PC-PBL	PB	Microcontrollers	3	0	0	1	5.5	60	40	4	4
5	E	PECST52N	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	PCCSL507	PCL	PC	Networks Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCCSL508	PCL	PC	Machine Learning 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: PECST52N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	PECST521	Software Project Management	3-0-0-0	**3**	3
	PECST522	Artificial Intelligence	3-0-0-0		3
	PECST523	Data Analytics	3-0-0-0		3
	PECST524	Data Compression	3-0-0-0		3
	PECST525	Data Mining	3-0-0-0		3
	PECST526	Digital Signal Processing	3-0-0-0		3
	PECST527	Computer Graphics & Multimedia	3-0-0-0		3
	PECST528	Advanced Computer Architectures	3-0-0-0		3
	PECST595	Advanced Graph Algorithms	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	PCCST601	PC	PC	Compiler Design	3	1	0	0	5	40	60	4	4
2	B	PCCST602	PC	PC	Advanced Computing Systems	3	0	0	0	4.5	40	60	3	3
3	C	PECST63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	PBCST604	PC-PBL	PB	Fundamentals of Cyber Security	3	0	0	1	5.5	60	40	4	4
5	F	GAEST605	ESC	GC	Design Thinking and Product Development (Group Specific Syllabus)	2	0	0	0	3	40	60	2	2
6	O	OEXXT61N /IEXXT61N	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	PCCSL607	PCL	PC	Systems Lab	0	0	3	0	1.5	50	50	2	3
8	P	PCCSP608	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: PECST63N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
C	PECST631	Software Testing	3-0-0-0	**3**	3
	PECST632	Deep Learning	3-0-0-0		3
	PECST633	Wireless & Mobile Computing	3-0-0-0		3
	PECST634	Advanced Database Systems	3-0-0-0		3
	PECST635	Cloud Computing	3-0-0-0		3
	PECST636	Digital Image Processing	3-0-0-0		3
	PECST637	Fundamentals of Cryptography	3-0-0-0		3
	PECST638	Quantum Computing	3-0-0-0		3
	PECST639	Randomized Algorithms	3-0-0-0		3
	PECST695	Mobile Application Development	3-0-0-0		3

OPEN ELECTIVE 1: OECST61N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	OECST611	Data Structures	3-0-0-0	3	3
	OECST612	Data Communication	3-0-0-0		3
	OECST613	Foundations of Cryptography	3-0-0-0		3
	OECST614	Machine Learning for Engineers	3-0-0-0		3
	OECST615	Object Oriented Programming	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	PECST74N/ PECSM74N	PE	PE	PE-4 (Internship Students: Self Study/MOOC Approved by college/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	PECST75N/ PECSM75N	PE	PE	PE-5 (Internship Students: Self Study/MOOC Approved by college/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	OEXXT72N /IEXXT72N/ OEXXM72N	OE/ ILE	OE/IE	OE/ILE-2 (Internship Students: Self Study/MOOC Approved by college/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 college/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	PCCSS705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P**	PCCSP706/ PCCSI706	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*
Total										**26/ 31**			**17/20***	**22/25***

**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: PECST74N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
A	PECST741	Formal Methods in Software Engineering	3-0-0-0	**3**	3
	PECST742	Web Programming	3-0-0-0		3
	PECST743	Bioinformatics	3-0-0-0		3
	PECST744	Information Security	3-0-0-0		3
	PECST745	Computer Vision	3-0-0-0		3
	PECST746	Embedded Systems	3-0-0-0		3
	PECST747	Blockchain and Cryptocurrencies	3-0-0-0		3
	PECST748	Realtime Systems	3-0-0-0		3
	PECST749	Approximation Algorithms	3-0-0-0		3
	PECST795	Topics in Theoretical Computer Science	3-0-0-0		3

PROGRAM ELECTIVE 5: PECST75N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
B	PECST751	Advanced Computer Networks	3-0-0-0	**3**	3
	PECST752	Responsible Artificial Intelligence	3-0-0-0		3
	PECST753	Fuzzy Systems	3-0-0-0		3
	PECST754	Digital Forensics	3-0-0-0		3
	PECST755	Internet of Things	3-0-0-0		3
	PECST756	Game Theory and Mechanism Design	3-0-0-0		3
	PECST757	High Performance Computing	3-0-0-0		3
	PECST758	Programming Languages	3-0-0-0		3
	PECST759	Parallel Algorithms	3-0-0-0		3
	PECST785	Algorithms For Data Science	3-0-0-0		3

OPEN ELECTIVE 2: OECST72N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	OECST721	Cyber Security	3-0-0-0	3	3
	OECST722	Cloud Computing	3-0-0-0		3
	OECST723	Software Engineering	3-0-0-0		3
	OECST724	Computer Networks	3-0-0-0		3
	OECST725	Mobile Application Development	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	PECST86N/ PECSM86N	PE	PE	PE-6 (Internship Students: Self Study/MOOC Approved by college/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	OEXXT83N /IEXXT83N/ OEXXM83N	OE/ ILE	OE/IE	OE/ILE-3 (Internship Students: Self Study/MOOC Approved by college/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 college/Online Classes)	2	0	0	0	3	50	50	1	2
4	P**	PCCSP806/ PCCSI806/ PCCSJ806	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: PECST86N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
B	PECST861	Software Architectures	3-0-0-0	**3**	3
	PECST862	Natural Language Processing	3-0-0-0		3
	PECST863	Topics in Security	3-0-0-0		3
	PECST864	Computational Complexity	3-0-0-0		3
	PECST865	Next Generation Interaction Design	3-0-0-0		3
	PECST866	Speech and Audio Processing	3-0-0-0		3
	PECST867	Storage Systems	3-0-0-0		3
	PECST868	Prompt Engineering	3-0-0-0		3
	PECST869	Computational Number Theory	3-0-0-0		3

OPEN ELECTIVE 3: OECST83N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	OECST831	Introduction to Algorithms	3-0-0-0	3	3
	OECST832	Web Programming	3-0-0-0		3
	OECST833	Software Testing	3-0-0-0		3
	OECST834	Internet of Things	3-0-0-0		3
	OECST835	Computer Graphics	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**	Mathematics for Information Science-1	3
2	**S1/S2**	Physics for Information Science	4
3		Chemistry for Information Science	4
4	**S2**	Mathematics for Information Science-2	3
5	**S3**	Mathematics for Information Science-3	3
6	**S4**	Mathematics for Information Science-4	3
Total Credits			**20**

ESC Courses (Group A)			
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
Total Credits			**29**

Program Core Courses (PC)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Discrete Mathematics	4
2	**S3**	Theory of Computation	4
3		Data Structures and Algorithms	4
4		Data Structures Lab	2
5		Digital Lab	2
6	**S4**	Database Management Systems	4
7		Operating Systems	4
8		Operating Systems Lab	2
9		DBMS Lab	2
10	**S5**	Computer Networks	4
11		Design and Analysis of Algorithms	4
12		Machine Learning	3
13		Networks Lab	2
14		Machine Learning Lab	2
15	**S6**	Compiler Design	4
16		Advanced Computing Systems	3
17		Systems Lab	2
Total Credits (Theory -10, Lab-7)			**52**

Program Core-Project Based Learning (PBL)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S3**	Object Oriented Programming	4
2	**S4**	Computer Organization and Architecture	4
3	**S5**	Microcontrollers	4
4	**S6**	Fundamentals of Cyber Security	4
Total Credits			**16**

Program 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**	Miniproject	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 college)		

- ***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 Programs 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	Program (Professional) Core Courses	PCC	52
5	Program (Professional) Core Courses-Project Based Learning	PBL	16
6	Program 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**