



APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

(A State Government University)

B. Tech Curriculum-2024

Semester I to VIII

Electrical and Electronics Engineering

Branch Code:EE

(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	GYEST103	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	HM C		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			-	
Total										30/ 32			20	25/ 26
Bridge Course (Mathematics or Introduction to Computer Science) *:										Total 15 Hrs.				

*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	GBEST213	ESC	GC	Engineering Mechanics	3	0	0	0	4.5	40	60	3	3
4	D	GBEST204	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	PCEET205	PC	PC	Measurements and Instrumentation	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	
Total										34			24	27/ 28

*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= $1.5L+0.5T+0.5P+R$

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	PCEET303	PC	PC	DC Machines and Transformers	3	1	0	0	5	40	60	4	4
4	D	PBEET304	PC-PBL	PB	Analog Electronics	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	PCEEL307	PCL	PC	Circuits and Measurements Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEEL308	PCL	PC	Analog Electronics 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	PCEET402	PC	PC	Synchronous and Induction Machines	3	1	0	0	5	40	60	4	4
3	C	PCEET403	PC	PC	Power Electronics and Drives	3	1	0	0	5	40	60	4	4
4	D	PBEET404	PC-PBL	PB	Digital Electronics	3	0	0	1	5.5	60	40	4	4
5	E	PEEET41N	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	PCEEL407	PCL	PC	DC Machines and Transformers Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEEL408	PCL	PC	Power Electronics and Drives 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: 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
	PEEET416	Computer Organization	3-0-0-0		3
	PEEET417	Solid State Devices	3-0-0-0		3
	PEEET418	Illumination Technology	3-0-0-0		3
	PEEET419	Object Oriented Programming	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	PCEET501	PC	PC	Power Generation, Transmission and Protection	3	1	0	0	5	40	60	4	4
2	B	PCEET502	PC	PC	Electromagnetic Theory	3	1	0	0	5	40	60	4	4
3	C	PCEET503	PC	PC	Signals & Systems	3	0	0	0	4.5	40	60	3	3
4	D	PBEET504	PC-PBL	PB	Microprocessor and Embedded Systems	3	0	0	1	5.5	60	40	4	4
5	E	PEEET52N	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	PCEEL507	PCL	PC	AC Machines Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCEEL508	PCL	PC	Microprocessor 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: PEEET52N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEEET521	Energy Storage Systems	3-0-0-0	3	3
	PEEET522	Electric Vehicles	3-0-0-0		3
	PEEET523	Digital System Design	3-0-0-0		3
	PEEET524	Software Engineering	3-0-0-0		3
	PEEET526	Data Structures	3-0-0-0		3
	PEEET527	Introduction to Machine Learning	3-0-0-0		3
	PEEET528	Computer Network 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	PCEET601	PC	PC	Control Systems	3	1	0	0	4.5	40	60	4	4
2	B	PCEET602	PC	PC	Electrical System Design and Estimation	3	0	0	0	4.5	40	60	3	3
3	C	PEEET63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	PBEET604	PC-PBL	PB	Power System Analysis	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	OEEET61N /IEEET61N	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	PCEEL607	PCL	PC	Control Systems Lab	0	0	3	0	1.5	50	50	2	3
8	P	PCEEP608	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	2	3
9	Q	PCEEL609	PCL	PC	Power Systems Lab	0	0	2	0	1	50	50	1	2
10	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*	26/29*

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: PEEET63N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	PEEET631	Digital protection of power systems	3-0-0-0	3	3
	PEEET632	Operating Systems	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 Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	PEEET74N/ PEEEM74N	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/ PEEEM75N	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	PCEES705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	PCEEP706/ PCEEI706	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: 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

PROGRAM ELECTIVE 5: PEEET75N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	PEEET751	Power Quality	3-0-0-0	3	3
	PEEET752	Nonlinear Control Systems	3-0-0-0		3
	PEEET753	Deep Learning	3-0-0-0		3
	PEEET754	Computer Vision	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	Hybrid and Electric 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/ PEEEM86N	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	OEEET83N/ /IEEET83N/ OEEEM83N	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	PCEEP806/ PCEEI806/ PCEEJ806	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: 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: OEEET83N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEEET 831	Introduction to Robotics	3-0-0-0	3	3
	OEEET 832	PLC and Automation	3-0-0-0		3
	OEEET 833	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, 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 Core Courses (PC) (CE,EE,ME)			
Sl. No:	Semester	Course Area	Credits
1	S2	Core 1- Measurements and Instrumentation	4
2	S3	Core 2- Circuits and Networks	4
3		Core 3- DC Machines and Transformers	4
4		Lab 1 - Circuits and Measurements Lab	2
5		Lab 2 - Analog Electronics Lab	2
6	S4	Core 4 – Synchronous and Induction Machines	4
7		Core 5 - Power Electronics and Drives	4
8		Lab 3 - DC Machines and Transformers Lab	2
9		Lab 4 –Power Electronics and Drives Lab	2
10	S5	Core 6 - Power Generation, Transmission and Protection	4

11		Core 7 - Electromagnetic Theory	4
12		Core 8 - Signals & Systems	3
13		Lab 5 - AC Machines Lab	2
14		Lab 6 - Microprocessor and Embedded Systems Lab	2
15	S6	Core 9 - Control Systems	3
16		Core 10 – Electrical System Design	3
17		Lab 7 - Control Systems Lab	2
		Lab 8 - Power System Lab	1
Total Credits (Theory -10, Lab-8)			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