APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

(A State Government University)

B. Tech

CURRICULUM-2024- Semester I to VIII

Mechanical (Automobile) Engineering

Branch Code: - MU

(Group C)

Ambady Nagar, Sreekaryam

Thiruvananthapuram- 695016

FIRST SEMESTER (July-December)														
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 Physical Science-1	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GZPHT121	BSC	GC	Physics for Physical Science	3	0	2	0	5.5	40	60	4	5
		GCCYT122			Chemistry for Physical Science									
3	C	GCEST103	ESC	GC	Engineering Mechanics	3	0	0	0	4.5	40	60	3	3
4	D	GCEST104	ESC	GC	Introduction to Mechanical Engineering & Civil Engineering (Part1: Mechanical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Civil 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	GCESL106	ESC	GC	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	-	0	3	100	0		
8	S_1/ S_2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(30 Hours, NASSCOM)	MOOC				2			-	
Total										**30/ 32**			**20**	**24/25**
Bridge Course (Mathematics or Introduction to Computer Science) *: Total 15 Hrs.														

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 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

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 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**

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.

SECOND 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	GYMAT201	BSC	GC	Mathematics for Physical Science-2	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GZPHT121	BSC	GC	Physics for Physical Science	3	0	2	0	5.5	40	60	4	5
		GCCYT122			Chemistry for Physical Science									
3	C	GCEST203	ESC	GC	Engineering Graphics and Computer Aided Drawing	2	0	2	0	4	40	60	3	4
4	D	GZEST204	ESC	GC	Basic 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	E	PCMET205	PC	PC	Material Science and Engineering	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	-	0	3	100	0		
8	L	GZESL208	ESC	GC	Basic Electrical and Electronics Engineering workshop	0	0	2	0	1	50	50	1	2
	S_1/ S_2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(30 Hours, NASSCOM)	MOOC							1	
Total										**34**			**24**	**27/28**

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

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 Physical Science-3	3	0	0	0	4.5	40	60	3	3
2	B	PCMUT302	PC	PC	Automotive Systems	3	1	0	0	5	40	60	4	4
3	C	PCMET303	PC	PC	Fluid Mechanics and Machinery	3	1	0	0	5	40	60	4	4
4	D	PBMET304	PC-PBL	PB	Manufacturing Processes	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	PCMUL307	PCL	PC	Fluid Mechanics and Hydraulic Machines Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCMUL308	PCL	PC	Automotive systems 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***

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	GCMAT401	BSC	GC	Mathematics for Physical Science-4	3	0	0	0	4.5	40	60	3	3
2	B	PCMUT402	PC	PC	Mechanics of Solids	3	1	0	0	5	40	60	4	4
3	C	PCMUT403	PC	PC	Thermodynamics and Thermal Systems	3	1	0	0	5	40	60	4	4
4	D	PBMUT404	PC-PBL	PB	Automotive Engines and Transmission	3	0	0	1	5.5	60	40	4	4
5	E	PEMUT41N	PE	PE	Program Elective-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	PCMUL407	PCL	PC	Material Testing Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCMEL408	PCL	PC	Manufacturing Technology 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: PEMUT41N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEMUT411	Alternate fuels and Energy systems	3-0-0-0	**3**	3
	PEMUT412	Composite Materials and Ceramics	3-0-0-0		3
	PEMUT413	Vehicle Body Engineering	3-0-0-0		3
	PEMET416	Advanced Metal Joining Techniques	3-0-0-0		3
	PEMET418	Supply chain and Logistics Management	3-0-0-0		3
	PEMUT415	**Computer Aided Design and Manufacturing**	3-0-0-0		**5/3**

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	PCMUT501	PC	PC	Automotive Electrical and Electronics systems	3	1	0	0	5	40	60	4	4
2	B	PCMUT502	PC	PC	Heat and Mass Transfer	3	1	0	0	5	40	60	4	4
3	C	PCMUT503	PC	PC	Electric Vehicles - Drives and Control	3	0	0	0	4.5	40	60	3	3
4	D	PBMUT504	PC-PBL	PB	Mechanics of Machinery	3	0	0	1	5.5	60	40	4	4
5	E	PEMUT52N	PE	PE	Program Elective-2	3	0	0	0	4.5	40	60	3	3
6	I*	UCHUM506	HMC	UC	Constitution Of India	-	-	-	-	2	-	-	1	-
7	L	PCMUL507	PCL	PC	Computer aided Design and Analysis lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCMUL508	PCL	PC	Thermal and Internal Combustion engines 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 10 Days are permitted, Not Exceeding more than 5 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.

PROGRAM ELECTIVE 2: PEMUT52N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEMET521	Computational Fluid Dynamics	3-0-0-0	**3**	3
	PEMUT522	Automotive Pollution and Control	3-0-0-0		3
	PEMUT523	Tractors, Farm Equipments and Special Types of Vehicles	3-0-0-0		3
	PEMET524	Additive Manufacturing	3-0-0-0		3
	PEMUT526	Automotive Standards and Regulations	3-0-0-0		3
	PEMET525	**Instrumentation and control systems**	3-0-0-0		**5/3**

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	PCMUT601	PC	PC	Design of Automotive Components	3	1	0	0	5	40	60	4	4
2	B	PCMUT602	PC	PC	Mechatronics	3	0	0	0	4.5	40	60	3	3
3	C	PEMUT63N	PE	PE	Program Elective-3	3	0	0	0	4.5	40	60	3	3
4	D	PBMUT604	PC-PBL	PB	Vehicle Dynamics	3	0	0	1	5.5	60	40	4	4
5	F	GCEST605	ESC	GC	Design Thinking and Product Development	2	0	0	0	3	40	60	2	2
6	O	OEMUT61N /IEMUT61N	OE/ILE	OE/IE	Open Elective/Industry Linked Elective-1	3	0	0	0	4.5	40	60	3	3
7	L	PCMUL607	PCL	PC	Electrical Machines and Mechatronics Lab	0	0	3	0	1.5	50	50	2	3
8	P	PCMUP608	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	1	0	0	5			4*	4*
	S5/ S6	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**32/ 36**			**23/27***	**25/29***

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.

PROGRAM ELECTIVE 3: PEMUT63N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	PEMUT631	Electric and Hybrid Vehicles	3-0-0-0	**3**	3
	PEMUT632	Automotive Embedded systems	3-0-0-0		3
	PEMUT633	Vehicle Performance and Testing	3-0-0-0		3
	PEMET636	Nondestructive Testing	3-0-0-0		3
	PEMET638	Industrial Safety Engineering	3-0-0-0		3
	PEMUT635	**Vehicle Maintenance and Troubleshooting**	3-0-0-0		**5/3**

OPEN ELECTIVE 1: OEMUT61N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEMUT611	Automated guided and Autonomous Vehicles	3-0-0-0	3	3
	OEMUT612	Modern Automotive Technologies	3-0-0-0		3
	OEMUT613	Tractors and Farm Equipments	3-0-0-0		3
	OEMUT614	Special Types of Vehicles	3-0-0-0		3
	OEMUT615	Alternate fuels and 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	PEMUT74N / PEMUM74N	PE	PE	Program Elective-4 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	PEMUT75N/ PEMUM75N	PE	PE	Program Elective -5 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	OEMUT72N /IEMUT72N/ OEMUM72N	OE/ ILE	OE/I E	Open Elective/Industry Linked Elective -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	University Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	PCMUS705	PS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	PCMUP706/ PCMUI706	PS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	12	12	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*
**The students can take the internship option either in 7th or in 8th semester.*
** Option 1: Work on a Project in the institute/department under the mentorship of faculty members.*
*Option 2: Full semester Internship in Industry/organization (**7th or 8th semester**)*
Note: Open Electives are such courses which will be offered by other departments.

PROGRAM ELECTIVE 4: PEMUT74N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	PEMUT741	Hydrogen Engines and Fuel cell Vehicles	3-0-0-0	**3**	3
	PEMUT742	Heating Ventilation and Air Conditioning systems	3-0-0-0		3
	PEMUT743	Vehicle safety and security systems	3-0-0-0		3
	PEMUT744	Modern Automotive Technologies	3-0-0-0		3
	PEMUT746	Microprocessors and Controllers in automotives	3-0-0-0		3
	PEMUT745	**Finite Element Analysis**	**3-0-0-0**		**5/3**

PROGRAM ELECTIVE 5: PEMUT75N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	PEMUT751	Data analytics	3-0-0-0	**3**	3
	PEMUT752	Advanced IC Engines and Combustion	3-0-0-0		3
	PEMUT753	Automotive Aerodynamics	3-0-0-0		3
	PEMUT754	Tribology and Lubrication	3-0-0-0		3
	PEMET757	Flexible Manufacturing system	3-0-0-0		3
	PEMUT755	**Artificial Intelligence and Machine Learning**	**3-0-0-0**		**5/3**

OPEN ELECTIVE 2: OEMET72N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEMUT721	Electric and Hybrid Vehicles	3-0-0-0	3	3
	OEMUT722	Automotive Ergonomics and Safety	3-0-0-0		3
	OEMUT723	Automotive Navigation and control	3-0-0-0		3
	OEMUT724	Vehicle Performance and Testing	3-0-0-0		3
	OEMUT725	Embedded systems in Automobiles	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)

EIGHT 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	PEAOT86N / PEAOM86N	PE	PE	Program Elective -6 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	OEAOT83N /IEAOT83N /OEAOM83N	OE/ILE	OE/IE	Open Elective/Industry Linked Elective -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	PCAOP806/ PCAOI806/ PCAOJ806	PS	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	12	12	100	0	4	8
5	R/H		VAC		Project: Honours Course	0	0	0	4	4			4*	4
Total										**24/ 28**			**11/15***	**16/20**

No Grade Points will be awarded for the I slot courses
** Option 2: Full semester Internship in Industry/organization (**7th or 8th semester**)*

PROGRAM ELECTIVE 6: PEMUT86N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	PEMUT861	Automotive Navigation and Control	3-0-0-0	3	3
	PEMUT862	Operational research and Industrial management	3-0-0-0		3
	PEMUT863	Automotive Noise Vibration and Harshness	3-0-0-0		3
	PEMUT864	Renewable Energy Sources	3-0-0-0		3
	PEMUT866	Vehicle Transport Management	3-0-0-0		3
	PEMUT865	**Advanced Driver Assistance Systems and Autonomous Vehicles**	**3-0-0-0**		**5/3**

OPEN ELECTIVE 3: OEMUT83N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEMUT 831	Advanced Tribology and Nano lubricants in Automotives	3-0-0-0	3	3
	OEMUT 832	Hydrogen and Fuel cell vehicles	3-0-0-0		3
	OEMUT 833	Advanced Manufacturing Techniques	3-0-0-0		3
	OEMUT 834	Automotive Mechatronics	3-0-0-0		3
	OEMUT 835	Vehicle transport and Fleet Management	3-0-0-0		3

HMC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1/S2**	Life Skills and Professional Communication	1
2	**S3**	Economics for Engineers	2
3	**/S4**	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 Physical Science-1	**3**
2	**S1/S2**	Physics for Physical Science	4
3		Chemistry for Physical Science	4
4	**S2**	Mathematics for Physical Science-2	3
5	**S3**	Mathematics for Physical Science-3	3
6	**S4**	Mathematics for Physical Science-4	3
Total Credits			**20**

ESC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Engineering Mechanics	3
2		Introduction to Mechanical Engineering/ Civil Engineering	4
3		Algorithmic Thinking with Python	4
4		Engineering Workshop	1
5	**S2**	Engineering Graphics and Computer Aided Drawing	3
6		Basic Electrical and Electronics Engineering	4
7		Engineering Entrepreneurship and IPR	3
8		Basic Electrical and Electronics Engineering 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)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Material Science and Engineering	4
2	**S3**	Automotive Systems	4
3		Fluid Mechanics and Machinery	4
4		Fluid Mechanics and Hydraulic Machines Lab	2
5		Automotive systems Lab	2
6	**S4**	Mechanics of Solids	4
7		Thermodynamics and Thermal Systems	4
8		Material Testing Lab	2
9		Manufacturing Technology Lab	2
10	**S5**	Automotive Electrical and Electronics systems	4
11		Heat and Mass Transfer	4
12		Electric Vehicles - Drives and Control	3
13		Computer aided Design and Analysis lab	2
14		Thermal and Internal Combustion engines lab	2
15	**S6**	Design of Automotive Components	4
16		Mechatronics	3
17		Electrical Machines and Mechatronics 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**