

IV Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max Marks	Duration in Hrs.
18UMAC400	BS	Engg. Mathematics-IV	3 - 0 - 0	3	50	100	3	-	-
18UECC400	PC	Communication Systems - I	4 - 0 - 0	4	50	100	3	-	-
18UECC401	PC	Control Systems	3 - 2 - 0	4	50	100	3	-	-
18UECC402	PC	Microcontroller	3 - 2 - 0	4	50	100	3	-	-
18UECC403	PC	HDL Programming Using Verilog	3 - 0 - 0	3	50	100	3	--	--
18UECC404	PC	Linear ICs and Applications	3 - 0 - 0	3	50	100	3	--	--
18UECL405	PC	HDL Programming Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL406	PC	Linear Integrated Circuits Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL407	PC	Introductory Project	0 - 0 - 2	1	50	--	--	--	--
Total			19 - 4 - 8	25	450	600		100	

BS- Basic Science, PC- Program Core

CIE: Continuous Internal Evaluation **SEE:** Semester End Examination

L: Lecture **T:** Tutorials **P:** Practical

*SEE for theory courses is conducted for 100 marks and reduced to 50 marks

Scheme and Syllabus

V Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration in Hrs.
18UHUC500	HU	Management, Entrepreneurship and IPR	4 - 0 - 0	4	50	100	3	-	-
18UECC500	PC	CMOS VLSI Design	4 - 0 - 0	4	50	100	3	-	-
18UECC501	PC	Communication Systems -II	4 - 0 - 0	4	50	100	3	-	-
18UECC502	PC	Digital Signal Processing	3 - 0 - 0	3	50	100	3	-	-
18UECC503	PC	Information Theory & Coding	3 - 0 - 0	3	50	100	3	--	--
18UECE5XX	PE	Program Elective-I	3 - 0 - 0	3	50	100	3	--	--
18UECL504	PC	Communication Systems Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL505	PC	DSP Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL506	PC	Minor Project-1	0 - 0 - 2	1	50	--	--	--	--
18UHUL507	HU	Soft skills/Aptitude	0 - 0 - 2	1	50	--	--	--	--
Total			21 - 0 - 10	26	500	600		100	

Program Elective-I

18UECE510	PE	Object Oriented Programming using C++	3 - 0 - 0	3	50	100	3	--	--
18UECE511	PE	Telecommunication Networks	3 - 0 - 0	3	50	100	3	--	--
18UECE512	PE	Scientific Computing using Python	3 - 0 - 0	3	50	100	3	--	--
18UECE513	PE	Sensors and Transducers	3 - 0 - 0	3	50	100	3	--	--

VI Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UECC600	PC	Analog& Mixed Mode VLSI Design	4 - 0 - 0	4	50	100	3	-	-
18UECC601	PC	IOT & Embedded System Design	4 - 0 - 0	4	50	100	3	-	-
18UECE6XX	PE	Program Elective-II	3 - 0 - 0	3	50	100	3	-	-
18UECE6XX	PE	Program Elective-III	3 - 0 - 0	3	50	100	3	-	-
18UECE6XX	OE	Open Elective	3 - 0 - 0	3	50	100	3	-	-
18UECL602	PC	Embedded Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL603	PC	VLSI Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UECL604	PC	Minor Project-2	0 - 0 - 4	2	50	--	--	50	3
18UHUL605	HU	Soft skills/Aptitude	0 - 0 - 2	1	50	--	--	--	--
Total			17 - 0 - 12	23	450	500		150	

Program Elective-II

18UECE610	PE	System Verilog	3 - 0 - 0	3	50	100	3	-	-
18UECE611	PE	Advanced Digital System Design	3 - 0 - 0	3	50	100	3	-	-
18UECE612	PE	Image Processing & Computer Vision	3 - 0 - 0	3	50	100	3	-	-
18UECE613	PE	Operating System	3 - 0 - 0	3	50	100	3	-	-

Program Elective-III

18UECE620	PE	Speech Processing	3 - 0 - 0	3	50	100	3	-	-
18UECE621	PE	Robotics	3 - 0 - 0	3	50	100	3	-	-
18UECE622	PE	Data structure using C++	3 - 0 - 0	3	50	100	3	-	-
18UECE623	PE	Artificial Intelligence	3 - 0 - 0	3	50	100	3	-	-

Open Elective

18UECO630	OE	Cryptography	3 - 0 - 0	3	50	100	3	--	--
18UECO631	OE	Soft Computing	3 - 0 - 0	3	50	100	3	--	--
18UECO632	OE	Automotive Electronics	3 - 0 - 0	3	50	100	3	--	--
18UECO633	OE	Multimedia Communication	3 - 0 - 0	3	50	100	3	--	--
18UMAO675	OE	Applied Mathematics	3 - 0 - 0	3	50	100	3	--	--

VII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UECC700	PC	Antenna & Wave Propagation	4 - 0 - 0	4	50	100	3	-	-
18UECC701	PC	Computer Communication Networks	4 - 0 - 0	4	50	100	3	-	-
18UECE7XX	PE	Program Elective-IV	3 - 0 - 0	3	50	100	3	-	-
18UECO7XX	OE	Open Elective	3 - 0 - 0	3	50	100	3	-	-
18UECL702	PC	CCN Laboratory	0 - 0 - 2	1	50	--	--	50	3
18UECL703	PC	Major Project Phase-1	0 - 0 - 4	2	50	--	--	50	3
18UECL704	PC	Internship	4 weeks	2	50	--	--	50	3
Total			14 - 0 - 6	19	350	400		150	

18UECE7XX	PE	Program Elective-IV
18UECE710		MEMS
18UECE711		ASIC Design
18UECE712		VLSI DSP Systems
18UECE713		Optical Fiber Communication
18UECO7XX	OE	Open Elective
18UECO720		Machine Learning
18UECO721		Pattern Recognition
18UECO722		Multi Core Programming
18UECO723		Mobile Computing

PC- Program Core, PE-Program Elective, OE- Open Elective

VIII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UECC800	PC	Wireless Communication	4 - 0 - 0	4	50	100	3	-	-
18UECE8XX	PE	Program Elective-V	3 - 0 - 0	3	50	100	3	-	-
18UECO8XX	OE	Open Elective	3 - 0 - 0	3	50	100	3	--	--
18UECL801	PC	Technical Seminar	0 - 0 - 2	1	50	--	--	--	--
18UECL802	PC	Major Project Phase-2	0-0 -12	7	50	--	--	50	3
	Total		10- 0 - 14	18	250	300	--	50	--

2nd

18UECE8XX	PE	Program Elective-V
18UECE810		Adhoc Wireless Networks
18UECE811		Re-configurable Design
18UECE812		Low Power VLSI Design
18UECE813		Digital Signal Compression
18UECO8XX	OE	Open Elective
18UECO820		DSP Architecture
18UECO821		CAD for VLSI
18UECO822		Operation Research
18UECO823		Advanced Computer Architecture

PC- Program Core, PE-Program Elective and OE- Open Elective

2018 PG (Digital Electronics) Scheme

Scheme of Teaching & Examination for M.Tech Digital Electronics

Scheme for I Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/ Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
18PMAC100	Advanced Mathematics	4-0-0	4	50	100	3		
18PDEC100	Digital Circuits and Logic Design	4-0-0	4	50	100	3		
18PDEE15X	Elective-I	4-0-0	4	50	100	3		
18PDEE15X	Elective -II	4-0-0	4	50	100	3		
18PDEE15X	Elective -III	4-0-0	4	50	100	3		
18PDEL101	Digital Electronics Laboratory-I	0-0-3	2	50			50	3
18PDES103	Seminar**	0-0-3	1	100				
Total		20-0-6	23	400	500		50	

Elective I to III

18PDEE150	Digital VLSI Design
18PDEE151	Machine Learning
18PDEE152	Digital System Design Using Verilog
18PDEE153	Automotive Electronics
18PDEE154	Nano Electronics
18PDEE155	ASIC Design
18PDEE156	Simulation, Modeling & Analysis
18PDEE157	Advanced Embedded System Design

Scheme for II Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
18PDEC200	Modern DSP	4-0-0	4	50	100	3		
18PDEC201	Coding Theory	4-0-0	4	50	100	3		
18PDEE25X	Elective- IV	4-0-0	4	50	100	3		
18PDEE25X	Elective- V	4-0-0	4	50	100	3		
18PDEE25X	Elective-VI	4-0-0	4	50	100	3		
18PDEPL202	Digital Electronics Laboratory-II	0-0-3	2	50			50	3
18PDEP203	Mini Project	0-0-3	1	100				
Total		20-0-6	23	400	500		50	

Elective IV to VI

18PDEE250	Advanced Reconfigurable Computing
18PDEE251	System on Chip Design
18PDEE252	Low Power VLSI
18PDEE253	Digital Signal Compression
18PDEE254	Image & Video Processing
18PDEE255	Wavelet Transforms
18PDEE256	Multimedia Communication
18PDEE257	Micro Electro-Mechanical Systems

CIE: Continuous Internal Evaluation

SEE: Semester End Examination

L: Lecture

T: Tutorials

P: Practical

* SEE for theory courses is conducted for 100 marks and reduced to 50 marks.

** Seminar topics should be from emerging areas in Digital Electronics,
preferably the contents not studied in their regular courses.

*** Select any three electives from the list.

Total Credits offered for first year: 46

Scheme for III Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
18PDEC300	Advances in VLSI Design	4-0-0	4	50	100	3		
18PDEE35X	Elective VII	4-0-0	4	50	100	3		
18PDEE35X	Elective VIII / Internship***	3-0-0/2-4 weeks	3	50/50	100/-	3/-	-/50	-/3
18PDEL300	Project Phase-I**	0-0-15	9	50		!	50	3
Total		8/11-0-15	20	200	300/200		50/100	

Elective VII to VIII

18PDEE350	Advanced Computer Architecture
18PDEE351	Artificial Neural Networks
18PDEE352	Cryptographic Systems
18PDEE353	VLSI Digital Signal Processing
18PDEE354	IC Fabrication Technology
18PDEE355	Speech Processing
18PDEE356	Wireless Sensor Networks

CIE: Continuous Internal Evaluation

SEE: Semester End Examination

L: Lecture

T: Tutorial

P: Practical

*SEE for theory courses is conducted for 100 marks and reduced to 50 marks.

** **Project phase-I:** The students are expected to formulate the problem and carry out the intensive literature survey along with preliminary investigations supporting the project phase-II in IV semester.

*** **Internship:** should be from the reputed industries. Duration of internship is about 2-4 weeks during 2nd to 3rd semester break period. Students who undergo Internship are to be exempted for one elective course in III semester.

Scheme for IV Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
18PDEL400	Project phase-II	0-0-20	22	100			100	3
Total		0-0-20	22	100			100	

CIE: Continuous Internal Evaluation

SEE: Semester End Examination

L: Lecture

T: Tutorial

P: Practical

** Project phase-II: The students are expected to work on the project for the full semester in the institute/ in an industry / in reputed organization with recognized R&D center

Total Credits offered for the Second year: 42

