4 year B. Tech. Degree Course – Electronics and Computer Engineering w.e.f. 2024-25 Batch

FIRST SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	15B11MA111	Mathematics-1	3	1	-	4	4
2.	15B11PH111	Physics-I	3	1	-	4	4
3.	15B11CI111	Software Development Fundamental-I	3	1	-	4	4
4.	15B11HS112	English	1	-	2	3	2
5.	15B17PH171	Physics Lab-1	-	-	2	2	1
6.	15B17CI171	Software Development Fundamental Lab-I	-	-	2	2	1
7.	18B15GE112	Workshop	-	-	3	3	1.5
8	24B11EC111	Basic Electronics	3	1	-	4	4
9	24B15EC111	Basic Electronics Lab	-	-	2	2	1
		TOTAL				**28**	**22.5**

SECOND SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	15B11MA211	Mathematics-2	3	1	-	4	4
2.	15B11PH211	Physics-2	3	1	-	4	4
3	15B11CI121	Software Development Fundamental -2	3	1	-	4	4
4.	15B17PH271	Physics Lab-2	-	-	2	2	1
5	15B17CI271	Software Development Fundamental Lab 2	-	-	2	2	1
6.	24B16HS111	Life Skills & Professional Communication Lab	-	-	2	2	Qualifying
7.	18B15GE111	Engineering Drawing & Design	-	-	3	3	1.5
8	15B11HS111	Universal Human Values (UHV)	2	1	-	3	3
		TOTAL				**24**	**18.5**

THIRD SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	15B11MA301	Probability and Random Processes	3	1	-	4	4
2.	15B11CI518	Data Structures and Algorithms	3	1	-	4	4
3.	XXXXXX	Electronics Devices and Circuits	3	1	-	4	4
4.	18B11EC215	Digital Circuit Design	3	1	-	4	4
5.	15B11GE301	Environmental Science	3	-	-	3	Qualifying
6.	15B17CI578	Data Structures and Algorithms Lab	-	-	2	2	1
7.	XXXXXX	Electronics Devices and Circuits Lab	-	-	2	2	1
8.	18B15EC215	Digital Circuit Design Lab	-	-	2	2	1
9.	15B11HS211	Economics	2	1	-	3	3
10.	XXXXXX	Summer Training-I (4 weeks)	-	-	-	-	2
		TOTAL				**28**	**24**

FOURTH SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	Xxxxx	HSS Elective – 1	2	1	-	3	3
2.	15B11EC411	Analogue Electronics	3	1	-	4	4
3.	18B11EC214	Signals and Systems	3	1	-	4	4
4.	Xxxxx	Database Management Systems	3	1	-	4	4
5.	Xxxxx	Computer Architecture	3	-	-	3	3
6.	15B17EC471	Analogue Electronics Lab	-	-	2	2	1
7	18B15EC214	Signals and Systems Lab	-	-	2	2	1
8	Xxxxx	Database Management Systems Lab	-	-	2	2	1
9	Xxxxx	Discipline Elective -1	3	-	-	3	3
		TOTAL				**27**	**24**

FIFTH SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	XXXXXX	Operating Systems	3	1	-	4	4
2.	18B11EC212	Analog and Digital Communication	3	1	-	4	4
3	XXXXXX	Operating Systems Lab	-	-	2	2	1
4.	18B15EC212	Analog and Digital Communication Lab	-	-	2	2	1
5.	XXXXXX	Discipline Elective – 2	3	-	-	3	3
6	XXXXXX	Discipline Elective – 3	3	-	-	3	3
7	XXXXXX	Science Elective	3		-	3	3
8	18B12HS311	Indian Constitution & Traditional Knowledge	3	-	-	3	Qualifying
9	XXXXXX	Summer Training-II (6 weeks)	-	-	-	-	2
		TOTAL				**24**	**21**

SIXTH SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	XXXXXX	Embedded Systems and Micro Processor	3	-	-	3	3
2.	XXXXXX	Algorithm and Problem Solving	3		-	3	3
3.	XXXXXX	Artificial Intelligence and Machine Learning	3		-	3	3
4.	XXXXXX	Discipline Elective – 4	3	-	-	3	3
5	XXXXXX	Discipline Elective -5	3	-	-	3	3
6	XXXXXX	Open Elective - 1	3			3	3
7	XXXXXX	Selected Value-Added Course	2			2	Audit
8	XXXXXX	Embedded Systems and Micro Processor Lab	-	-	2	2	1
9	XXXXXX	Algorithm and Problem-Solving Lab	-	-	2	2	1
10	XXXXXX	Minor Project	-	-	4	4	2
		TOTAL				**28**	**22**

SEVENTH SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	**Course Title**	L	T	P	Total	
1.	XXXXXX	DE – 6	3	-	-	3	3
2.	XXXXXX	Open Elective - 2	3	-	-	3	3
3.	15B19EC791	Major Project Part-1	-	-		8	4
4.	XXXXXX	Summer Training-III (6 weeks)	-	-	-	-	4
		TOTAL				**14**	**14**

EIGHTH SEMESTER

S. No.	Course		Contact Hours				Credits
	Course Code	**Course Title**	L	T	P	Total	
1.	XXXXXX	DE - 8	3	-	-	3	3
2.	XXXXXX	Open Elective -3	3	-	-	3	3
3.	15B19EC891	Major Project Part-2	-	-	12	12	6
4	XXXXXX	Seminar and Term Paper	0	0	4	4	2
		TOTAL				**22**	**14**

Total Credits for B. Tech. –160

Mandatory Internships/Summer Trainings

Summer Training -I (4 weeks) (In summer vacation after second semester)

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	XXXXXX	Inter/Intra institutional activites (Training with higher Institutions; Soft skill training organized by Training and Placement Cell of the respective institutions; contribution at incubation/ innovation /entrepreneurship cell of the institute; participation in conferences/ workshops/ competitions etc.; Learning at Departmental Lab/ Tinkering Lab/ Institutional workshop; Working for consultancy/ research project within the institutes and Participation in all the activities of Institute's Innovation Council for eg: IPR workshop/Leadership Talks/ Idea/ Design/ Innovation/ Business Completion/ Technical Expos etc.)	0		6	6	2
		TOTAL				6	2

Summer Training -II (6 weeks) (In summer vacation after fourth semester)

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	XXXXXX	Industrial/Govt./ NGO/MSME/ Rural Internship/ Innovation /Entrepreneurship (Students may choose either to work on innovation or entrepreneurial activities resulting in start-up or undergo internship with industry/ NGO's/ Government organizations/ Micro/ Small/ Medium enterprises to make themselves ready for the industry. In case student want to pursue their family business and don't want to undergo internship, a declaration by a parent may be submitted directly to the TPO.)	0		6	6	2
		TOTAL				6	2

Summer Training -III (6 weeks) (In summer vacation after sixth semester)

S. No.	Course		Contact Hours				Credits
	Course Code	Course Title	L	T	P	Total	
1.	XXXXXX	Industrial/Govt./ NGO/MSME/ Rural Internship/ Innovation /Entrepreneurship (Students may choose either to work on innovation or entrepreneurial activities resulting in start-up or undergo internship with industry/ NGO's/ Government organizations/ Micro/ Small/ Medium enterprises to make themselves ready for the industry. In case student want to pursue their family business and don't want to undergo internship, a declaration by a parent may be submitted directly to the TPO.)	0		8	8	4
		TOTAL				8	4

List of Electives

Discipline Elective – 1

- Computer Network
- Internet of Things (IoT)
- Introduction to Deep Learning
- Digital Hardware Design
- Mobile Communication
- Network Analysis and Synthesis
- Information Theory and Application

Discipline Elective – 2

- Electromagnetic Theory
- Digital Signal Processing
- Hardware Description Languages: VHDL and Verilog

Discipline Elective – 3

- Java Programming
- Neural Networks and Fuzzy Logic
- Sensor Technology & Android Programming
- Introduction to Blockchain Technology
- Ethical Hacking & Prevention

Discipline Elective – 4

- Computer Vision
- Digital Image processing
- Wireless Sensor Networks
- RF and Microwave
- Control Systems
- Information Theory & Coding
- Machine Learning and Natural Language Processing

Discipline Elective – 5

- Cloud Computing
- Machine learning and Statistical pattern recognition
- Modelling and Simulation of Semiconductor Devices
- Network & Cyber Security
- Web Technology and Cyber Security
- Soft Computing Paradigms
- Big Data with Hadoop and Spark

Discipline Elective – 6

- Introduction to FPGAs
- Fundamentals of Embedded Systems
- MIMO OFDM Applications to Wireless Communication
- Convergence and Next Generation Networks
- Computer Graphics
- Essentials of VLSI Testing

- Automation and Robotics
- System Simulation and Modelling
- Ethical Hacking & Prevention

Discipline Elective – 7

- Introduction to Blockchain Technology
- Adaptive Systems and Signal Processing
- Satellite and Optical Communication
- Wavelets and Application
- AI for Healthcare & smart Systems
- Next Generation Telecom Networks
- Wireless Communication and Computing
- Basic of Antenna and Wave propagation