Teaching Scheme of B. Tech.-I (Semester I & II)
<u>DIVISION – A, B, C, D, E & F</u>

<u>SEMESTER – I</u>

Sr. No.	Subject	Code	Scheme	Credit
1	**Mathematics-I**	**MA 101 S1**	**3-1-0**	**04**
2	**Branch Specific Course-I**	**XXXX 102 S1**	**3-1-0/3-0-2**	**04**
3	Mechanics, Lasers and Fiber Optics	PH 103 S1/S2	3-0-2	04
4	Applied Chemistry	CY 104 S1/S2	3-0-2	04
5	Engineering Drawing	CEME 105 S1/S2	2-0-4	04
6	Energy and Environmental Engineering	CEME 106 S1/S2	3-0-2	04
7	Holistic Empowerment and Human Values*	HU 107 S1/S2	3-0-0	00
		Total	**20-2-10=32/ 20-1-12=33**	**24**

* Audit Course (attendance would be compulsory as per institute norms)

<u>SEMESTER – II</u>

Sr. No.	Subject	Code	Scheme	Credit
1	Engineering Mechanics	AM 108 S2/S1	3-0-2	04
2	Fundamentals of Computer & Programming	CS 109 S2/S1	3-0-2	04
3	English & Professional Communication	HU 110 S2/S1	3-0-0	03
4	Workshop Practice	ME 111 S2/S1	0-0-4	02
5	Physics of Materials and Nuclei	PH 112 S2/S1	4-0-0	04
6	**Branch Specific Course-II**	**XXXX 113 S2**	**3-1-0/3-0-2**	**04**
7	**Mathematics-II**	**MA 114 S2**	**3-1-0**	**04**
		Total	**19-2-8=29/ 19-1-10=30**	**25**

S1 = Semester-1, S2 = Semester-2
AM = Applied Mechanics, CH = Chemical, CE = Civil, CS = Computer,
ME = Mechanical, EE = Electrical, EC = Electronics,
PH = Physics, CY = Chemistry, MA = Mathematics, HU = Humanities

Branch Specific Course: First two letters indicate branch for which the course is offered and the last two letters indicate the department which is offering the course

Teaching Scheme of B. Tech.-I (Semester I & II)
DIVISION – G, H, I, J, K & L

SEMESTER – I

Sr. No.	Subject	Code	Scheme	Credit
1	**Mathematics-I**	**MA 101 S1**	**3-1-0**	**04**
2	**Branch Specific Course-I**	**XXXX 102 S1**	**3-1-0/3-0-2**	**04**
3	Engineering Mechanics	AM 108 S1/S2	3-0-2	04
4	Fundamentals of Computer & Programming	CS 109 S1/S2	3-0-2	04
5	English & Professional Communication	HU 110 S1/S2	3-0-0	03
6	Workshop Practice	ME 111 S1/S2	0-0-4	02
7	Physics of Materials and Nuclei	PH 112 S1/S2	4-0-0	04
		Total	19-2-8=29/ 19-1-10=30	25

SEMESTER – II

Sr. No.	Subject	Code	Scheme	Credit
1	Mechanics, Lasers and Fiber Optics	PH 103 S2/S1	3-0-2	04
2	Applied Chemistry	CY 104 S2/S1	3-0-2	04
3	Engineering Drawing	CEME 105 S2/S1	2-0-4	04
4	Energy and Environmental Engineering	CEME 106 S2/S1	3-0-2	04
5	Holistic Empowerment and Human Values*	HU 107 S2/S1	3-0-0	00
6	**Branch Specific Course-II**	**XXXX 113 S2**	**3-1-0/3-0-2**	**04**
7	**Mathematics-II**	**MA 114 S2**	**3-1-0**	**04**
		Total	20-2-10=32/ 20-1-12=33	24

* Audit Course (attendance would be compulsory as per institute norms)

S1 = Semester-1, S2 = Semester-2
AM = Applied Mechanics, CH = Chemical, CE = Civil, CS = Computer,
ME = Mechanical, EE = Electrical, EC = Electronics,
PH = Physics, CY = Chemistry, MA = Mathematics, HU = Humanities

Branch Specific Course: First two letters indicate branch for which the course is offered and the last two letters indicate the department which is offering the course

Electronics Engineering Department

B. Tech. Electronics and Communication Engineering

Scheme

SEMESTER – III

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Engineering Mathematics-III *	MA 217	3-1-0	04	100	25	-	-	125
2.	Core-1 – Electronic Circuits	EC 201	3-1-2	05	100	25	25	25	175
3.	Core-2 – Digital Logic Design	EC 203	3-1-2	05	100	25	25	25	175
4.	Core-3 – Signals and Systems	EC 205	3-1-0	04	100	25	-	-	125
5.	Interdisciplinary Subject 1– Network Analysis and Synthesis	EE 207	3-1-0	04	100	25	-	-	125
		Total	15-5-4=24	22	500	125	50	50	725

SEMESTER – IV

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Core-4 - Statistical Signal Analysis	EC 202	3-1-0	04	100	25	-	-	125
2.	Core-5 – Principles of Communication Systems	EC 204	3-1-2	05	100	25	25	25	175
3.	Core-6 – Microprocessors and Microcontrollers	EC 206	3-1-2	05	100	25	25	25	175
4.	Core-7 - Linear IC Applications	EC 208	3-1-2	05	100	25	25	25	175
5.	Interdisciplinary Subject 2 – Core-8 – Control Systems	EE 214	3-1-0	04	100	25	-	-	125
		Total	15-5-6=26	23	500	125	75	75	775

*Syllabus is prepared by input from department will be taught by the Applied Mathematics and Humanities Department.

Electronics Engineering Department
B. Tech. Electronics and Communication Engineering
Scheme

SEMESTER – V

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Core-9 – Transmission Lines and Electromagnetic Waves	EC 301	3-1-2	05	100	25	25	25	175
2.	Core-10 – Digital Communication	EC 303	3-1-2	05	100	25	25	25	175
3.	Core-11 – Digital Signal Processing	EC 305	3-1-2	05	100	25	25	25	175
4.	Seminar	EC 307	0-0-2	01	-	-	25	25	50
5.	Institute Elective-1 - Sensors and Transducers - Neural Networks - Multimedia Communication	EC 361 EC 363 EC 365	3-0-0	03	100	-	-	-	100
6.	Core Elective- I - Computer Architecture and Organization - Data Structures and Algorithms - VLSI Technology - Digital Image Processing	EC 321 EC 323 EC 325 EC 327	3-0-0	03	100	-	-	-	100
		Total	**15-3-8=26**	**22**	**500**	**75**	**100**	**100**	**775**

SEMESTER – VI

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Professional Ethics, Economics and Business Management*	HU 304	3-1-0	04	100	25	-	-	125
2.	Core-12 – Wireless and Mobile Communication	EC 302	3-1-2	05	100	25	25	25	175
3.	Core-13 – Digital Integrated Circuits	EC 304	3-1-2	05	100	25	25	25	175
4.	Core Elective Lab # - Optical Fiber Comm. lab - Electronic Instrumentation lab - Machine Learning lab - Communication Networks lab	EC 306 EC 308 EC 312 EC 314	0-0-2	01	-	-	25	25	50
5.	Institute Elective-2 - High Performance Computing - Computer Vision - Micro - Electromechanical Systems	EC 362 EC 364 EC 366	3-0-0	03	100	-	-	-	100
6.	Core Elective- II - Optical Fiber Communication - Electronic Instrumentation - Machine Learning - Communication Networks	EC 322 EC 324 EC 326 EC 328	3-0-0	03	100	-	-	-	100
		Total	15-3-6=24	21	500	75	75	75	725

*Syllabus is prepared jointly by ASHD and concerned department and one hour on Ethics will be taught by the concerned department

The Core elective Labs are offered with reference to subjects offered under the pool of Core Elective-II and students have to elect the same Lab based on the their choice of subject as Core Elective -II

Electronics Engineering Department

B. Tech. Electronics and Communication Engineering
Scheme

SEMESTER – VII

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Core-14 – Microwave Engineering	EC 401	3-1-2	05	100	25	25	25	175
2.	Core-15 – VLSI Design	EC 403	3-1-2	05	100	25	25	25	175
3.	Core Elective-III	EC 4XX/ EC 6XX	3-0-0	03	100	-	-	-	100
4.	Core Elective-IV	EC 4XX/ EC 6XX	3-0-0	03	100	-	-	-	100
5.	Summer Training*	EC 405	0-0-0	02	-	-	25	25	50
6.	Project Preliminaries	EC 407	0-0-6	03	-	-	75	75	150
		Total	**12-2-10=24**	**21**	**400**	**50**	**150**	**150**	**750**

* Summer Training is to be organized during the summer vacation after 6th Semester.

List of Subjects for Core Elective III & IV

Sr. No.	Subject	Code	Scheme	Credit
1.	Error Control Coding	EC 409	3-0-0	03
2.	Optical Wireless Communication	EC 411	3-0-0	03
3.	Antenna Theory	EC 621	3-0-0	03
4.	Satellite Communication	EC 623	3-0-0	03
5.	Advanced Electronic Circuits	EC 625	3-0-0	03
6.	Deep Learning	EC 627	3-0-0	03
7.	Biomedical Instrumentation	EC 629	3-0-0	03
8.	Advanced Processer Architecture	EC 631	3-0-0	03
9.	Internet of Things	EC 633	3-0-0	03
10.	Robotics	EC 635	3-0-0	03
11.	Embedded Systems	EC 637	3-0-0	03

SEMESTER – VIII

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Core Elective-V	EC 6XX	3-0-0	03	100	-	-	-	100
2.	Core Elective-VI	EC 6XX	3-0-0	03	100	-	-	-	100
3.	Core Elective-VII	EC 6XX	3-0-0	03	100	-	-	-	100
4.	Innovation, Incubation and Entrepreneurship	HU 410	3-0-0	03	100	-	-	-	100
5.	Project	EC 402	0-0-12	06	-	-	150	150	300
		Total	12-0-12=24	18	400	-	150	150	700

List of Subjects for Core Elective V, VI & VII

Sr. No.	Subject	Code	Scheme	Credit
1.	Biomedical Signal Processing	EC 622	3-0-0	03
2.	Ad-Hoc Networks	EC 624	3-0-0	03
3.	Nanoelectronics	EC 626	3-0-0	03
4.	VLSI Signal Processing	EC 628	3-0-0	03
5.	Microwave Integrated Circuits	EC 632	3-0-0	03
6.	MIMO Communication systems	EC 634	3-0-0	03
7.	Testing and Verification of VLSI Circuits	EC 636	3-0-0	03
8.	VLSI System Design	EC 638	3-0-0	03
9.	Optical Networks	EC 642	3-0-0	03
10.	Global Navigation Satellite System	EC 644	3-0-0	03
11.	Radar Systems	EC 646	3-0-0	03
12.	Estimation and Detection Theory	EC 648	3-0-0	03
13.	Speech Processing and Human-Machine Communication	EC 652	3-0-0	03
14.	Real Time Systems	EC 654	3-0-0	03
15.	Photonic Integrated Devices and Systems	EC 656	3-0-0	03
16.	Visible Light Communication	EC 658	3-0-0	03
17.	EM Interference and Compatibility	EC 662	3-0-0	03

Course	Semester	Credit
B. Tech. – I	Semester – I	24
	Semester – II	25
B. Tech. – II	Semester – III	22
	Semester – IV	23
B. Tech. – III	Semester – V	22
	Semester – VI	21
B. Tech. – IV	Semester – VII	21
	Semester – VIII	18
	Total UG Credit	176