DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

I YEARI SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of ExaminationMaximum Marks		
				L	T	P		Int.	Ext.	Total
1	19199101	BSC	Mathematics-I	3	0	0	3	30	70	100
2	19199102	HSMC	Communicative English-I	3	0	0	3	30	70	100
3	19199103	BSC	Engineering Physics	3	0	0	3	30	70	100
4	19195104	ESC	Problem Solving & Programming in C	3	0	0	3	30	70	100
5	19193175	ESC	Engineering Graphics	1	0	3	2.5	30	70	100
6	19199196	MC	Environmental Studies	2	0	0	0	30*	-	-
7	19199111	HSMC	Communicative English Laboratory-I	0	0	3	1.5	50	50	100
8	19199112	BSC	Engineering Physics Laboratory	0	0	3	1.5	50	50	100
9	19195113	ESC	Problem Solving & Programming Laboratory with C	0	0	3	1.5	50	50	100
TOTAL				15	0	12	19	300	500	800
BSC 7.5	HSMC 4.5	ESC 7	MC 0							

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

I YEAR II SEMESTER

Sl. No.	CourseCode	Course Category	Subject Title	Periods per week			C	Scheme of ExaminationMaximum Marks		
				L	T	P		Int.	Ext.	Total
1	19199201a	BSC	Mathematics-II	3	0	0	3	30	70	100
2	19199202	HSMC	Communicative English-II	3	0	0	3	30	70	100
3	19199203	BSC	Applied Chemistry	3	0	0	3	30	70	100
4	19192204	ESC	Basic Electrical &Electronics Engineering	3	0	0	3	30	70	100
5	19195205	ESC	Python Programming	3	0	0	3	30	70	100
6	19199296b	MC	Professional Ethics &Human Values	2	0	0	0	30*	-	-
7	19199211	HSMC	Communicative English Laboratory-II	0	0	3	1.5	50	50	100
8	19199212	ESC	Basic Electrical &Electronics Engineering Laboratory	0	0	3	1.5	50	50	100
9	19195213	ESC	Python Programming Laboratory	0	0	3	1.5	50	50	100
10	19199214	BSC	Engineering Chemistry Laboratory	0	0	3	1.5	50	50	100
TOTAL				17	0	12	21	350	550	900
BSC 7.5	HSMC 4.5	ESC 9	MC 0							

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

II YEAR I SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	19149301	BSC	Complex Variables& Transform Techniques	3	0	0	3	30	70	100
2	19142302	ESC	Network Analysis	3	0	0	3	30	70	100
3	19140303	PCC	Electronic Devices &Circuits	3	0	0	3	30	70	100
4	19140304	PCC	Switching Theory & Logic Design	3	0	0	3	30	70	100
5	19140305	PCC	Signals and Systems	3	0	0	3	30	70	100
6	19140306	PCC	Electromagnetic Waves & Transmission Lines	3	0	0	3	30	70	100
7	19140387	MC	Design Thinking & Product Innovation	2	0	0	0	30*	-	-
8	19142311	ESC	Network Analysis Laboratory	0	0	3	1.5	50	50	100
9	19140312	PCC	Electronic Devices &Circuits Laboratory	0	0	3	1.5	50	50	100
TOTAL				20	0	6	21	280	520	800
BSC 3	PCC 13.5	ESC 4.5								

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

II YEAR II SEMESTER

Sl. No.	Course Code	Course Category	SubjectTitle	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	19149401	BSC	Random variable and stochastic process	3	0	0	3	30	70	100
2	19143462 19145462 19142462 19144462 19141462 19147462 19146462	OEC	Open Elective-I ▪ Robotics ▪ Fundamentals of Operating Systems ▪ Utilization of Electrical Energy ▪ Internet of Things ▪ Environmental Pollution & Control ▪ Basic Automobile Engineering ▪ Elements of Mining Technology	3	0	0	3	30	70	100
3	19140403	PCC	Electronic Circuit Analysis	3	0	0	3	30	70	100
4	19140404	PCC	Analog Communications	3	0	0	3	30	70	100
5	19140405	PCC	Pulse and Digital Circuits	3	0	0	3	30	70	100
6	19140411	PCC	Electronic Circuit Analysis Lab	0	0	3	1.5	50	50	100
7	19140412	PCC	Pulse and Digital Circuits Lab	0	0	3	1.5	50	50	100
8	19140413	PCC	Analog CommunicationLab	0	0	3	1.5	50	50	100
9	19140421	PR	Community Service Oriented Project	0	0	1	0.5	100	-	100
TOTAL				15	0	10	20	400	500	900
BSC	PCC	PR	OEC							

3	13.5	0.5	3							

III YEAR I SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of ExaminationMaximum Marks		
				L	T	P		Int.	Ext.	Total
1	19149501	HSMC	Soft Skills	0	0	3	1.5	50	50	100
2	19143562 19145562 19142562 19144562 19141562 19147562 19146562	OEC	**Open Elective-II** ▪ MEMS ▪ Information Security ▪ Energy Management ▪ Digital Image Processing ▪ Solid Waste Management ▪ Hybrid and Electrical Vehicles ▪ Disasters Management in Mining	3	0	0	3	30	70	100
3	19140503	PCC	Linear & Digital IC Applications	3	0	0	3	30	70	100
4	19140504	PCC	Digital Communication	3	0	0	3	30	70	100
5	19140505	PCC	Antenna and Wave Propagation	3	0	0	3	30	70	100
6	19140566A 19140566B 19140566C 19140566D	PEC	**Professional Elective-I** ▪ Electronic Measurement and Instrumentation ▪ Computer Architecture and Organization ▪ Information Theory and Coding ▪ Artificial Neural Networks and Fuzzy Logic	3	0	0	3	30	70	100

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4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

III YEAR I SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
7	19149507	MC	Constitution of India	2	0	0	0	30*	-	-
8	19140511	PCC	Linear IC Applications Laboratory	0	0	3	1.5	50	50	100
9	19140512	PCC	DSD& Digital IC Applications Laboratory	0	0	3	1.5	50	50	100
10	19140513	PCC	Digital Communications Laboratory	0	0	3	1.5	50	50	100
11	19140521/ 19140581	PR	Mini Project – 1/Study Project/Internship	0	0	0	2	100	-	100
TOTAL				17	0	12	23	450	550	1000

OEC	PCC	PR	HSMC	PEC
3	13.5	2	1.5	3

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

III YEAR II SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1		OEC	Open Elective - III	3	0	0	3	30	70	100
	19143661		▪ Nano Technology							
	19145661		▪ Human Computer Interaction							
	19142661		▪ Renewable Energy Resources							
	19144661		▪ Data Communication							
	19141661		▪ Global Environment: Problems &Policies							
	19147661		▪ Modern Vehicle Technology							
	19146661		▪ Remote Sensing & GIS in Mining							
2	19144602	PCC	Computer Networks	3	0	0	3	30	70	100
3	19144603	PCC	Microprocessors and Microcontrollers	3	0	0	3	30	70	100
4	19144604	PCC	Digital Signal Processing	3	0	0	3	30	70	100
5	19144605	PCC	Microwave Engineering	3	0	0	3	30	70	100

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

III YEAR II SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
6	19140665A 19140665B 19140665C 19140665D	PEC	Professional Elective - II ▪ Wireless and Mobile Communication ▪ Digital System Design Using Verilog ▪ Control Systems ▪ Telecommunication Switching Systems and Networks	3	0	0	3	30	70	100
7	19140611	PCC	Digital Signal Processing Laboratory	0	0	3	1.5	50	50	100
8	19140612	PCC	Microprocessors and Microcontrollers Laboratory	0	0	3	1.5	50	50	100
TOTAL				18	0	6	21	280	520	800
OEC 3	PCC 15	PEC 3								

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

IV YEAR I SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	19149701a 19149701b 19149701c 19149701d 19149701e 19149701f 19149701g 19149701h 19149701i	OEC	**Open Elective - IV** ▪ MEFA ▪ Entrepreneurship Qualities for Engineers ▪ Principles of Management ▪ Financial Management for Engineers ▪ Operation Management ▪ Digital Marketing ▪ Total Quality Management ▪ Organizational Behavior ▪ Human Resource Management	3	0	0	3	30	70	100
2	19140702	PCC	VLSI Design	3	0	0	3	30	70	100
3	19140703	PCC	Optical Communication	3	0	0	3	30	70	100
4	19140704	PCC	Digital Image Processing	3	0	0	3	30	70	100
5	19149795	MC	Intellectual Property Rights and Patents	2	0	0	0	30*	-	-

IV YEAR I SEMESTER

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
6	19140706A 19140706B 19140706C 19140706D	PEC	**Professional Elective - III** ▪ Bio Medical Instrumentation ▪ Embedded System Design ▪ Digital Signal Processors and Architecture ▪ Wireless Sensor Networks	3	0	0	3	30	70	100
7	19140711	PCC	Microwave Engineering and Optical Communication Laboratory	0	0	3	1.5	50	50	100
8	19140712	PCC	VLSI Laboratory	0	0	3	1.5	50	50	100
9	19140721/ 19140781	PR	Mini Project – 2/Internship	0	0	0	2	100	-	100
TOTAL				17	0	6	20	350	450	800
OEC 3	PCC 12	PR 2	PEC 3							

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

IV YEAR II SEMESTER

Sl. No.	Course Code	Course Category	Subject Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	19140801A 19140801B 19140801C 19140801D	PEC	Professional Elective - IV ▪ EMI & EMC ▪ Digital IC Design ▪ Speech Processing ▪ Network Security and Cryptography	3	0	0	3	30	70	100
2	19140802A 19140802B 19140802C 19140802D	PEC	Professional Elective - V ▪ Radar System Engineering ▪ Low Power VLSI Design ▪ Multimedia Communication ▪ Internet of Things	3	0	0	3	30	70	100
3	19140841	PR	Project	0	0	18	9	80	120	200
TOTAL				6	0	18	15	140	260	400

PROFESSIONAL ELECTIVES

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

Professional Electives	Communication	VLSI & Embedded Systems	Signal Processing	Networking
Elective - I	Electronic Measurement and Instrumentation	Computer Architecture & Organization	Information theory and Coding	Artificial Neural Networks and Fuzzy Logic
Elective - II	Wireless and Mobile Communication	Digital system design using Verilog	Control Systems	Telecommunication Switching Systems and Networks
Elective - III	Bio Medical Instrumentation	Embedded System Design	Digital Signal Processors and Architecture	Wireless SensorNetworks
Elective - IV	EMI & EMC	Digital IC Design	Speech Processing	Network Security and Cryptography
Elective - V	Radar system Engineering	Low Power VLSI Design	Multimedia Communication	Internet of Things

OPEN ELECTIVE-I	OPEN ELECTIVE-II	OPEN ELECTIVE-III	OPEN ELECTIVE-IV
Mech:	Mech:	Mech:	MEFA

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

Robotics	MEMS	Nano Technology	
CSE: Operating Systems	CSE: Information Security	CSE: Human Computer Interaction	Entrepreneurship Qualities for Engineers
EEE: Utilization of Electrical Energy	EEE: Energy Management	EEE: Renewable Energy Resources	Principles of Management
ECE: Internet of Things	ECE: Digital Image Processing	ECE: Data Communication	Financial Management for Engineers
CE: Environmental Pollution & Control	CE: Solid Waste Management	CE: Global Environment: Problems & Policies	Operations management
AME: Basic Automobile Engineering	AME: Hybrid and Electric Vehicles	AME: Modern Vehicle Technology	Digital Marketing
Mining: Elements of Mining Technology	Mining: Disaster Management in Mining	Mining: Remote Sensing & GIS in Mining	Total Quality Management
			Organizational Behavior
			Human Resource Management

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

4 Years B.Tech. (Electronics and Communication Engineering) Course Structure: (2019-20)

CATEGORY	ECE DEPARTMENT ALLOCATED CREDITS	AICTE	APSCHE
BSC	21	25	24
HSMC	10.5	12	13
PCC	67.5	48	59
ESC	20.5	24	24
MC	0	0	0
OEC	12	18	12
PEC	15	18	12
PR	13.5	15	13
LC	-	-	03
	160	160	160