DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

B. TECH.: ELECTRONICS AND COMMUNICATION ENGINEERING WITH SPECIALIZATION IN DESIGN AND MANUFACTURING

		FIRST SEMESTER				
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS101	Differential and Integral Calculus	BSC	3	0	3
2.	DS102	Engineering Physics	BSC	3	0	3
3.	ME101	Engineering Mechanics	BEC	3	0	3
4.	EC101	Basic Electrical and Electronics Engineering	BEC	3	0	3
5.	CS101	Problem Solving and Computer Programming	BEC	3	0	3
6.	DS103	Technical and Professional Communication	HMC	2	2	3
7.	DS104	Engineering Physics Practice	BSC	0	3	2
8.	CS102	Problem Solving and Computer Programming Practice	BEC	0	3	2
9.	ME102	Engineering Skills Practice	BEC	0	3	2
10.	ID101	NSS/NSO/NCC	HMC	0	0	0
Total No. of Credits						24

		SECOND SEMESTER				
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS155	Differential Equations	BSC	3	0	3
2.	DS153	Modern Physics	BSC	3	0	3
3.	DSxxx	Design Elective	DES	2	0	2
4.	DSxxx	Humanities Elective	HMC	2	0	0
5.	ME151	Concepts in Engineering Design	DES	3	0	3
6.	ME152	Design Realization Practice	DES	0	3	2
7.	ME153	Engineering Graphics	DES	1	3	3
8.	DS154	Modern Physics Practice	BSC	0	3	2
9.	EC151	Electronic Devices and Circuits	BEC	3	0	3
10.	EC152	Signals and systems	BEC	3	0	3
11.	ID101	NSS/NCC/NSO	HMC	0	0	0
Total No. of Credits						24

THIRD SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS152	Linear Algebra	BSC	3	0	3
2.	EC201	Digital Logic Circuits	PEC	3	0	3
3.	EC202	Analog Electronics	PEC	3	0	3
4.	EC203	Fundamentals of Data structures and Algorithms	PEC	3	0	3
5.	EC204	Electromagnetic Waves and Transmission Lines	PEC	3	0	3
6.	EC205	Digital Logic Circuits Practice	PEC	0	3	2
7.	EC206	Analog Electronics Practice	PEC	0	3	2
8.	EC207	Fundamentals of Data structures and Algorithms Practice	PEC	0	3	2
9.	IDxxx	Self-Improvement Course I	HMC	0	0	0
Total No. of Credits						**21**

FOURTH SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS151	Probability and Statistics	BSC	3	0	3
2.	EC251	Microprocessors and Microcontrollers	PEC	3	0	3
3.	EC252	Analog and Digital Communications	PEC	3	0	3
4.	EC253	Digital Signal processing	PEC	3	0	3
5.	EC254	Control Systems	PEC	3	0	3
6.	EC255	Microprocessors and Microcontrollers Practice	PEC	0	3	2
7.	EC256	Analog and Digital Communications Practice	PEC	0	3	2
8.	EC257	Digital Signal Processing Practice	PEC	0	3	2
9.	XXxxx	Skill Development Course I	PCD	2	0	2
10.	IDxxx	Self-Improvement Course II	HMC	0	0	0
Total No. of Credits						**23**

FIFTH SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS301	Managerial Economics and Financial Accountancy	HMC	3	0	3
2.	EC301	Wireless Communication	PEC	3	0	3
3.	EC302	Electronic Manufacturing and Prototyping	PEC	3	0	3
4.	EC303	VLSI System Design	PEC	3	0	3
5.	EC304	Data Communication and Networking	PEC	3	0	3
6.	EC305	Wireless Communication Practice	PEC	0	3	2
7.	EC306	Electronic Manufacturing and Prototyping Practice	PEC	0	3	2
8.	EC307	VLSI System Design Practice	PEC	0	3	2
9.	IDxxx	Self-Improvement Course III	HMC	0	0	0
Total No. of Credits						**21**

SIXTH SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS351	Entrepreneurship and Management Functions	PEC	3	0	3
2.	EC351	Antenna and Microwave Circuits Design	PEC	3	0	3
3.	EC352	Information Theory and Coding	PES	3	0	3
4.	ECxxx	Department Elective I	PEC	3	0	3
5.	XXxxx	Free Elective I	PEC	3	0	3
6.	EC353	Antenna and Microwave Circuits Design Practice	PEC	0	3	2
7.	EC354	Information Theory and Coding Practice	PEC	0	3	2
8.	ID351	Product Design Practice	DES	0	3	2
9.	XXxxx	Skill Development Course II	PCD	2	0	2
10.	IDxxx	Self-Improvement Course IV	HMC	0	0	0
Total No. of Credits						**23**

SEVENTH SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC498	Project Phase I	PCD	-	-	3
2.	ECxxx	Department Elective II	PEC	3	0	3
3.	ECxxx	Department Elective III	PEC	3	0	3
4.	ECxxx	Department Elective IV	PEC	3	0	3
5.	XXxxx	Free Elective II	PEC	3	0	3
6.	EC496	Seminar	PCD	-	2	1
Total No. of Credits						**16**

EIGHTH SEMESTER

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC499	Project Phase II	PCD	-	-	8
2.	EC497	Internship	PCD	-	-	3
Total No. of Credits						**11**

Elective Courses

List of Design Electives

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS131	Design History	DES	2	0	2
2.	DS132	Sociology of Design	DES	2	0	2
3.	DS133	Earth, Environment and Design	DES	2	0	2

List of Humanities Electives

S. No.	Course Code	Course Name	Category Code	I	P	C
1.	DS136	Professional Ethics for Engineers	HMC	2	0	0
2.	DS137	Universal Human Values	HMC	2	0	0
3.	DS138	Constitution of India	HMC	2	0	0
4.	DS139	History of Science and Technology in India	HMC	2	0	0

List of Department Electives

S. No.	Course Code	Course Name	Category Code	I	P	C
1	EC401	Analog and Mixed Signal Circuit Design	PEC	3	0	3
2	EC402	Artificial Intelligence and Machine Learning	PEC	3	0	3
3	EC403	Circuits for Electronics System Design	PEC	3	0	3
4	EC404	Cognitive Communication Networks	PEC	3	0	3
5	EC405	Communication Protocols for Electronic System Design	PEC	3	0	3
6	EC406	Design of Switched Mode Power Supply	PEC	3	0	3
7	EC407	Detection and Estimation Theory	PEC	3	0	3
8	EC408	Digital Image Processing	PEC	3	0	3
9	EC409	Electrical Drives	PEC	3	0	3
10	EC410	Electromagnetic Interference and Compatibility	PEC	3	0	3
11	EC411	MIMO Communication Systems	PEC	3	0	3
12	EC412	Numerical Techniques in Electromagnetics	PEC	3	0	3
13	EC413	Power Electronics	PEC	3	0	3
14	EC414	Reliable Digital Communication System Design	PEC	3	0	3
15	EC415	RF and Microwave Integrated Circuits	PEC	3	0	3
16	EC416	Satellite Communication	PEC	3	0	3
17	EC417	Sensing and Instrumentation	PEC	3	0	3
18	EC418	Signal and Power Integrity	PEC	3	0	3
19	EC419	Software Defined Radio	PEC	3	0	3
20	EC420	Testing and Testability	PEC	3	0	3
21	EC421	VLSI Technology	PEC	3	0	3

S. No.	Course Code	Course Name	Category Code	I	P	C
		List of Free Electives				
1.	EC470	Design of IoT System	PEC	3	0	3
2.	EC471	Electric Vehicle Technology	PEC	3	0	3
3.	EC472	Navigation System	PEC	3	0	3
5.	DS471	Materials and Devices for Quantum Technologies	PEC	3	0	3
6.	DS472	Numerical Methods	PEC	3	0	3
7.	DS473	Quantum Computing	PEC	3	0	3
8.	DS474	Sustainable Design	PEC	3	0	3

Self-Improvement Courses

S. No.	Course Code	Course Name	Category Code	I	P	C
		List of Self Improvement Courses				
1.	ID401	Physical (Sports, Dance, Body Building, etc.)	HMC	0	0	0
2.	ID402	Health and Nutrition (Medical) Awareness (Basics awareness on Medicine, Diseases, Remedies, Nutrition, etc.)	HMC	0	0	0
3.	ID403	Personality Enhancement/Character Building (emotional development, Reading biography of great personalities, Responsibility and ownership towards nation)	HMC	0	0	0
4.	ID404	Language and music (Learning new languages, poetry, public speaking, vocabulary enhancement, singing, Musical instrument, etc.)	HMC	0	0	0
5.	ID405	Passion (Any passion of the student not registered earlier)	HMC	0	0	0
6.	ID406	Financial Awareness (Awareness on Insurances, Investments, financial planning, Money Management, etc.)	HMC	0	0	0

Skill Development Courses

S. No.	Course Code	Course Name	Category Code	I	P	C
		List of Skill Development Courses				
1.	CS381	Linux Administration	PCD	2	0	2
2.	CS382	Full Stack Development	PCD	2	0	2
3.	CS383	DevOps Toolchain	PCD	2	0	2
4.	CS384	Digital Marketing	PCD	2	0	2
5.	CS385	Graphic Design and Editing	PCD	2	0	2
6.	CS386	Product Automation	PCD	2	0	2
7.	CS387	Systems Programming	PCD	2	0	2
8.	CS388	Software Toolbox	PCD	2	0	2

9.	CS389	Mobile app Development	PCD	2	0	2
10.	CS390	Ethical Hacking	PCD	2	0	2
11.	CS391	Low Code Development	PCD	2	0	2
12.	ME381	Data Science for Engineers	PCD	2	0	2
13.	ME382	Basics of Finite Element Analysis	PCD	2	0	2
14.	ME383	Fuzzy Logic and Neural Network	PCD	2	0	2
15.	ME384	Design, Technology and Innovation	PCD	2	0	2
16.	ME385	Manufacturing Guidelines for Product Design	PCD	2	0	2
17.	ME386	Artificial Intelligence for Mechanical Engineers	PCD	2	0	2
18.	ME387	Database Management System	PCD	2	0	2
19.	ME388	Failure Analysis and prevention	PCD	2	0	2
20.	EC381	Industry 4.0	PCD	2	0	2