

Course Structure for B Tech (4 Year, 8 Semester Course) Electronics and Communication Engineering
(to be applicable from 2012 entry batch onwards)

Course No	Course Name	L	T	P	C	Course No	Course Name	L	T	P	C
Semester-1						Semester-2					
CH-1101 /PH-1101	Chemistry/Physics	3	1	0	8	EC-1101	Basic Electronics	3	0	0	6
EE-1101	Basic Electrical Engineering	3	0	0	6	CS-1101	Introduction to Computing	3	0	0	6
MA-1101	Mathematics-I	3	1	0	8	MA-1102	Mathematics-II	3	1	0	8
CE-1101	Engineering Graphics	1	0	3	5	ME-1101	Engineering Mechanics	3	1	0	8
HS-1101	Communication Skills	3	0	0	6	PH-1101/ CH-1101	Physics/Chemistry	3	1	0	8
CH-1111 /PH-1111	Chemistry/Physics laboratory	0	0	2	2	CS-1111	Computing Laboratory	0	0	2	2
ME-1111	Workshop	0	0	3	3	EE-1111	Electrical Science Laboratory	0	0	2	2
	Physical Training-I	0	0	2	0	PH-1111/ CH-1111	Physics/Chemistry Laboratory	0	0	2	2
	NCC/NSO/NSS	0	0	2	0		Physical Training -II	0	0	2	0
							NCC/NSO/NSS	0	0	2	0
		13	2	8	38			15	3	6	42
Semester-3						Semester-4					
MA-1201	Mathematics-III	3	1	0	8	EC-1204	Principles of Communication Engineering	3	1	0	8
EC -1201	Signals, Systems & Networks	3	1	0	8	EC-1205	Pulse and Digital Electronic Circuits	3	1	0	8
CS-1201	Data Structure	3	1	0	8	EC-1206	Analog Integrated Circuits and Technology	3	1	0	8
EC-1202	Analog Electronic Circuits	3	1	0	8	EC-1207	Probability and Random Processes	3	1	0	8
EC-1203	Semiconductor Devices and Circuits	3	0	0	6	HS-1201	Managerial Economics	3	0	0	6
EC-1211	Electronics Laboratory-I	0	0	2	2	EC-1212	Electronics Laboratory-II	0	0	2	2
	Physical Training - III	0	0	2	0		Physical Training - IV	0	0	2	0
	NCC/NSO/NSS	0	0	2	0		NCC/NSO/NSS	0	0	2	0
		15	4	2	40			15	4	2	40
Semester-5						Semester-6					
EC 1301	Digital Communication	3	1	0	8	EC 1306	Digital Signal Processing	3	0	0	6
EC 1302	Computer Organization and Microprocessors	3	0	0	6	EC 1307	Data Communication and Networks	3	0	0	6
EC 1303	Introduction to VLSI Design	3	0	0	6	EC 1308	RF and Microwave Engineering	3	0	0	6
EC 1304	Electro Magnetic Field Theory and Wave Propagation	3	1	0	8	EC 1309	Measurement and Instrumentation	3	1	0	8
HS 1301	Business Management	3	0	0	6	EC 1310	Control System	3	1	0	8
EC-1311	Electronics Lab-III	0	0	2	2	EC 1314	Design Laboratory	0	0	2	2
EC 1312	Electronics Lab-IV	0	0	2	2	EC 1315	Electronics Laboratory-VI	0	0	2	2
EC 1313	Electronics Lab-V	0	0	2	2	EC 1316	Electronics Laboratory-VII	0	0	2	2
		15	2	6	40			15	2	6	40
Semester-7						Semester-8					
EC-1401	Principle of Optoelectronics and Fibre Optics	3	0	0	6	EC-1403	Advanced Communication Engineering	3	0	0	6
EC-1402	Power Electronics	3	0	0	6	EC-1XXX	Dept. Elective - III	3	0	0	6
EC-1XXX	Dept. Elective - I	3	0	0	6	EC-1XXX	Dept. Elective - IV	3	0	0	6
EC-1XXX	Dept. Elective - II	3	0	0	6	EC-1XXX	Dept. Elective - V	3	0	0	6
XX-1XXX	Open Elective - I	3	0	0	6	XX-1XXX	Open Elective - II	3	0	0	6
EC-1411	Electronics Laboratory-VIII	0	0	2	2	EC-1491	Project - II	0	0	10	10
EC-1490	Project - I	0	0	8	8			15	0	10	40
		15	0	10	40						

NB: Industrial Training after Sixth Semester for a period of 4-6 weeks as an audit course.
E1111 will be jointly offered by EE and EC Departments

LIST OF ELECTIVES -

Elective-I

EC-1421	Advanced Microprocessors
EC-1422	Optical Communication Networks
EC-1423	Digital Image Processing
EC-1424	Satellite Communication
EC-1425	Information Theory, Coding and Cryptography
EC-1426	Biomedical Instrumentation
EC-1427	Biomedical Signal Processing
EC-1428	Embedded Systems
EC-1429	Analog and Digital Filter Design

Elective-II

EC-1431	Architecture of Digital Signal Processors
EC-1432	Advanced VLSI Design
EC-1433	Advanced Optical Communication
EC-1434	Advanced Topics in Digital Signal Processing
EC-1435	Antenna & Wave Propagation
EC-1436	Detection & Estimation Theory
EC-1437	Smart Antennas for Wireless Communication
EC-1438	Reconfigurable Computing and Reconfigurable Hardwares
EC-1439	Optimal and Adaptive Control System

Open Elective -I

EC-1471	Neural Networks and Fuzzy Logic
EC-1472	Process Control and Instrumentation
EC-1473	Micro Electro Mechanical Systems (MEMS)
EC-1474	Special Topics on Device and Circuit
EC-1475	Special Topics on VLSI
EC-1476	Special Topics on Communication and Signal
EC-1477	Special Topics in Control and Instrumentation
EC-1478	Special Topics on Power Electronics

Elective-III

EC-1441	VLSI-DSP Based Design
EC-1442	Analog IC Design
EC-1443	Adaptive Signal Processing
EC-1444	Mobile and Cellular Communication
EC-1445	Data Mining
EC-1446	Telemetry
EC-1447	CAD for VLSI

Elective-IV

EC-1451	Digital Speech Processing
EC-1452	Industrial Instrumentation
EC-1453	Advanced Instrumentation
EC-1454	Advanced Topics in Wireless Communication
EC-1455	Low Power VLSI Design
EC-1456	VLSI for Signal Processing and Communication
EC-1457	Simulation of devices and Circuits

Elective-V

EC-1461	Advanced Computer Organization & Architecture
EC-1462	Under Water Acoustics
EC-1463	Audio/Video Electronics and Broadcasting
EC-1464	Telecommunication Switching and Networks
EC-1465	RF and Microwave Integrated Circuits
EC-1466	Topics in Information Security
EC-1467	Adhoc and Sensor Networks

Open Elective -II

EC-1481	Optimization Methods in Engineering
EC-1482	Machine Intelligence
EC-1483	Human-Computer Interface
EC-1484	Nano-Technology
EC-1485	Selected Topics on Device and Circuit
EC-1486	Selected Topics on VLSI
EC-1487	Selected Topics on Control and Instrumentation
EC-1488	Selected Topics on Communication and Signal
EC-1489	Selected Topics on Power Electronics