Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

1. Range for total credits in III, IV, V and VI semester is 22-28

2. A course on Management (PC), will be run in VII semester for four branches and the rest will have it in VIII semester

3. Course credit have been assigned as per **R & R 8.7** of UG Manual.

4. Advance elective courses which can also be M.Tech courses or advance courses designed and offered to the UG students by the department have been identified.

Categories:

PC: Programme Core   PE: Programme Elective   AEC: Advanced Elective Course   OE: Open Elective

Semester III   SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	III	ECT 201	Electronic Devices & Circuits	PC	Theory	3	3-0-0
2	III	ECT 202	Switching Theory & Finite Automata	PC	Theory	3	3-0-0
3	III	ECT 203	Network Theory	PC	Theory	3	3-0-0
4	III	ECT 204	Probabilistic Methods in Signals & System	PC	Theory	3	3-0-0
5	III	ECT 205	Graph Theory	PC	Theory	2	2-0-0
6	III	ECT 206	Data Structures & Algorithms	PC	Theory	3	3-0-0
1	III	ECP 201	Electronic Devices & Circuits Lab	PC	Lab	2	0-0-3
2	III	ECP 202	Switching Theory & Finite Automata Lab	PC	Lab	2	0-0-3
3	III	ECP 204	Data Structures & Algorithms Lab	PC	Lab	2	0-0-3
4	III	ECP 206	Probabilistic Methods in Signals & System	PC	Lab	2	0-0-3

25

Semester IV   SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	IV	ECT 211	Applied Electronics	PC	Theory	3	3-0-0
2	IV	ECT 212	Analog Communication	PC	Theory	3	3-0-0
3	IV	ECT 213	Microprocessors	PC	Theory	3	3-0-0
4	IV	ECT 214	Electromagnetic Field Theory	PC	Theory	3	3-0-0
5	IV	ECT 215	OPERATING SYSTEMS	PC	Theory	3	3-0-0
6	IV	ECT 216	Measurements & Instrumentation	PC	Theory	3	3-0-0
1	IV	ECP 211	Applied Electronics Lab	PC	Lab	2	0-0-3
2	IV	ECP 212	Analog Communication lab	PC	Lab	2	0-0-3
3	IV	ECP 213	Microprocessors lab	PC	Lab	2	0-0-3
4	IV	ECP 215	Operating Systems Lab	PC	Lab	2	0-0-3

26

Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

Semester V   SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	V	ECT 301	Microwave Engineering	PC	Theory	3	3-0-0
2	V	ECT 302	Digital Signal Processing	PC	Theory	4	3-0-2
3	V	ECT 303	Digital Communication Syustems	PC	Theory	3	3-0-0
4	V	ECT 304	Digital CMOS IC	PC	Theory	4	3-0-2
5	V	ECT 305	Optical Communication Systems	PC	Theory	4	3-0-2
6	V	ECT 306	VLSI Testing & Testability	PC	Theory	3	3-0-0

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	V	ECP 301	Microwave Engineering Lab	PC	Lab	2	0-0-3
2	V	ECP 303	Digital Communication Systems Lab	PC	Lab	2	0-0-3
						25	

Semester VI   SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VI	ECT 311	Antenna & Wave Propagation	PC	Theory	4	3-0-2
2	VI	ECT 312	Computer Architecture	PC	Theory	3	3-0-0
3	VI	ECT 313	Wireless & Mobile Communication	PC	Theory	3	3-0-0
4	VI	ECT 314	Control System Engineering	PC	Theory	3	3-0-0
5	VI	ECT 315	Embedded Systems	PC	Theory	3	3-0-0
6	VI	ECT 316	Analog CMOS IC	PC	Theory	3	3-0-0

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VI	ECP 316	Analog CMOS IC lab	PC	Lab	2	0-0-3
2	VI	ECP 317	Embeded Systems Design Lab	PC	Lab	2	0-0-3
3	VI	ECS 318	SEMINAR	PC	Lab	2	0-0-3
						25	

Convener, DUGC, ECE   Head, ECE   09/12/2013

Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

Semester VII SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VII		Management*	PC	Theory	3	3-0-0
2	VII		FROM LIST*	OE	Theory	3	3-0-0
3	VII		FROM LIST*	OE	Theory	3	3-0-0
4	VII		FROM AEC LIST*	PE	Theory	3	3-0-0
5	VII		FROM PE LIST	PE	Theory	3	3-0-0
6	VII		FROM PE LIST	PE	Theory	3	3-0-0
7	VII		FROM PE LIST	PE	Theory	3	3-0-0
1	VII	ECD 481	Training Seminar	PC	Lab	2	0-0-3
2	VII	ECD 483	System Design Lab-I	PC	Lab	2	0-0-3
3	VII	ECD 498	Major Project A	PC	Project	4	0-0-8
						23	

Semester VIII SUM should be in the range 22-28

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VIII		Management*	PC	Theory	3	3-0-0
2	VIII		FROM LIST*	OE	Theory	3	3-0-0
3	VIII		FROM LIST*	OE	Theory	3	3-0-0
4	VIII		FROM AEC LIST*	AEC	Theory	3	3-0-0
5	VIII		FROM AEC LIST	AEC	Theory	3	3-0-0
6	VIII		FROM AEC LIST	AEC	Theory	3	3-0-0
7	VIII		FROM AEC LIST			3	3-0-0
1	VIII	ECD 482	System Design Lab-II	PC	Lab	2	0-0-3
2	VIII	ECD 499	Major Project B	PC	Project	8	0-0-16
						25	Total **149**

Indicates that the courses individually, may be opted either in 7th Semester OR 8th Semester

Convener, DUGC, ECE   *Head, ECE*   09/12/2013

Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

LIST OF PE/AEC: (3 credits each)

ECT 401	SPREAD SPECTRUM TECHNOLOGY
ECT 403/ECT663	Advanced ERROR CONTROL CODES
ECT404/ECT 670	SATELLITE COMMUNICATION & RADAR ENGINEERING
ECT 405	IMAGE PROCESSING
ECT 406/ECT607	CAD ALGORITHMS FOR VLSI PHYSICAL DESIGN
ECT 407/ECT 603	CAD ALGORITHMS FOR SYNTHESIS OF DIGITAL SYSTEMS
ECT 408/ECT 616	COMUPTER ARITHMETIC & MICROARCHITECTURE DESIGN
ECT 409/ECT622	SYSTEM LEVEL DESIGN & MODELLING
ECT 411	NEURAL NETWORKS
ECT 412	ADVANCED MICROPROCESSORS & MICRO-CONTROLLERS
ECT 413	COMPUTER NETWORKS
ECT 451/ECT665	ADV. MICROWAVE ENGG
ECT 452/ECT676	Design of MICROSTRIP ANTENNA
ECT 453	ADVANCED ANTENNA SYSTEMS
ECT 454	MICROWAVE INTEGRATED CIRCUITS
ECT 455	POWER ELECTRONICS
ECT 456	SEMICONDUCTOR OPTO-ELECTRONICS
ECT 457/ECT 628	MEMORY DESIGN & TESTING
ECT 459/ECT640	ELECTRONIC MANUFACTURING TECHNOLOGY
ECT 460/ECT 626	FORMAL VERIFICATION OF Digital HARDWARE & EMBEDDED Software
ECT 462	ARTIFICIAL INTELLIGENCE & EXPERT SYSTEM
ECT 463	PARALLEL COMPUTING ARCH
ECT 464	BIO-MEDICAL ENGINEERING
ECT 465/ECT658	CURRENT-MODE ANALOG SIGNAL PROCESSING
ECT 466/ECT 655	OPTICAL CODES AND APPLICATIONS
ECT 467/ECT 656	ADAPTIVE SIGNAL PROCESSING
ECT 468/ECT 657	VLSI SIGNAL PROCESSING Architectures
ECT470	Human Values -I
ECT478/ECT 642	FPGA PHYSICAL DESIGN
ECT479/ECT 614	VLSI TECHNOLOGY
ECT480	Information Theory & Coding
ECT481	System Design using FPGAs
ECT482	Instrumentation & Control

LIST OF PE/AEC: (3 credits each)

ECT 672	WIRELESS AND MOBILE ADHOC NETWORKING
ECT 674	CRYPTOGRAPHY
ECT 678	DESIGN OF MIC AND MMIC'S
ECT 680	ADVANCED MOBILE SYSTEMS
ECT 682	SMART AND PHASED ARRAY ANTENNA DESIGN
ECT 684	ADVANCED TOPICS IN COMMUNICATION
ECT 686	PHOTONIC INTEGRATED DEVICES AND SYSTEMS
ECT 688	EMI/EMC
ECT 690	WIRELESS SENSOR NETWORK
ECT 692	COMPUTATIONAL ELECTROMAGNETIC
ECT 694	ADVANCED PHOTONIC DEVICES AND COMPONENTS
ECT 696	TELECOMMUNICATION TECHNOLOGY AND MANAGEMENT
ECT 698	ADVANCED NETWORKING ANALYSIS
ECT 662	ADVANCED DIGITAL SIGNAL & IMAGE PROCESSING
ECT 620	MICROELECTRONIC DEVICES AND CIRCUIT
ECT 630	ADVANCED COMPUTER ARCHITECTURE
ECT 634	MICRO AND NANO ELECTRO MECHANICAL SYSTEMS
ECT 638	DESIGN OF ASYNCHRONOUS SEQUENTIAL CIRCUITS
ECT 664	ESTIMATION AND DETECTION
ECT 650	SPECIAL TOPICS IN VLSI-1
ECT 652	SPECIAL TOPICS IN VLSI-2
ECT 654	RF INTEGRATED CIRCUITS
ECT 991	MATHEMATICAL METHODS & TECHNIQUES FOR ECE TECHNOLOGIES I
ECT 992	MATHEMATICAL METHODS & TECHNIQUES FOR ECE TECHNOLOGIES II

Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

Example-1 **Semester VII**   Student goes on INTERNSHIP in 7th Sem   SUM should be in the range 18-20

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P	
1	*VII*		*Management**	*PC*	*Theory*	*3*	*3-0-0*	Exempted as per UG manual (16 credits max)
5	*VII*		*FROM PE LIST*	*PE*	*Theory*	*3*	*3-0-0*	
6	*VII*		*FROM PE LIST*	*PE*	*Theory*	*3*	*3-0-0*	
7	*VII*		*FROM PE LIST*	*PE*	*Theory*	*3*	*3-0-0*	
2	*VII*	*ECD 483*	*System Design Lab-I*	*PC*	*Lab*	*2*	*0-0-3*	
1	VII	ECD 481	Training Seminar	PC	Lab	2	0-0-3	in 8th Sem
3	VII	ECD 498	Major Project A	PC	Project	4	0-0-8	in 8th Sem
							0	

Semester VIII   SUM should be in the range 18-20

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1							
2	VIII		FROM LIST	OE	Theory	3	3-0-0
3	VIII		FROM LIST	OE	Theory	3	3-0-0
4	VIII		FROM AEC LIST	AEC	Theory	3	3-0-0
5	VIII		FROM AEC LIST	AEC	Theory	3	3-0-0
6	VIII		FROM AEC LIST	AEC	Theory	3	3-0-0
7	VIII		FROM AEC LIST			3	3-0-0
1	VIII	ECD 482	System Design Lab-II	PC	Lab	2	0-0-3
2	VIII	ECD 499	Major Project B+ evaluation ONLY for A	PC	Project	8	0-0-16
						20	

Convener, DUGC, ECE   *Head, ECE*

Curriculum structure of B.Tech ECE Programme (III Semester onwards)

(Department of Electronics & Communication Engineering)

Example-2

Semester VII   SUM should be in the range 18-20

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VII		Management	PC	Theory	3	3-0-0
4	VIII		FROM LIST	OE	Theory	3	3-0-0
	VIII		FROM LIST	OE	Theory	3	3-0-0
5	VII		FROM PE LIST	PE	Theory	3	3-0-0
6	VII		FROM PE LIST	PE	Theory	3	3-0-0
7	VII		FROM PE LIST	PE	Theory	3	3-0-0
2	VII	ECD 483	System Design Lab-I	PC	Lab	2	0-0-3
1	VII	ECD 481	Training Seminar	PC	-	2	0-0-3
3	VII	ECD 498	Major Project A	PC	Project	4	0-0-8
						20	

Semester VIII   Student goes on INTERNSHIP in 8th Sem   SUM should be in the range 18-20

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P	
3	*VIII*		*FROM AEC LIST*	*OE*	*Theory*	*3*	*3-0-0*	Exempted as per UG manual (16 credits max)
5	*VIII*		*FROM AEC LIST*	*AEC*	*Theory*	*3*	*3-0-0*	
6	*VIII*		*FROM AEC LIST*	*AEC*	*Theory*	*3*	*3-0-0*	
7	*VIII*		*FROM AEC LIST*	*AEC*	*Theory*	*3*	*3-0-0*	
8	*VIII*	*ECD 482*	*System Design Lab-II*	*PC*	*Lab*	*2*	*0-0-3*	
9	VIII	ECD 499	Major Project B (evaluation ONLY)	PC	Project	8	0-0-16	End of 8th Sem
						22		

***Indicates that the courses individually, may be opted either in 7th Semester OR 8th Semester**