

University of Engineering & Management, Kolkata

B/5, Plot No. III, Action Area - III, New Town, University Area, Kolkata, West Bengal 700156

Structured & Detailed Syllabus

Department of Electronics & Communication Engineering.



UNIVERSITY OF ENGINEERING AND MANAGEMENT, KOLKATA

B. TECH – ELECTRONICS & COMMUNICATION ENGINEERING

Second Year Third Semester

A.TI	HEORY							
Sl	Subject	Theory	Conta	Credit				
No.	Code							
			L	T	P	Total		
1	M(CS)301	Numerical Methods	2	1	0	3	2	
2	M302	Mathematics-III	3	1	0	4	4	
3	EC301	1. Circuit Theory & Networks	3	0	0	4	4	
4	EC302	2. Solid State Device	3	0	0	3	3	
5	EC303	1. Signals & Systems	3	0	0	3	3	
6	EC304	2.Analog Electronic Circuits	3	1	0	4	4	
		Essential Studies for						
7	GS301	Professionals-III	3	1	0	4	2	
Total of Theory						21	22	
B. P	RACTICAL							
8	M(CS)391	Numerical Lab	0	0	2	2	1	
9	EC391	Circuit Theory & Network Lab	0	0	3	3	2	
10	EC392	Solid State Devices	0	0	3	3	2	
11	EC393	Signal System Lab	0	0	3	3	2	
12	EC394	Analog Electronic Circuits	0	0	3	3	2	
		Lab						
C. S	ESSIONAL							
13	GS381	Skill Development for	2	1	0	3	1	
		Professionals-III						
	Total of Practical						10	
		Total of Semester				35	32	



Second Year Fourth Semester

A.Tl	HEORY						
Sl No.	Subject Code	Theory		Credit Points			
110.	Code		L	T	P	Total	Tomis
1	HU401	Values & Ethics in Profession	3	0	0	3	3
2	CH401	Basic Environmental Engineering & Elementary Biology	3	0	0	3	3
3	EC401	1. EM Theory & Transmission Lines	3	1	0	4	4
4	EC402	2. Digital Electronic & Integrated Circuits	3	1	0	4	4
5	EC403	Computer Organisation and Architecture	3	1	0	4	4
6	GS401	Essential Studies for Professionals-IV	3	1	0	4	2
		Total of Theory				18	20
B. P	RACTICAL	L					
7	HU481	Technical Report Writing & Language Lab Practice	0	0	3	3	2
8	EC491	1. EM Theory &Tx Lines Lab	0	0	3	3	2
9	EC492	2. Digital Electronic & Integrated Circuits Lab	0	0	3	3	2
10	EC493	Computer Organisation and Architecture Lab	0	0	3	3	2
C. S	ESSIONAI					•	
11	GS481	Skill Development for Professionals-IV	2	1	0	3	1
		Total of Practical				12	9
		Total of Semester				30	29



Third Year – Fifth Semester

	HEORY						_
Sl	Subject	Theory	Conta	Credit			
No.	Code						Points
			L	T	P	Total	
1	HU501	Economics for Engineers	3	0	0	3	3
2	EC-501	Analog Communication	3	1	0	4	4
3	EC-502	Digital Signal Processing	3	1	0	4	4
4	EC-503	Control System	3	0	0	3	3
5	F. E		3	1	0	4	3
	EC 504A	Design and Analysis of Algorithm					
	EC-504B	Object Oriented Programming using					
		Java					
	EC-504C	Data Base Management Systems					
6	GS501	Essential Studies for					
		Professionals-V	3	1	0	4	2
		Total of Theory				18	19
B. P	RACTICAI						
7	EC-591	Analog Communication	0	0	3	3	2
8	EC-592	Digital Signal Processing	0	0	3	3	2
9	EC -593	Control System	0	0	3	3	2
10	F.E.		0	0	3	3	2
	EC-594A	Design and Analysis of Algorithm					
	EC-594B	Object Oriented Programming					
		using Java					
	EC-594C	Data Base Management Systems					
		Data Base Management Systems					
C. S	ESSIONAI				1	1	
11	GS581	Skill Development for	2	1	0	3	1
		Professionals-V					
		12	9				
	Total of Semester						28



Third Year – Sixth Semester

2 EC601 Digital Communications 3 0 0 3 3 3 EC602 Microprocessors & Microcontrollers 3 0 0 3 3 4 EC 603 Information Theory & Coding 3 0 0 3 3 5 (No Lab) EC-604A EC-604B Antenna Theory & Propagation Telecommunication System 3 0 0 3 3 6 (With Lab) EC-605A EC-605B Data Science & Data Analytics Operating System 3 0 0 3 3 7 GS601 Essential Studies for Professionals-VI Operating System 3 1 0 4 2 B. PRACTICAL 8 EC691 Digital Communications 0 0 3 3 2 9 EC 692 Microprocessors & Microcontrollers 0 0 3 3 2	A.TE	HEORY						
HU601	Sl	Subject Theory Contact Hours/Week						
HU601	No.	Code					Points	
EC 601 Digital Communications 3 0 0 3 3 3 3 4 EC 602 Microprocessors & Microcontrollers 3 0 0 3 3 3 3 4 EC 603 Information Theory & Coding 3 0 0 3 3 3 3 5 (No Lab) EC 604A Antenna Theory & Propagation EC 604B Telecommunication System				L	T	P	Total	
EC601 Digital Communications 3 0 0 3 3 3 3 4 EC 603 Information Theory & Coding 3 0 0 3 3 3 5 (No Lab) EC-604A Antenna Theory & Propagation EC-604B Telecommunication System	1	HU601	Principles of Management	2	0	0	2	2
Section Information Theory & Coding 3	2	EC601	Digital Communications		0	0		3
Total of Practical Skill Development for Professionals-VI Total of Practical Seminar Signar Signar	3	EC602	Microprocessors & Microcontrollers	3	0	0	3	3
EC-604A EC-604B Telecommunication System	4	EC 603	Information Theory & Coding	3	0	0	3	3
CC-605A EC-605B Data Science & Data Analytics Operating System Sy	5	EC-604A	• •	3	0	0	3	3
Total of Theory 17 19	6	EC-605A	1 · · · · · · · · · · · · · · · · · · ·	3	0	0	3	3
B. PRACTICAL 8 EC691 Digital Communications 0 0 3 3 2 9 EC 692 Microprocessors & Microcontrollers 0 0 3 3 2 10 F.E. EC-695A Data Science & Data Analytics 0 0 3 3 2 EC-695B Depending System 0 0 3 3 2 C. SESSIONAL 12 GS681 Skill Development for Professionals-VI 2 1 0 3 1 Total of Practical 12 9	7	GS601	Essential Studies for Professionals-VI	3	1	0	4	2
8 EC691 Digital Communications 0 0 3 3 2 9 EC 692 Microprocessors & Microcontrollers 0 0 3 3 2 10 F.E. EC-695A EC-695B Data Science & Data Analytics Operating System 0 0 3 3 2 11 EC-681 Seminar 0 0 3 3 2 C. SESSIONAL 12 GS681 Skill Development for Professionals-VI 2 1 0 3 1 Total of Practical 12 9			Total of Theory				17	19
9 EC 692 Microprocessors & Microcontrollers 0 0 3 3 2 10 F.E. EC-695A EC-695A EC-695B Data Science & Data Analytics Operating System 0 0 3 3 2 11 EC-681 Seminar 0 0 3 3 2 C. SESSIONAL 12 Skill Development for Professionals-VI 2 1 0 3 1 Total of Practical 12 9	B. P]	RACTICAL						
10 F.E. EC-695A EC-695B Data Science & Data Analytics Operating System 0 0 3 3 2 11 EC-681 Seminar 0 0 3 3 2 C. SESSIONAL Total of Practical 2 1 0 3 1	8	EC691	Digital Communications	0	0	3	3	2
EC-695A Data Science & Data Analytics Operating System	9	EC 692	Microprocessors & Microcontrollers	0	0	3	3	2
C. SESSIONAL 12 GS681 Skill Development for Professionals-VI 2 1 0 3 1 Total of Practical 12 9	10	EC-695A	II	0	0	3	3	2
12 GS681 Skill Development for Professionals-VI 2 1 0 3 1 Total of Practical 12 9	11	EC-681	Seminar	0	0	3	3	2
Total of Practical 12 9	C. S	ESSIONAL					•	-
	12	GS681	VI	2	1	0	3	1
Total of Semester 29 28								_
			Total of Semester				29	28



Fourth Year – Seventh Semester

A.TI	HEORY								
Sl	Subject Theory Contact Hours/V						Credit Points		
No.	Code								
			L	T	P	Total			
1	EC701	Wireless Communication & N/W	3	0	0	3	3		
2	EC702	Microelectronics & VLSI Designs	3	0	0	3	3		
3	EC703	A. RF & Microwave Engineering.	3	0	0	3	3		
	(With	B. Optical Communication & N/W							
	Lab)	C. Computer Networks							
	_ ~ ~ .	D. FPGA & Reconfigurable Computing			0				
4	EC704	A. Radar Engg	3	0	0	3	3		
	(No Lab)	y .							
_	D.D.	C. Biomedical Instrumentation			0		2		
5	F. E.	A. Artificial Intelligence	3	0	0	3	3		
	EC705	B. Robotics							
		C. Software Engineering D. Power Electronics							
		E. Electronic Measurement & Instrumentation							
6	GS701	Essential Studies for Professionals-VII	3	1	0	4	2		
0	G5/01		3	1	U	15	17		
D D	RACTIC	Total of Theory				15	1/		
7		Group Discussion	0	0	3	3	2		
'	110761			0	3	3	2		
8	EC792	VLSI Design Lab							
0	EC172	VEST Design Lab	0	0	3	3	2		
9	EC793	A. RF & Microwave Engg. Lab	0	0	3	3	2		
	ECIJS	B. Optical Communication & N/W Lab			3	3	2		
		C. Computer Networks Lab							
		D. FPGA & Reconfigurable Computing lab							
10	F.E	A. Artificial Intelligence Lab	0	0	3	3	2		
	EC795	B. Robotics lab					_		
		C. Software Engineering							
		D. Power Electronics Lab							
		E. Electronic Measurement &							
		Instrumentation							
11	EC781	Industrial training	4 week	s duri	ng 6th	-7 th	2		
			Sem-br						
12	EC782	Project- 1				3	2		
C. SESSIONAL									
13	GS781	Skill Development for Professionals-VII		1	0	3	1		
L		Total of Practical				15	13		
Total of Semester 30									



Fourth Year – Eighth Semester

A.TH	HEORY							
Sl No.	Subject Code							
1,00	0040		L	T	P	Total	Points	
1	HU801A	A. OrganisationalBehaviour B. Project Management	2	0	0	2	2	
2	EC801 (No Lab)	A. Smart Antenna B. Digital Image Processing C. Satellite Communication & Remote Sensing	3	0	0	3	3	
3	EC802 (No Lab)	A. Neural Network& Applications B. Material Science& Engineering C. Renewable Energy D. Audio & Speech Processing E. Mobile Computing	3	0	0	3	3	
6	GS801	Essential Studies for Professionals-VIII	3	1	0	4	2	
	•	Total of Theory		L.		8	10	
B. P	RACTICAL						•	
7	EC881	Design Lab / Industrial problem related practical training	0	0	6	6	4	
8	EC882	Project-2	0	0	12	12	6	
9	EC893	Grand Viva					3	
C. S	ESSIONAL							
10	GS881	Skill Development for Professionals-VIII	2	1	0	3	1	
		Total of Practical				18	14	
		Total of Semester				26	24	