



COURSE SCHEME

FOR

BE (ELECTRONICS AND COMPUTER ENGINEERING)

2020

SEMESTER-I

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UCB008	APPLIED CHEMISTRY	CF	3	1	2	4.5
2	UTA003	COMPUTER PROGRAMMING	CF	3	0	2	4.0
3	UEE001	ELECTRICAL ENGINEERING	CF	3	1	2	4.5
4	UEN002	ENERGY AND ENVIRONMENT	CF	3	0	0	3.0
5	UMA010	MATHEMATICS-I	CF	3	1	0	3.5
6	UES009	MECHANICS	CF	2	1	2*	2.5
TOTAL				17	4	6	22.0

*Student will attend one Lab Session of 2 hours in a semester for a bridge project in this course.

SEMESTER-II

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UPH004	APPLIED PHYSICS	CF	3	1	2	4.5
2	UTA018	OBJECT ORIENTED PROGRAMMING	CF	3	0	2	4.0
3	UEC001	ELECTRONIC ENGINEERING	CF	3	1	2	4.5
4	UTA015	ENGINEERING DRAWING	CF	2	4	0	4.0
5	UMA004	MATHEMATICS-II	CF	3	1	0	3.5
6	UHU003	PROFESSIONAL COMMUNICATION	CF	2	0	2	3.0
TOTAL				16	7	8	23.5

SEMESTER-III

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UES012	ENGINEERING MATERIALS	CF	3	1	2	4.5
2	UMA011	NUMERICAL ANALYSIS	CF	3	0	2	4.0
3	UEC533	COMPUTER AND COMMUNICATION NETWORKS	CP	3	0	0	3.0
4	UEC310	INFORMATION AND COMMUNICATION THEORY	CP	3	1	0	3.5
5	UEC301	ANALOG ELECTRONIC CIRCUITS	CP	3	1	2	4.5
6	UEC612	DIGITAL SYSTEM DESIGN	CP	3	1	2	4.5
7	UTA016	ENGINEERING DESIGN PROJECT – I (2 self effort hours)	PR	1	0	2	3.0
TOTAL				19	4	10	27.0

SEMESTER-IV

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UES019	MANUFACTURING TECHNIQUES	CF	2	0	3	3.5
2	UMA035	OPTIMIZATION TECHNIQUES	CF	3	0	2	4.0
3	UEC404	SIGNALS AND SYSTEMS	CP	3	1	2	4.5
4	UEC513	EMBEDDED SYSTEMS	CP	3	0	2	4.0
5	UCS613	DATA STRUCTURES AND ALGORITHMS	CP	3	0	2	4.0
6	UTA025	INNOVATION AND ENTREPRENEURSHIP (2 self-effort hours)	CF	1	0	2*	3.0
7		GENERIC ELECTIVE	GE	2	0	0	2.0
8	UTA024	ENGINEERING DESIGN PROJECT-II	PR	1	0	4	3.0
TOTAL				18	1	15	28.0

* Alternate Week

SEMESTER-V

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UCS303	OPERATING SYSTEMS	CP	3	0	2	4.0
2	UEC716	DATABASE MANAGEMENT SYSTEMS	CP	3	0	2	4.0
3	UEC502	DIGITAL SIGNAL PROCESSING	CP	3	1	2	4.5
4	UEC607	DIGITAL COMMUNICATION	CP	3	0	2	4.0
5	UCS411	ARTIFICIAL INTELLIGENCE	CP	3	0	2	4.0
6		ELECTIVE –I	PE	2	0	2	3.0
TOTAL				17	1	12	23.5

SEMESTER-VI

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UEC509	COMPUTER ARCHITECTURE	CP	3	1	0	3.5
2	UEC750	MOS CIRCUIT DESIGN	CP	3	1	2	4.5
3	UEC630	DEEP LEARNING AND APPLICATIONS	CP	3	0	2	4.0
4	UCS616	ADVANCED DATA STRUCTURES AND ALGORITHMS	CP	3	0	2	4.0
5	UEC797	CAPSTONE PROJECT (STARTS)	PR	1*	0	2	-
6		ELECTIVE –II	PE				3.0
7		ELECTIVE –III	PE				3.0
TOTAL							22.0

SEMESTER-VII

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UEC715	IOT BASED SYSTEMS	CP	3	0	2	4.0
2	UEC734	QUANTUM COMPUTING	CP	3	0	0	3.0
3	UHU005	HUMANITIES FOR ENGINEERS	CF	2	0	2	3.0
4		ELECTIVE –IV	PE				3.0
5	UEC797	CAPSTONE PROJECT	PR	1*	0	2	8.0
TOTAL							21.0

SEMESTER-VIII

Sr. No.	Course No.	TITLE	CODE	L	T	P	Cr
1	UEC898	PROJECT SEMESTER	PR			15	15.0
OR							
1		ELECTIVE –V	PE				3.0
2		ELECTIVE –VI	PE				3.0
3	UEC897	PROJECT	PR				9.0
TOTAL							15.0
OR							
1	UEC899	START-UP SEMESTER	PR				15.0
TOTAL							15.0

ELECTIVE-I

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UCS534	COMPUTER AND NETWORK SECURITY	PE	2	0	2	3.0
2	UEC536	LINEAR INTEGRATED CIRCUITS AND APPLICATIONS	PE	2	0	2	3.0
3	UEC714	FIBER OPTIC COMMUNICATION	PE	2	0	2	3.0
4	UEC537	DIGITAL IMAGE PROCESSING	PE	2	0	2	3.0
5	UEC538	ALGORITHM ANALYSIS AND DESIGN	PE	2	0	2	3.0
6	UCS821	COMPILER CONSTRUCTION	PE	2	0	2	3.0
7	UCS752	AUGMENTED AND VIRTUAL REALITY	PE	2	0	2	3.0
8	UCS412	SOFTWARE ENGINEERING	PE	2	0	2	3.0
9	UCS538	DATA SCIENCE FUNDAMENTALS	PE	2	0	2	3.0

ELECTIVE-II

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UEC619	ELCTROMAGNETIC FIELD THEORY AND TRANSMISSION LINES	PE	3	0	0	3.0
2	UEC631	WIRELESS AND MOBILE NETWORKS	PE	3	0	0	3.0
3	UEC632	ANALOG COMMUNICATION SYSTEMS	PE	2	0	2	3.0
4	UEC633	CRYPTOGRAPHY	PE	2	0	2	3.0
5	UEC707	NETWORK VIRTUALIZATION AND SOFTWARE DEFINED NETWORKING	PE	2	0	2	3.0
6	UEC634	CLOUD COMPUTING TECHNOLOGY	PE	2	0	2	3.0
7	UCS654	PREDICTIVE ANALYTICS USING STATISTICS	PE	2	0	2	3.0

ELECTIVE-III

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UEC731	GRAPHICS AND VISUAL COMPUTING	PE	3	0	0	3.0
2	UEC635	BLOCKCHAIN TECHNOLOGY	PE	2	0	2	3.0
3	UEC858	MODERN CONTROL THEORY	PE	3	0	0	3.0
4	UEC821	VIDEO SIGNAL PROCESSING	PE	2	0	2	3.0
5	UEC732	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	PE	2	0	2	3.0
6	UEC733	AUDIO & SPEECH PROCESSING	PE	3	0	0	3.0
7	UCS655	AI APPLICATIONS – NLP, COMPUTER VISION, IOT	PE	2	0	2	3.0

ELECTIVE-IV

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UCS645	PARALLEL & DISTRIBUTED COMPUTING	PE	3	0	0	3.0
2	UEC823	SOFT COMPUTING	PE	2	0	2	3.0
3	UEC735	BIG DATA ANALYTICS	PE	2	0	2	3.0
4	UEC736	VLSI SIGNAL PROCESSING	PE	3	0	0	3.0
5	UCS757	BUILDING INNOVATIVE SYSTEMS	PE	2	0	2	3.0

ELECTIVE-V

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UEC57	VLSI INTERCONNECTS	PE	3	0	0	3.0
2	UEC825	MEMS	PE	3	0	0	3.0
3	UEC752	IC FABRICATION TECHNOLOGY	PE	3	0	0	3.0

ELECTIVE-VI

S. N.	Course No.	Course Name	CODE	L	T	P	Cr.
1	UEC824	ASIC and FPGA	PE	2	0	2	3.0
2	UEC751	DSP PROCESSORS	PE	2	0	2	3.0
3	UEC866	VIRTUAL INSTRUMENTATION ENGINEERING	PE	2	0	2	3.0

GENERIC ELECTIVE (GE)

S. NO.	COURSE NO.	TITLE	L	T	P	Cr
1	UHU016	INTRODUCTORY COURSE IN FRENCH	2	0	0	2.0
2	UCS002	INTRODUCTION TO CYBER SECURITY	2	0	0	2.0
3.	UTD002	EMPLOYABILITY DEVELOPMENT SKILL	2	0	0	2.0
4.	UHU017	INTRODUCTION TO COGNITIVE SCIENCE	2	0	0	2.0
5.	UHU018	INTRODUCTION TO CORPORATE FINANCE	2	0	0	2.0
6.	UEN006	TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT	2	0	0	2.0
7.	UPH064	NANO SCIENCE AND NANO-MATERIALS	2	0	0	2.0
8.	UMA069	GRAPH THEORY AND APPLICATIONS	2	0	0	2.0
9.	UMA070	ADVANCED NUMERICAL METHODS	2	0	0	2.0
10.	UBT510	BIOLOGY FOR ENGINEERS	2	0	0	2.0

Tentative List of ELC Activities for BE (ENC) – 2020 Batch

Semester	ELC Activity
I	PCB Design
II	PCB Fabrication
III	IOT based Automation
IV	Robotic Arm
V	HDL implementation of Digital System

Nature of Course	CODE
Core-Foundation Courses	CF
Core-Professional Courses	CP
Generic Electives	GE
Professional Electives	PE
Project Based Courses	PR

S. N.	ELECTRONICS CORE COURSES		COMPUTATIONAL CORE COURSE	
	Course No.	Course Name	Course No.	Course Name
1	UEC310	INFORMATION AND COMMUNICATION THEORY	UEC533	COMPUTER AND COMMUNICATION NETWORKS
2	UEC301	ANALOG ELECTRONIC CIRCUITS	UCS613	DATA STRUCTURES AND ALGORITHMS
3	UEC612	DIGITAL SYSTEM DESIGN	UCS303	OPERATING SYSTEMS
4	UEC404	SIGNALS AND SYSTEMS	UEC716	DATABASE MANAGEMENT SYSTEMS
5	UEC513	EMBEDDED SYSTEMS	UCS411	ARTIFICIAL INTELLIGENCE
6	UEC502	DIGITAL SIGNAL PROCESSING	UEC630	DEEP LEARNING AND APPLICATIONS
7	UEC607	DIGITAL COMMUNICATION	UCS616	ADVANCED DATA STRUCTURES AND ALGORITHMS
8	UEC509	COMPUTER ARCHITECTURE	UEC715	IOT BASED SYSTEMS
9	UEC750	MOS CIRCUIT DESIGN	UEC734	QUANTUM COMPUTING

SEMESTER WISE CREDITS FOR BE (ELECTRONICS AND COMPUTER ENGINEERING)

SEMESTER	CREDITS
FIRST	22.0
SECOND	23.5
THIRD	27.0
FOURTH	28.0
FIFTH	23.5
SIXTH	22.0
SEVENTH	21.0
EIGHTH	15.0
TOTAL CREDITS	182.0

**SEMESTER WISE CREDITS FOR BE: ELECTRONICS AND COMPUTER
ENGINEERING**

Nature of Course	Credits to be Earned (As per Choice Based Credit System)								
	Semesters								Total
	I	II	III	IV	V	VI	VII	VIII	
Core-Foundation Courses	22.0	23.5	8.5	10.5			3.0		67.5
Core-Professional Courses			15.5	12.5	20.5	16.0	7.0		71.5
Professional & Generic Electives				2.0	3.0	6.0	3.0		14.0
Project Based Courses			3.0	3.0			8.0	15.0	29.0
TOTAL	22.0	23.5	27.0	28.0	23.5	22.0	21.0	15.0	182.0