

B.E. COMPUTER SCIENCE AND ENGINEERING
Minimum Credits to be Earned 171.0

First Semester

Code No.	Course	Objectives & Outcomes		L	T	P	C
		PEOs	POs				
18CS101	ENGINEERING MATHEMATICS I	-	a,b	3	1	0	4
18CS102	ENGINEERING PHYSICS I	-	a,b,i	2	0	2	3
18CS103	ENGINEERING CHEMISTRY I	-	a,b,g	2	0	2	3
18CS104	COMPUTER PROGRAMMING I	-	a,b,d	2	0	2	3
18HS101	COMMUNICATIVE ENGLISH I	-	i,j	1	0	2	2
18CS106	HARDWARE ASSEMBLING AND SOFTWARE TOOLS LABORATORY	-	a,b,e	0	0	4	2
Total				10	1	12	17.0

Second Semester

Code No.	Course	Objectives & Outcomes		L	T	P	C
		PEOs	POs				
18CS201	ENGINEERING MATHEMATICS II	-	a,b	3	1	0	4
18CS202	ENGINEERING PHYSICS II	-	a,b,i	2	0	2	3
18CS203	ENGINEERING CHEMISTRY II	-	a,b,g	2	0	2	3
18CS204	COMPUTER PROGRAMMING II	-	a,b,e,m	2	0	2	3
	LANGUAGE ELECTIVE	-	-	-	-	-	2
18CS206	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING	-	a,b,c	2	0	2	3
18CS207	ENGINEERING GRAPHICS	-	a,i,m	1	0	4	3
Total				12	1	12	21.0

Third Semester

Code No.	Course	Objectives & Outcomes		L	T	P	C
		PEOs	POs				
18CS301	ENGINEERING MATHEMATICS III	-	a,b	3	1	0	4
18CS302	DATA STRUCTURES	-	a,b,c,m	3	0	0	3
18CS303	DIGITAL SYSTEM DESIGN	-	a,b,c	3	0	2	4
18CS304	SOFTWARE ENGINEERING	-	a,b,c,m	3	0	0	3
18CS305	DATABASE MANAGEMENT SYSTEMS	-	a,b,c,e,m	3	0	0	3
18CS306	PROGRAMMING USING CPP	-	a,b,c,e,m	2	0	2	3
18CS307	DATA STRUCTURES LABORATORY	-	e,m	0	0	4	2
18CS308	DATABASE MANAGEMENT SYSTEMS LABORATORY	-	a,b,c,e,m	0	0	4	2
18GE301	SOFT SKILLS - VERBAL ABILITY	-	-	2	0	0	0
Total				19	1	12	24.0

Fourth Semester

Code No.	Course	Objectives & Outcomes		L	T	P	C
		PEOs	POs				
18CS401	ENGINEERING MATHEMATICS IV	-	a,b	3	1	0	4
18CS402	DESIGN AND ANALYSIS OF ALGORITHMS	-	a,b,c	3	1	0	4
18CS403	MICROPROCESSORS AND MICROCONTROLLER	-	b,e,n	3	0	0	3
18CS404	OPERATING SYSTEM	-	a,c,e,m	3	0	0	3
18CS405	DATA MINING AND DATA WAREHOUSING	-	a	3	0	0	3
18CS406	JAVA PROGRAMMING	-	a,b,c,m	2	0	2	3
18CS407	MICROPROCESSORS AND MICROCONTROLLER LABORATORY	-	a,b,c,e,f,g,h,i,n	0	0	4	2
18CS408	DATA MINING AND DATA WAREHOUSING LABORATORY	-	a	0	0	4	2
18HS001	ENVIRONMENTAL SCIENCE	-	a,b	2	0	0	0
18GE401	SOFT SKILLS-REASONING	-	-	2	0	0	0
Total				21	2	10	24.0

Fifth Semester

Code No.	Course	Objectives & Outcomes		L	T	P	C
		PEOs	POs				
18CS501	THEORY OF COMPUTATION	-	a,b,c	3	1	0	4
18CS502	COMPUTER ARCHITECTURE	-	a,b,c	3	0	0	3
18CS503	COMPUTER NETWORKS	-	e,g,n	3	0	0	3
18CS504	MACHINE LEARNING	-	a,b,c,d,e,f,m	3	0	0	3
	PROFESSIONAL ELECTIVE I	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE II	-	-	-	-	-	3
18CS507	COMPUTER NETWORKS LABORATORY	-	e,g,m,n	0	0	4	2
18CS508	MACHINE LEARNING LABORATORY	-	a,b,c,d	0	0	4	2
18GE501	SOFT SKILLS - APTITUDE I	-	a,b	0	0	2	0
Total				12	1	10	23.0

Sixth Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	POs				
18HS003	PRINCIPLES OF MANAGEMENT	-	-	2	0	0	2
18CS602	WEB TECHNOLOGY	-	a,c,e,f,m	3	0	0	3
18CS603	COMPILER DESIGN	-	b,c,e	3	1	0	4
18CS604	CLOUD COMPUTING	-	c,e	3	0	0	3
	PROFESSIONAL ELECTIVE III	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE IV	-	-	-	-	-	3
18CS607	WEB TECHNOLOGY LABORATORY	-	a,c,e,f,m	0	0	4	2
18CS608	CLOUD COMPUTING LABORATORY	-	c	0	0	4	2
18GE601	SOFT SKILLS-APTITUDE II	-	a,b	0	0	2	0
Total				11	1	10	22.0
Seventh Semester							
Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	POs				
18HS002	PROFESSIONAL ETHICS IN ENGINEERING	-	-	2	0	0	2
18CS702	SOFTWARE TESTING	-	b,c,e	3	0	0	3
18CS703	ARTIFICIAL INTELLIGENCE	-	a,b,c,d	3	0	0	3
18CS704	CRYPTOGRAPHY AND NETWORK SECURITY	-	c,d,e	3	0	0	3
	PROFESSIONAL ELECTIVE V	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE VI	-	-	-	-	-	3
18CS707	SOFTWARE TESTING LABORATORY	-	a,b,c,e	0	0	4	2
18CS708	PROJECT WORK I	-	-	0	0	6	3
Total				11	0	10	22.0
Eight Semester							
Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	POs				
	PROFESSIONAL ELECTIVE VII	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE VIII	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE IX	-	-	-	-	-	3
18CS804	PROJECT WORK II	-	-	0	0	18	9
Total				0	0	18	18.0
Electives							
Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	POs				
LANGUAGE ELECTIVES							
18HSC01	CHINESE	-	-	1	0	2	2
18HSF01	FRENCH	-	j	1	0	2	2
18HSG01	GERMAN	-	-	1	0	2	2
18HSH01	HINDI	-	-	1	0	2	2
18HSJ01	JAPANESE	-	-	1	0	2	2
DISCIPLINE ELECTIVES							
18CS003	CYBER SECURITY	-	a,b,c	3	0	0	3
18CS004	DISTRIBUTED COMPUTING	-	a,c,e	3	0	0	3
18CS005	BIG DATA ANALYTICS	-	a,b,c,d,e	3	0	0	3
18CS006	INFORMATION STORAGE MANAGEMENT	-	d,i,j	3	0	0	3
18CS007	TCP/IP	-	a,b,c	3	0	0	3
18CS008	WIRELESS NETWORK TECHNOLOGIES	-	a,d,e	3	0	0	3
18CS009	SOFTWARE QUALITY ASSURANCE	-	e,f,k	3	0	0	3
18CS011	XML AND WEB SERVICES	-	b,c,e	3	0	0	3
18CS012	INTERNET OF THINGS	-	b,c,e	3	0	0	3
18CS013	E-COMMERCE	-	a,c,f,k,l	3	0	0	3
18CS014	MANAGEMENT INFORMATION SYSTEMS	-	a,c,e,f,g,h,i,j,k	3	0	0	3
18CS015	TOTAL QUALITY MANAGEMENT	-	d,h,l	3	0	0	3
18CS016	DEEP LEARNING TECHNIQUES	-	a,b,d,e,m	3	0	0	3
18CS018	HUMAN COMPUTER INTERACTION	-	a,b,c,d,e,m	3	0	0	3
18CS019	VIRTUAL REALITY	-	b,d,e	3	0	0	3
18CS020	DIGITAL MARKETING	-	b,d,e	3	0	0	3
18CS021	SOCIAL NETWORK ANALYSIS	-	a,b,c,d,e,f	3	0	0	3
18CS022	NATURAL LANGUAGE PROCESSING	-	a,b,c,d,m	3	0	0	3
18CS023	WEB SERVICES AND SERVICE ORIENTED ARCHITECTURE	-	a,b,c	3	0	0	3
18CS024	BUSINESS ANALYTICS	-	b,d,e	3	0	0	3
18CS025	OPEN STACK ESSENTIALS	-	b,c,d,n	3	0	0	3
18CS026	EMBEDDED SYSTEMS	-	a,c,d	3	0	0	3
18CS028	DIGITAL IMAGE PROCESSING	-	-	2	0	2	3

ONE CREDIT COURSES							
18CS0XA	3D ANIMATIONS	-	-	0	0	0	1
18CS0XB	QUANTUM COMPUTING	-	-	0	0	0	1
18CS0XC	AGILE PROGRAMMING	-	-	0	0	0	1
18CS0XD	MOBILE OPERATING SYSTEMS	-	-	0	0	0	1
18CS0XE	INTERNET MARKETING	-	-	0	0	0	1
18CS0XF	SCRIPTING LANGUAGES	-	-	1	0	0	1
18CS0XG	RASPBERRY PI	-	-	1	0	0	1
18CS0XH	AUTOMATION TESTING USING QTP	-	-	0	0	0	1
18CS0XI	CODE AUGMENTED REALITY	-	-	0	0	0	1
18CS0XJ	ANGULAR JAVA	-	-	0	0	0	1
18CS0XK	TENSOR FLOW	-	-	1	0	0	1
18CS0XL	STATISTICAL ANALYSIS USING R	-	-	0	0	0	1
18CS0XM	MACHINE LEARNING FOR ENGINEERS	-	-	0	0	0	1
18CS0XN	BLOCK CHAIN TECHNOLOGIES	-	-	0	0	0	1
18CS0XO	.NET PROGRAMMING	-	-	1	0	0	1
18CS0XP	GO PROGRAMMING	-	-	1	0	0	1
OPEN ELECTIVES							
18CS0YA	E-LEARNING TECHNIQUES	-	a,b,c,m	3	0	0	3
18CS0YB	SOFTWARE TESTING AND QUALITY ASSURANCE	-	a,b,e	3	0	0	3
18CS0YD	NETWORK ENGINEERING AND MANAGEMENT	-	c,d,e	3	0	0	3
18CS0YE	AGENT BASED INTELLIGENT SYSTEMS	-	a,b,c,d,m	3	0	0	3
18CS0YF	E-BUSINESS	-	c,f,k,l	3	0	0	3
18CS0YG	KNOWLEDGE DISCOVERY IN DATABASES	-	a,b,c,d,m	3	0	0	3
18CS0YH	SOCIAL NETWORK ANALYSIS CONCEPTS	-	a,b,c,d,e,f	3	0	0	3
18CS0YI	OPERATING SYSTEM CONCEPTS	-	a,b,c,e	3	0	0	3
18CS0YJ	OBJECT ORIENTED PROGRAMMING	-	a,b,c,e	3	0	0	3
18GE0C1	CORROSION SCIENCE AND ENGINEERING	-	a,b,g	3	0	0	3
18GE0C2	ENERGY STORING DEVICES	-	a,b	3	0	0	3
18GE0C3	POLYMER SCIENCE	-	a,b,c	3	0	0	3
18GE0P1	NANOMATERIALS SCIENCE	-	a,b	3	0	0	3
18GE0P2	SEMICONDUCTOR PHYSICS AND DEVICES	-	-	3	0	0	3
18GE0P3	APPLIED LASER SCIENCE	-	-	3	0	0	3
18GE0P4	BIO-PHOTONICS	-	-	3	0	0	3
18GE0P5	PHYSICS OF SOFT MATTER	-	-	3	0	0	3
18MC0YA	INDUSTRIAL ROBOTICS	-	-	3	0	0	3
ADDITIONAL ONE CREDIT COURSE							
18GE0XA	ETYMOLOGY	-	-	1	0	0	1
18GE0XB	GENERAL PSYCHOLOGY	-	-	1	0	0	1
18GE0XC	NEURO BEHAVIORAL SCIENCE	-	i	1	0	0	1
18GE0XD	VISUAL MEDIA AND FILM MAKING	-	b,f	1	0	0	1
18GE0XE	YOGA FOR HUMAN EXCELLENCE	-	i,k	1	0	0	1
18GE0XF	VEDIC MATHEMATICS	-	-	1	0	0	1
18GE0XG	HEALTH AND FITNESS	-	-	1	0	0	1
18GE0XH	CONCEPT, METHODOLOGY AND APPLICATIONS OF VERMICOMPOSTING	-	-	1	0	0	1
18GE0XI	BLOG WRITING	-	-	1	0	0	1
18GE0XJ	INTERPERSONAL SKILLS	-	-	1	0	0	1
18GE0XL	NATIONAL CADET CORPS	-	g,i	1	0	0	1
18GE0XM	COMMUNITY SERVICE AND LEADERSHIP DEVELOPMENT	-	-	1	0	0	1
18GE0XN	DISRUPTIVE INNOVATION BASED STARTUP ACTIVITIES	-	-	1	0	0	1
18GE0XO	SOCIAL PSYCHOLOGY	-	i	1	0	0	1
DISCIPLINE ELECTIVES							
18CS001	FREE OPEN SOURCE SOFTWARE	-	b,g	3	0	0	3
18CS002	DATA ANALYTICS	-	a,b,c,d,e,f	3	0	0	3
18CS010	GRAPHICS AND MULTIMEDIA	-	b,c,e	3	0	0	3
18CS017	MOBILE APPLICATION DEVELOPMENT	-	b,c	3	0	0	3
18CS027	SOFT COMPUTING	-	b,c	3	0	0	3
OPEN ELECTIVES							
18CS0YC	JAVA FUNDAMENTALS	-	a,b,c,e,m	3	0	0	3
18CS0YK	ADVANCE SOCIAL TEXT AND MEDIA ANALYTICS	-	a,b,c,d,e	3	0	0	3
ADDITIONAL ONE CREDIT COURSE							
18GE0XK	NEW AGE INNOVATION AND ENTREPRENEURSHIP	-	-	1	0	0	1
LANGUAGE ELECTIVES							
18HS201	COMMUNICATIVE ENGLISH II	-	i,j	1	0	2	2
OPEN ELECTIVES							
18AE0YA	NON-DESTRUCTIVE TESTING	-	-	3	0	0	3
18AE0YB	SMART MATERIALS	-	-	3	0	0	3

18AE0YC	FUNDAMENTALS OF AIRCRAFT ENGINEERING	-	-	3	0	0	3
18AG0YA	ENTREPRENEURSHIP DEVELOPMENT AND FOOD QUALITY MANAGEMENT FOOD INDUSTRY	-	-	3	0	0	3
18AG0YB	HUMAN ENGINEERING AND SAFETY IN AGRICULTURE	-	-	3	0	0	3
18AG0YC	ENERGY MANGEMENT IN AGRICULTURE	-	-	3	0	0	3
18AG0YD	FARM MECHANISATION	-	-	3	0	0	3
18AU0YA	AUTOMOTIVE ENGINEERING	-	-	3	0	0	3
18AU0YB	VEHICLE CONTROL SYSTEMS	-	-	3	0	0	3
18AU0YC	PUBLIC TRANSPORT MANAGEMENT	-	-	3	0	0	3
18AU0YD	TECHNOLOGIES FOR GREEN MOBILITY	-	-	3	0	0	3
18AU0YE	TROUBLE SHOOTING AND MAINTENANCE OF AUTOMOBILES	-	-	3	0	0	3
18BT0YA	BIOFUELS	-	-	3	0	0	3
18BT0YB	MUSHROOM CULTIVATION AND VERMICOMPOSTING	-	-	3	0	0	3
18BT0YC	FORENSIC TECHNOLOGY	-	-	3	0	0	3
18CE0YA	GREEN BUILDINGS	-	-	3	0	0	3
18CE0YB	DISASTER PREPAREDNESS AND PLANNING	-	-	3	0	0	3
18CE0YC	ENVIRONMENTAL IMPACT ASSESSMENT	-	-	3	0	0	3
18CE0YD	BUILDING SERVICES	-	-	3	0	0	3
18CE0YE	INDUSTRIAL WASTE MANAGEMENT	-	-	3	0	0	3
18CE0YF	WEALTH FROM WASTE	-	-	3	0	0	3
18CE0YG	RISK AND SAFETY MANAGEMENT	-	-	3	0	0	3
18CE0YH	ENERGY SCIENCE AND ENGINEERING	-	-	3	0	0	3
18CE0YI	CONCEPTS OF REMOTE SENSING	-	-	3	0	0	3
18EC0YA	BASICS OF ANALOG AND DIGITAL ELECTRONICS	-	-	3	0	0	3
18EC0YB	AUTOMOTIVE ELECTRONICS	-	-	3	0	0	3
18EC0YC	PCB DESIGN AND PROTOTYPING	-	-	3	0	0	3
18EC0YD	MICROCONTROLLER PROGRAMMING	-	-	3	0	0	3
18EC0YE	ENGINEERING COMPUTATION WITH MATLAB	-	-	3	0	0	3
18EC0YF	BASICS OF HARDWARE DESCRIPTION LANGUAGES	-	-	3	0	0	3
18EC0YG	FUNDAMENTALS OF EMBEDDED SYSTEMS	-	-	3	0	0	3
18EC0YH	PRINCIPLES OF COMMUNICATION SYSTEMS	-	-	3	0	0	3
18EC0YI	ELECTRONIC PRODUCT DESIGN AND PACKAGING	-	-	3	0	0	3
18EC0YJ	PRINCIPLES OF COMPUTER COMMUNICATION AND NETWORKS	-	-	3	0	0	3
18EE0YA	ENERGY CONSERVATION AND MANAGEMENT	-	-	3	0	0	3
18EE0YB	ELECTRICAL SAFETY	-	-	3	0	0	3
18EE0YC	INDUSTRIAL DRIVES AND CONTROL	-	-	3	0	0	3
18EI0YA	PROGRAMMABLE LOGIC CONTROLLERS	-	-	3	0	0	3
18EI0YB	SENSOR TECHNOLOGY	-	-	3	0	0	3
18EI0YC	FUNDAMENTALS OF VIRTUAL INSTRUMENTATION	-	-	3	0	0	3
18EI0YD	OPTOELECTRONICS AND LASER INSTRUMENTATION	-	-	3	0	0	3
18FD0YA	TRADITIONAL FOODS	-	-	3	0	0	3
18FD0YB	FOOD LAWS AND REGULATIONS	-	-	3	0	0	3
18FD0YC	POST HARVEST TECHNOLOGY OF FRUITS AND VEGETABLES	-	-	3	0	0	3
18FT0YA	FASHION CRAFTS	-	-	3	0	0	3
18FT0YB	FASHION ACCESSORIES	-	-	3	0	0	3
18FT0YC	FASHION VISUAL MERCHANDISING	-	-	3	0	0	3
18FT0YD	INTERIOR DESIGN	-	-	3	0	0	3
18FT0YE	SURFACE EMBELLISHMENT	-	-	3	0	0	3
18GE01	BUSINESS ANALYTICS	-	-	3	0	0	3
18GE02	INDUSTRIAL SAFETY	-	-	3	0	0	3
18GE03	OPERATIONS RESEARCH	-	-	3	0	0	3
18GE04	COST MANAGEMENT OF ENGINEERING PROJECTS	-	-	3	0	0	3
18GE05	COMPOSITE MATERIALS	-	-	3	0	0	3
18GE06	WASTE TO ENERGY	-	-	3	0	0	3
18IT0YA	DATABASE MANAGEMENT SYSTEMS	-	-	3	0	0	3
18IT0YB	DATA STRUCTURES AND ALGORITHMS	-	-	3	0	0	3
18IT0YC	DATA SCIENCES AND ANALYTICS	-	-	3	0	0	3
18IT0YD	OBJECT ORIENTED PROGRAMMING	-	-	3	0	0	3
18IT0YE	ARTIFICIAL INTELLIGENCE	-	-	3	0	0	3
18ME0YA	INDUSTRIAL PROCESS ENGINEERING	-	-	3	0	0	3
18ME0YB	SAFETY ENGINEERING	-	-	3	0	0	3
18ME0YC	MAINTENANCE ENGINEERING	-	-	3	0	0	3
18ME0YD	BASICS OF NON-DESTRUCTIVE TESTING	-	-	3	0	0	3
18ME0YE	DIGITAL MANUFACTURING	-	-	3	0	0	3
18ME0YF	WORK STUDY AND ERGONOMICS	-	-	3	0	0	3
18ME0YG	METROLOGY IN INDUSTRY	-	-	3	0	0	3
18ME0YH	PLANT LAYOUT AND MATERIAL HANDLING	-	-	3	0	0	3
18ME0YI	CONCEPTS OF ENGINEERING DESIGN	-	-	3	0	0	3

18ME0YJ	OIL HYDRAULICS AND PNEUMATICS	-	-	3	0	0	3
18ME0YK	ENERGY AUDITING AND MANAGEMENT	-	-	3	0	0	3
18ME0YL	LEAN SIX SIGMA	-	-	3	0	0	3
18ME0YM	HEATING VENTILATION AND AIRCONDITIONING	-	-	3	0	0	3
18TT0YA	YARN AND FABRIC MANUFACTURE	-	-	3	0	0	3
18TT0YB	COLOURATION OF TEXTILES	-	-	3	0	0	3
18TT0YC	TEXTILES IN ENGINEERING APPLICATION	-	-	3	0	0	3
18TT0YD	GENERAL TEXTILE TECHNOLOGY	-	-	3	0	0	3

