	B.E. MECHATRONICS						
	Minimum Credits to be Earned 170.0						

First Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	**POs**				
18MC101	ENGINEERING MATHEMATICS I	I,II	a,b,c	3	1	0	4
18MC102	ENGINEERING PHYSICS I	I,III	a,b,i	2	0	2	3
18MC103	ENGINEERING CHEMISTRY I	I,II	a,b,g	2	0	2	3
18MC104	CIRCUIT THEORY	I	a,b	2	0	2	3
18HS101	COMMUNICATIVE ENGLISH I	III	i,j	1	0	2	2
18MC106	ENGINEERING GRAPHICS	I,III	a,i,j	1	0	4	3
			Total	11	1	12	18.0

Second Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	**POs**				
18MC201	ENGINEERING MATHEMATICS II	I	a,b	3	1	0	4
18MC202	ENGINEERING PHYSICS II - MECHANICS	I	a,b	3	1	0	4
18MC203	ENGINEERING CHEMISTRY - II	I	a,b	2	0	2	3
18MC204	C PROGRAMMING	I,II	a,b,c,e	2	0	2	3
	LANGUAGE ELECTIVE	-	-	-	-	-	2
18MC206	ELECTRON DEVICES AND CIRCUITS	I,II	a,b,c	2	0	2	3
18MC207	ENGINEERING PRACTICE LABORATORY	I,II,III	a,e,h	0	0	2	1
			Total	12	2	8	20.0

Third Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	**POs**				
18MC301	ENGINEERING MATHEMATICS III	I	a,b	3	1	0	4
18MC302	ELECTRICAL MACHINES	I,II	a,b,c,m	3	0	2	4
18MC303	DIGITAL ELECTRONICS	I,II,III	a,b,c,d,f,m	3	0	0	3
18MC304	STRENGTH OF MATERIALS	I	a,b,m,n	3	1	0	4
18MC305	FLUID MECHANICS AND HYDRAULIC MACHINES	I,III	a,b,i	2	0	2	3
18MC306	MANUFACTURING TECHNOLOGY	I,II	a,c,m	3	0	0	3
18MC307	DIGITAL ELECTRONICS LABORATORY	II	c,d,e,m	0	0	2	1
18MC308	MANUFACTURING TECHNOLOGY LABORATORY	I,II,III	a,e,i,m	0	0	2	1
18GE301	SOFT SKILLS - VERBAL ABILITY	-	-	2	0	0	0
			Total	19	2	8	23.0

Fourth Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	**POs**				
18MC401	ENGINEERING MATHEMATICS IV	I	a,b	3	1	0	4
18MC402	SENSORS AND SIGNAL CONDITIONING	I,II	a,c,n	3	0	0	3
18MC403	POWER ELECTRONICS AND DRIVES	I,II	a,b,c,n	3	0	2	4
18MC404	FLUID POWER SYSTEM	I,II	a,c,e,m,n	2	0	2	3
18MC405	THEORY OF MACHINES	I,II	a,b,c,m	3	1	0	4
18MC406	METROLOGY AND MEASUREMENTS	I	a,b,n	3	0	0	3
18MC407	SENSORS LABORATORY	I,II	a,c,e,n	0	0	2	1
18MC408	COMPUTER AIDED DESIGN LABORATORY	I,II	a,e,m	0	0	4	2
18HS001	ENVIRONMENTAL SCIENCE	I,II	a,b,g	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**				
18MC501	CONTROL SYSTEMS	I,II	a,b,c,d,n	3	1	0	4
18MC502	ROBOTICS	I,II	b,c,e,m,n	3	0	0	3
18MC503	MICROPROCESSORS AND MICROCONTROLLER	I,II	a,b,c,e,m	3	0	0	3
18MC504	THERMODYNAMICS AND HEAT TRANSFER	I,II	a,b,d,n	3	1	0	4
	PROFESSIONAL ELECTIVE I	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE II	-	-	-	-	-	3
18MC507	ROBOTICS LABORATORY	II,III	e,k,m,n	0	0	4	2
18MC508	MICROPROCESSORS AND MICROCONTROLLER LABORATORY	I,II	a,b,c,e,m	0	0	2	1
18GE501	SOFT SKILLS - APTITUDE I	-	-	0	0	2	0
			Total	12	2	8	23.0

Sixth Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C

Code No.	Course	PEOs	POs	L	T	P	C
18HS002	PROFESSIONAL ETHICS IN ENGINEERING	III	h,k	2	0	0	2
18MC602	CNC TECHNOLOGY	I,II	a,e,m	3	0	0	3
18MC603	MACHINE DESIGN	I,II	a,b,c,m	3	1	0	4
18MC604	EMBEDDED SYSTEM SESIGN	I,II	a,b,c,n	3	0	2	4
	PROFESSIONAL ELECTIVE III	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE IV	-	-	-	-	-	3
18MC607	COMPUTER AIDED MANUFACTURING LABORATORY	I,II,III	a,e,i,m	0	0	2	1
18MC608	OBJECT ORIENTED PROGRAMMING LABORATORY	I,II	a,b,c,e,n	0	0	4	2
18GE601	SOFT SKILLS-APTITUDE II	-	-	0	0	2	0
			Total	11	1	10	22.0

Seventh Semester

Code No.	Course	Objectives &Outcomes		L	T	P	C
		PEOs	POs				
18HS003	PRINCIPLES OF MANAGEMENT	II,III	g,i,k	2	0	0	2
18MC702	MICRO ELECTRO MECHANICAL SYSTEM	I,II	a,b,c,e,m,n	3	0	0	3
18MC703	AUTOMOTIVE ELECTRONICS	I,II,III	a,f,g	3	0	0	3
18MC704	INDUSTRIAL AUTOMATION	I,II	a,c,n	3	0	0	3
	PROFESSIONAL ELECTIVE V	-	-	-	-	-	3
	PROFESSIONAL ELECTIVE VI	-	-	-	-	-	3
18MC707	INDUSTRIAL AUTOMATION LABORATORY	I,II	a,c,e,m,n	0	0	2	1
18MC708	MICRO ELECTRO MECHANICAL SYSTEM LABORATORY	I,II,III	b,d,e,f,m	0	0	2	1
18MC709	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
18MC804	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	III	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							
18MC021	CONTROL SYSTEM AND DRIVES FOR ELECTRIC VEHICLES	I	a,b,m	3	0	0	4
18MC022	PROCESS CONTROL	II	c,e,m,n	3	0	0	3
18MC023	AD-HOC AND SENSOR NETWORK	I,II,III	a,b,c,d,e,l,m,n	3	0	0	3
18MC024	INDUSTRIAL IOT	I,II,III	a,b,c,d,e,f	3	0	0	3
18MC025	INDUSTRIAL DRIVES AND CONTROL	-	-	2	0	2	3
18MC026	LEAN MANUFACTURING	I,II	a,b,c,d,n	3	0	0	3
18MC027	GREEN MANUFACTURING	-	-	3	0	0	3
18MC028	WIRELESS SENSOR NETWORK	-	-	3	0	0	3
18MC029	COMPUTATIONAL FLUID DYNAMICS	-	-	3	0	0	3
ONE CREDIT COURSES							
18MC0XD	INDUSTRIAL HYDRAULICS	-	-	1	0	0	1
18MC0XE	DESIGN AND ASSEMBLY OF ELECTRONICS COMPONENTS IN PCB	-	-	1	0	0	1
18MC0XF	CNC SERVICING	-	-	1	0	0	1
18MC0XG	SMART FACTORY	-	-	1	0	0	1
18MC0XK	INDUSTRIAL DATA COMMUNICATIONS PROTOCOLS	-	-	1	0	0	1
OPEN ELECTIVES							
18GE0C1	CORROSION SCIENCE AND ENGINEERING	I,II	a,b,g	3	0	0	3
18GE0C2	ENERGY STORING DEVICES	I	a,b	3	0	0	3
18GE0C3	POLYMER SCIENCE	I,II	a,b,c	3	0	0	3
18GE0P1	NANOMATERIALS SCIENCE	-	-	3	0	0	3
18GE0P2	SEMICONDUCTOR PHYSICS AND DEVICES	-	-	3	0	0	3
18GE0P3	APPLIED LASER SCIENCE	-	-	3	0	0	3

Code	Title			L	T	P	C
18GE0P4	BIO-PHOTONICS	-	-	3	0	0	3
18GE0P5	PHYSICS OF SOFT MATTER	-	-	3	0	0	3
18MC0YA	INDUSTRIAL ROBOTICS	-	-	3	0	0	3
18MC0YB	BASICS OF MECHATRONICS	-	-	3	0	0	3
18MC0YC	MICRO ELECTRO MECHANICAL SYSTEMS	-	-	3	0	0	3
18MC0YD	INDUSTRIAL DRIVES AND AUTOMATION	-	-	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	III	i	1	0	0	1
18GE0XD	VISUAL MEDIA AND FILM MAKING	I,III	b,f	1	0	0	1
18GE0XE	YOGA FOR HUMAN EXCELLENCE	-	-	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	II,III	f,g,j	1	0	0	1
18GE0XJ	INTERPERSONAL SKILLS	-	-	1	0	0	1
18GE0XK	NEW AGE INNOVATION AND ENTREPRENEURSHIP	-	-	1	0	0	1
18GE0XL	NATIONAL CADET CORPS	II,III	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	III	i	1	0	0	1
ONE CREDIT COURSES							
18MC0XA	COMMUNICATION PROTOCOLS	II	c	0	0	0	1
18MC0XB	AC/DC DRIVES	-	-	1	0	0	1
18MC0XC	ADVANCED METROLOGY AND QUALITY CONTROL	-	-	1	0	0	1
DISCIPLINE ELECTIVES							
18MC001	ENGINEERING MATERIALS AND METALLURGY	I,II	a,b,d,e,m	3	0	0	3
18MC002	INDUSTRIAL ENGINEERING	I,II	a,b,c,n	3	0	0	3
18MC003	FINITE ELEMENT ANALYSIS	I,II	a,b,c,m	3	0	0	3
18MC004	DESIGN OF JIGS AND FIXTURES	I,II	a,b,c,m	3	0	0	3
LANGUAGE ELECTIVES							
18HS201	COMMUNICATIVE ENGLISH II	III	i,j	1	0	2	2
DISCIPLINE ELECTIVES							
18MC005	DESIGN OF MATERIAL HANDLING SYSTEMS	I,II	a,c,m	3	0	0	3
OPEN ELECTIVES							
	LANGUAGE ELECTIVE	-	-	3	0	0	3
DISCIPLINE ELECTIVES							
18MC006	DESIGN OF MECHATRONICS SYSTEM	I,II	a,b,c,n	3	0	0	3
18MC007	NON-CONVENTIONAL MACHINING	I	a,b	3	0	0	3
18MC008	COMPUTER INTEGRATED MANUFACTURING	I,II	a,e,m	3	0	0	3
18MC009	ADVANCED MANUFACTURING	I	a,b	3	0	0	3
18MC010	NON-DESTRUCTIVE TESTING	I,II	a,c,m	3	0	0	3
18MC011	DESIGN FOR MANUFACTURING AND ASSEMBLY	I,II,III	a,b,c,f,m	3	0	0	3
18MC012	PROCESS PLANNING AND COST ESTIMATION	I,II,III	a,b,c,k,m	3	0	0	3
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
18CS0YA	E-LEARNING TECHNIQUES	-	-	3	0	0	3
18CS0YB	SOFTWARE TESTING AND QUALITY ASSURANCE	-	-	3	0	0	3
18CS0YC	JAVA FUNDAMENTALS	-	-	3	0	0	3
18CS0YD	NETWORK ENGINEERING AND MANAGEMENT	-	-	3	0	0	3
18CS0YE	AGENT BASED INTELLIGENT SYSTEMS	-	-	3	0	0	3
18CS0YF	E-BUSINESS	-	-	3	0	0	3
18CS0YG	KNOWLEDGE DISCOVERY IN DATABASES	-	-	3	0	0	3
18CS0YH	SOCIAL NETWORK ANALYSIS CONCEPTS	-	-	3	0	0	3
18CS0YI	OPERATING SYSTEM CONCEPTS	-	-	3	0	0	3
18CS0YJ	OBJECT ORIENTED PROGRAMMING	-	-	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

DISCIPLINE ELECTIVES

18MC013	VIRTUAL INSTRUMENTATION	II	c,e,n	3	0	0	3
18MC014	MEDICAL MECHATRONICS	I,II,III	a,f,g,n	3	0	0	3
18MC015	MODELLING OF INDUSTRIAL ROBOTS	I,II	a,b,c,e,n	3	0	0	3
18MC016	FUZZY LOGIC AND ARTIFICIAL NEURAL NETWORK	I,II	a,e,n	3	0	0	3
18MC017	ARTIFICIAL INTELLIGENCE	I,II	a,b,c,m,n	3	0	0	3
18MC018	OPTIMIZATION TECHNIQUES	I,II	a,b,c,e,m,n	3	0	0	3
18MC019	MACHINE LEARNING	I,II	a,c,e,m	3	0	0	3
18MC020	LINEAR INTEGRATED CIRCUITS	I,II	a,b,c,n	3	0	0	3