

B TECH PROGRAMME**Revised Curriculum**

Common to all Branches - 2010 admissions onwards

SEMESTER I

Cat	Code	Title	L T P	Cr
	ENG101	Communicative English	2 0 2	3
	PHY100/CHY100	Physics / Chemistry	3 0 0	3
	MAT111	Calculus and Matrix Algebra and Ordinary Differential Equations	3 1 0	4
	EEE100	Electrical Engineering	3 0 0	3
	MEE100/CSE100	Engineering Mechanics / Computer Programming	3 1 0 / 3 0 0	4 / 3
	MEE181	Engineering Drawing	1 0 3	2
	PHY181/CHY181	Physics Lab. / Chemistry Lab.	0 0 3	1
	EE180/EEE180	Workshop A / Workshop B	1 0 2	2
	CSE180	Computer Programming Lab.	0 0 3	1
	CUL101	Cultural Education – I	2 0 0	2
			Total – 24	

SEMESTER II

Cat	Code	Title	L T P	Cr
	ENG112	Technical Communication	2 0 2	3
	CHY100/PHY100	Chemistry / Physics	3 0 0	3
	MAT112	Vector Calculus, Fourier Series and Partial Differential Equations	3 1 0	4
	ECE100	Electronics Engineering	3 0 0	3
	CSE100/MEE100	Computer Programming / Engineering Mechanics	3 0 0 / 3 1 0	3 / 4
	MEE182	Computer Aided Drawing	1 0 3	2
	CHY181/PHY181	Chemistry Lab. / Physics Lab.	0 0 3	1
	EEE180/MEE180	Workshop B / Workshop A	1 0 2	2
	CSE180	Computer Programming Lab.	0 0 3	1
	CUL102	Cultural Education - II	2 0 0	2
			Total – 24	

B TECH - AEROSPACE ENGINEERING

CURRICULUM

(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	L T P	Cr	Cat	Code	Title	L T P	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
	AES211	Introduction to Aerospace Technology	3 0 0	3			Science Elective I	3 0 0	3
	AES241	Mechanics of Materials	3 1 0	4		AES222	Fundamentals of Aerodynamics	3 1 0	4
	AES221	Mechanics of Fluids	3 1 0	4		AES242	Aerospace Structures	3 1 0	4
	MEE231	Introduction to Thermodynamics	3 1 0	4		AES252	Introduction to Control	3 0 0	3
	AES291	Materials Testing Lab.	0 0 3	1		AES292	Fluid Mechanics Lab.	0 0 3	1
	MES291	Machine Drawing	1 0 2	2		AES294	Instrumentation Lab.	0 0 3	1
							SOFT SKILLS I		1
TOTAL				24	TOTAL				23
SEMESTER V					SEMESTER VI				
	CM300	Environmental Studies	3 1 0	4		AES312	Flight Mechanics and Static Stability	3 1 0	4
		Science Elective II	3 0 0	3		AES352	Introduction to Avionics	2 0 0	2
	AES321	Compressible Fluid Flow	3 1 0	4		AES344	Finite Element Analysis	3 0 3	4
	AES331	Introduction to Aerospace Propulsion	3 1 0	4		AES322	Computational Aerodynamics	3 0 3	4
		Core Elective I	4 0 0	4			Core Elective II	4 0 0	4
		SOFT SKILLS II		1			SOFT SKILLS III		1
	AES391	Control Lab.	0 0 3	1		AES392	Propulsion Lab.	0 0 3	1
	AES393	Aero-structures Lab.	0 0 3	1		AES394	Low-speed Aerodynamics Lab.	0 0 3	1
						AES362	Seminar	0 0 3	1
TOTAL				22	TOTAL				22
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	AES411	Flight Dynamics	3 1 0	4			Core Elective V	4 0 0	4
		Core Elective III	4 0 0	4		AES499	Project Phase II		9
		Core Elective IV	4 0 0	4					
	AES491	Aero-Design Lab.	2 1 3	4					
	AES493	Flight Testing Lab.	0 0 3	1					
	AE	Project Phase I		3					
TOTAL				23	TOTAL				16

Total credits for the programme = 178

ELECTIVES

Elective I

AES341 Analysis of Aero-structures
 AES323 Boundary Layer Theory
 AES351 Vibration Analysis
 AES333 Heat Transfer

Elective III

AES441 Composite Mechanics and Materials
 AES421 Hypersonic Flow Theory
 AES451 Manufacturing Processes
 AES435 Air-breathing Engines

Elective V

AES444 Matrix Methods in Structural Analysis
 AES442 Aero-elasticity
 AES456 Multidisciplinary Design Optimisation
 AES412 Space Flight Mechanics

Elective II

AES324 Turbulent Flows
 AES342 Fracture Mechanics
 AES332 Rocket & Space Craft Propulsion

Elective IV

AES453 Advanced Avionics
 AES425 Advanced CFD
 AES455 Flight Control Systems

**B TECH - CHEMICAL ENGINEERING
CURRICULUM**
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
	CHE210	Introduction to Chemical Engineering	3 1 0	4		CHE212	Chemical Engineering Thermodynamics	3 1 0	4
	CHE211	Fluid Mechanics	3 1 0	4		CHE213	Heat Transfer	3 1 0	4
	CHE240	Inorganic and Physical Chemistry	3 1 0	4		CHE221	Mechanical Operations	3 0 0	3
	CHE220	Inorganic Chemical Technology	3 0 0	3		CHE241	Material Science and Strength of Materials	4 0 0	4
	CHE281	Fluid Mechanics Lab.	0 0 3	1		CHE282	Strength of Materials Lab.	0 0 3	1
	CHE280	Inorganic and Physical Chemistry Lab.	0 0 3	1		CHE283	Mechanical Operations Lab.	0 0 3	1
							SOFT SKILLS I		1
		TOTAL		23			TOTAL		24
SEMESTER V					SEMESTER VI				
	CHE341	Environmental Engineering	3 1 0	4			Science Elective II	3 0 0	3
		Science Elective I	3 0 0	3		CHE312	Equilibrium Staged Operations	3 1 0	4
	CHE310	Diffusional Mass Transfer Operations	3 1 0	4		CHE313	Computational Methods in Chemical Engineering	2 1 0	3
	CHE311	Chemical Reaction Engineering	3 1 0	4		CHE331	Process Dynamics, Control and Instrumentation	3 1 0	4
	CHE320	Organic Chemical Technology	3 0 0	3			Core Elective I	3 0 0	3
	CHE382	Advanced Topics in Chemical Engineering	0 0 3	1			SOFT SKILLS III		1
		SOFT SKILLS II		1		CHE392	Mass Transfer Lab.	0 0 3	1
	CHE380	Chemical Technology Lab.	0 0 3	1		CHE383	Chemical Reaction Engineering Lab.	1 0 3	2
	CHE381	Heat Transfer Lab.	0 0 3	1		CHE397	Seminar	1 0 0	1
		TOTAL		22			TOTAL		22
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	CHE430	Process Equipment Design	2 2 0	4			Core Elective III	3 0 0	3
	CHE410	Transport Phenomena	3 1 0	4			Core Elective IV	3 0 0	3
	CHE440	Biochemistry and Molecular Biology	3 0 0	3		CHE499	Project Phase II		8
		Core Elective II	3 0 0	3					
	CHE480	Computer-aided Design Lab.	1 0 3	2					
	CHE481	Process Control Lab.	0 0 3	1					
	CHE498	Project Phase I		2					
		TOTAL		22			TOTAL		17

Total credits for the programme = 178

MANAGEMENT ELECTIVES

ELECTIVE II

CHE431 Chemical Process Design and Economics

ELECTIVE I

MEExxx Optimisation Techniques
MEEyyy Project Engineering of Process Plants

CORE ELECTIVES

ELECTIVE II

IFT480 IT Essentials
CHE354 Food and Bioprocess Engineering
CHE355 Safety and Hazard Management in Chemical Industries
CHE356 Computational Fluid Dynamics

ELECTIVE III

CHE357 Petroleum Refining and Petrochemical Technology
CHE358 Biochemical Engineering
CHE359 Pharmaceutical Technology
CHE360 Nanoscience and Nanotechnology

ELECTIVE IV

CHE361 Polymer Materials and Rheology
CHE362 Materials Characterisation and Spectroscopic Methods
CHE363 Modern Separation Methods
CHE364 Catalysis in Refining and Petrochemicals

**B TECH - CIVIL ENGINEERING
CURRICULUM**
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
	CIE210	Solid Mechanics	3 1 0	4		CIE212	Structural Analysis	3 1 0	4
	CIE201	Surveying	3 1 0	4		CIE213	Building Technology	3 0 0	3
	CIE220	Mechanics of Fluids	2 1 0	3		CIE230	Soil Mechanics	3 1 0	4
	CIE211	Construction Materials	2 0 0	2		CIE221	Hydraulic Engineering	3 1 0	4
	CIE200	Engineering Geology	2 0 0	2		CIE290	Construction Materials Lab.	0 0 3	1
	CIE280	Survey Practical	1 0 3	2		CIE291	Fluid Mechanics and Machinery Lab.	0 0 3	1
	CIE281	Material Testing and Evaluation Lab.	0 0 3	1			SOFT SKILLS I		1
		TOTAL		24			TOTAL		24
SEMESTER V					SEMESTER VI				
		Environmental Studies	3 1 0	4			Science Elective I	3 0 0	3
	CIE314	Advanced Structural Analysis	3 1 0	4		CIE316	Design of Steel and Timber Structures	3 1 0	4
	CIE315	Design of Concrete Structures	3 1 0	4		CIE312	Environmental Engineering	3 1 0	4
	CIE331	Foundation Engineering	3 1 0	4		CIE341	Transportation Engineering II	3 1 0	4
	CIE340	Transportation Engineering I	3 1 0	4		CIE323	Water Resources and Irrigation Engineering	3 1 0	4
		SOFT SKILLS II		1			SOFT SKILLS III		1
	CIE380	Geotechnical Engineering Lab.	0 0 3	1		CIE390	Design and Drawing (RCC and Steel Structures)	1 0 3	2
	CIE381	Building Drawing	1 0 3	2		CIE391	Environmental Engineering Lab.	0 0 3	1
		TOTAL		24			TOTAL		23
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
		Science Elective II	3 0 0	3			Core Elective III	3 0 0	3
	CIE402	Quantity Surveying and Valuation	1 2 0	3			Core Elective IV	3 0 0	3
		Core Elective I	3 0 0	3		CIE499	Project Phase II		8
		Core Elective II	3 0 0	3					
	CIE480	Design and Drawing (Water Resources Engineering)	1 0 3	2					
	CIE497	Seminar	0 0 3	1					
	CIE498	Project Phase I		2					
		TOTAL		20			TOTAL		17

Total credits for the programme = 180

ELECTIVES

Elective I

CIE450	Concrete Technology
CIE451	Pavement Design
CIE454	Ground Water Hydrology
CIE452	Finite Element Methods
CIE453	Advanced Concrete Design
CIE455	Advanced Topics in Traffic Engineering

Elective III

CIE464	Industrial Structures
CIE462	Urban Transportation Planning
CIE461	Functional Design of Buildings
CIE463	Smart Materials and Structures
CIE465	Water Resource Systems Planning and Design
CIE466	Transportation System Management and Control

MANAGEMENT ELECTIVES

Elective I

CIE403	Construction Management
CIE404	Construction Planning and Control

Elective II

CIE456	Maintenance and Repair of Buildings
CIE457	Ground Improvement Techniques
CIE458	Remote Sensing and GIS
CIE459	Pre-stressed Concrete Design
CIE460	Advanced Environmental Engineering

Elective IV

CIE467	Advanced Steel Design
CIE468	Soil Dynamics and Machine Foundations
CIE470	Structural Dynamics and Seismic Design
CIE469	Coastal Engineering
CIE471	Industrial Waste Treatment

Elective II

CIE405	Optimisation Techniques for Civil Engineering
CIE409/MEE463	Operations Research
CIE406	Energy and Environmental Management
CIE407	Engineering Economics and Management
	Engineering Economic Analysis

B TECH – COMPUTER SCIENCE AND ENGINEERING
CURRICULUM
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
		Environmental Studies	3 1 0	4		CSE221	Structure and Interpretation of Computer Programs	3 1 0	4
		Discrete Mathematics	3 1 0	4		CSE230	Data Structures	3 1 0	4
	CSE220	Object Oriented Programming	3 1 0	4		CSE210	Computer Organisation and Architecture	3 1 0	4
	ECE210	Digital Systems	3 1 0	4		ECE212	Introduction to Embedded Systems	3 1 0	4
	CSE280	Object Oriented Programming Lab.	0 0 3	1		CSE290	Data Structures Lab.	0 0 3	1
	ECE280	Digital Systems Lab.	0 0 3	1		ECE284	Embedded Systems Lab.	0 0 3	1
							SOFT SKILLS I		1
		TOTAL		24			TOTAL		25
SEMESTER V					SEMESTER VI				
		Science Elective I	3 0 0	3			Science Elective II	3 0 0	3
	CSE340	Database Management Systems	3 1 0	4		CSE331	Formal Languages and Automata	3 1 0	4
	ECE221	Digital Signal Processing	3 0 0	3		CSE320	Software Engineering	3 1 0	4
	CSE300	Operating Systems	3 1 0	4		CSE310	Computer Networks	3 1 0	4
	CSE330	Design and Analysis of Algorithms	3 1 0	4		CSE321	Net-centric Programming	3 1 0	4
		SOFT SKILLS II		1			Core Elective I	3 0 0	3
	CSE380	Database Management Systems Lab.	0 0 3	1			SOFT SKILLS III		1
	CSE390	Operating Systems Lab.	0 0 3	1		CSE382	Software Engineering Lab.	0 0 3	1
	CSE381	Java Programming	0 0 3	1		CSE383	Computer Networks Lab.	0 0 3	1
		TOTAL		22			TOTAL		25
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
		Core Elective II	3 0 0	3			Core Elective III	3 0 0	3
	CSE400	Computer Graphics and Visualisation	3 1 0	4			Core Elective IV	3 0 0	3
	CSE430	Computer Language Engineering	3 1 0	4		CSE499	Project Phase II		8
	CSE480	Computer Graphics and Visualisation Lab.	0 0 3	1					
	CSE490	Computer Language Engineering Lab.	0 0 3	1					
	CSE481	Feature Development and Defect Repair	0 0 3	1					
	CSE498	Seminar		1					
	CSE499	Project Phase I		2					
		TOTAL		20			TOTAL		17

Total credits for the programme = 181

CORE ELECTIVES

to be offered in VI, VII and VIII semesters

CSE350	Advanced Databases	CSE351	Agent-based Intelligent Systems	CSE352	Pattern Recognition
CSE353	High Performance Computing	CSE354	Cryptography	CSE357	Multimedia Databases
CSE358	Soft Computing	CSE359	Natural Computing	CSE360	Principles of Digital Image Processing
CSE361	Information Security	CSE362	Data Warehousing & Data Mining	CSE363	Information Retrieval
CSE364	Computational Finance	CSE365	Real-time Computing Systems	CSE366	Information Coding Techniques
CSE367	Data Compression	ECE340	VLSI Design		

to be offered in VI and VII semesters

CSE355	Visual Programming	CSE356	Free and Open Source Software
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to be offered in VII and VIII semesters

CSE450	Wireless and Mobile Communication	CSE451	Software Quality Assurance	CSE452	Embedded Programming
CSE453	Parallel and Distributed Computing	CSE454	Component Based Development	CSE455	Natural Language Processing
CSE456	Computer Systems Engineering	CSE457	Computer Vision	CSE458	Bioinformatics
CSE459	Business Intelligence				

MANAGEMENT ELECTIVES

Elective I

MEE476	Principles of Management	CSE461	Software Project Management
MEE463	Operations Research	CSE462	Electronic Commerce
CSE460	Management Information Systems	CSE463	Financial Management

Elective II

**B TECH – ELECTRONICS AND COMMUNICATION ENGINEERING
CURRICULUM**
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
		Science Elective I	3 0 0	3			Science Elective II	3 0 0	3
	ECE220	Signals and Systems	3 1 0	4		ECE230	Electromagnetics & Wave Propagation	3 1 0	4
	ECE210	Digital Systems	3 1 0	4		ECE211	Electronic Circuits I	3 1 0	4
	EEE212	Electric Circuit	3 1 0	4		ECE221	Digital Signal Processing	3 1 0	4
	ECE281	Signals and Systems Lab.	0 0 3	1		ECE283	Electronic Circuits Lab. I	0 0 3	1
	ECE280	Digital Systems Lab.	0 0 3	1		ECE282	Digital Signal Processing Lab.	0 0 3	1
							SOFT SKILLS I		1
		TOTAL		23			TOTAL		24
SEMESTER V					SEMESTER VI				
	ECE311	Electronic Circuits II	3 1 0	4			Environmental Science and Engg.	3 1 0	4
	ECE330	Analog Communication	3 1 0	4		ECE331	Digital Communication	3 1 0	4
	ECE310	Introduction to Microcontrollers and Applications	3 1 0	4		ECE332	Transmission Lines and Radiating Systems	3 1 0	4
	EEE342	Control Engineering	3 1 0	4		ECE382	VLSI Design	3 1 0	4
	ECE312	Microprocessors	3 0 0	3			Core Elective I	3 0 0	3
		SOFT SKILLS II		1			SOFT SKILLS III		1
	ECE380	Microcontroller Lab.	1 0 3	2		ECE383	Digital Communication Lab.	0 0 3	1
	ECE381	Electronic Circuits Lab. II	0 0 3	1		ECE382	VLSI Design Lab.	0 0 3	1
						ECE397	Seminar	0 0 1	
		TOTAL		23			TOTAL		24
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	ECE430	Radio Frequency Engineering	3 1 0	4			Core Elective III	3 0 0	3
	ECE431	Information Theory and Coding Techniques	3 1 0	4			Core Elective IV	3 0 0	3
	ECE445	Wireless Communication	3 0 0	3		ECE499	Project Phase II		8
		Core Elective II	3 0 0	3					
	ECE480	Microwave and Antenna Lab.	0 0 3	1					
	ECE498	Project Phase I		2					
		TOTAL		20			TOTAL		17

Total credits for the programme = 179

ELECTIVES

ECE335 Optical Engineering
 ECE345 Microwave Solid State Devices
 ECE325 Soft Computing
 ECE326 Image Processing
 ECE315 Analog IC Design
 EEE313 Biomedical Instrumentation
 CSE311 Introduction to Data Structures and Algorithms

ECE447 Satellite Communication
 ECE448 Microstrip Devices and Circuits
 ECE427 Biomedical Signal Processing
 ECE417 VLSI System Design

ECE346 Radio Frequency Circuit Design
 ECE327 Digital Signal Processors and Applications
 ECE316 Embedded Systems
 ECE317 Digital IC Design
 ECE449 Antenna Systems and Design
 ECE435 Spread Spectrum Communication
 ECE418 Aviation Electronics
 ECE428 Speech Processing
 ECE429 Pattern Recognition Techniques and Algorithms

ECE445 Wireless Communication
 ECE446 Principles of RFID Design
 ECE425 Adaptive Signal Processing
 ECE415 VLSI Technology
 ECE416 Power Electronic Devices
 ECE426 Wavelet-based Signal Processing and Application

ECE437 Optical Communication
 ECE438 Digital Telephony
 ECE439 Multimedia Communication Standards
 ECE436 Software Defined Radio
 CSE4xx Information Technology Essentials

MANAGEMENT ELECTIVES

Elective I

ECE4xx Enterprise Management
 Operations Research
 Financial Engineering
 Econometrics

Elective II

ECE4xx Telecommunication Management
 Agent-based Modelling
 Financial Management
 Total Quality Management
 Signal Processing for Business Applications

B TECH – ELECTRICAL AND ELECTRONICS ENGINEERING CURRICULUM

(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
		Science Elective I	3 0 0	3			Science Elective II	3 0 0	3
	ECE210	Digital Systems	3 1 0	4		EEE221	Electrical Machines I	3 1 0	4
	EEE212	Electric Circuits	3 1 0	4		EEE213	Electrical Measurements and Instrumentation	3 1 0	4
	MEE209	Mechanical Engineering	4 0 0	4		EEE222	Electromagnetic Theory	3 1 0	4
	EEE281	Simulation Lab. and Electrical Workshop	1 0 3	2		EEE284	Measurements and Digital Circuits Lab.	0 0 3	1
	EEE282	Electric Circuits Lab.	0 0 3	1		EEE283	Electrical Machines Lab. I	0 0 3	1
							SOFT SKILLS I		1
		TOTAL		24			TOTAL		24
SEMESTER V					SEMESTER VI				
		Environmental Science and Engineering	3 1 0	4		ECE310	Introduction to Microcontroller and Applications	3 1 0	4
	EEE311	Electronics Circuit	3 1 0	4		EEE332	Electrical Energy Systems II	3 1 0	4
	EEE321	Electrical Machines II	3 1 0	4		ECE221	Digital Signal Processing	3 1 0	4
	EEE331	Electrical Energy System I	3 1 0	4		EEE341	Power Electronics	3 1 0	4
	ECE220	Signals and Systems	3 1 0	4		EEE342	Control Engineering	3 1 0	4
		SOFT SKILLS II		1			SOFT SKILLS III		1
	EEE381	Electrical Machines Lab. II	0 0 3	1		EEE383	Electronic Circuits Lab.	0 0 3	1
	EEE382	Measurements and Analog Circuit Lab.	0 0 3	1		EEE384	Microprocessor and Microcontroller Lab.	0 0 3	1
						LLC397	Seminar	0 0 1	2
		TOTAL		23			TOTAL		25
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	EEE431	Power System Protection and Switchgear	4 0 0	4			Core Elective III	3 0 0	3
	EEE441	Electrical Drives and Control	3 1 0	4			Core Elective IV	3 0 0	3
		Core Elective I	3 0 0	3		EEE499	Project Phase II		8
		Core Elective II	3 0 0	3					
	EEE481	Power System Simulation Lab.	0 0 3	1					
	EEE482	Power Electronics Lab.	0 0 3	1					
	EEE498	Project Phase I		2					
		TOTAL		21			TOTAL		17

Total credits for the programme = 182

ELECTIVES

Elective I

EEE450	Design of Electrical Apparatus
EEE451	Design of Electrical Systems
EEE452	Power Converters
EEE453	Advanced Microcontrollers
EEE454	Advance Control Theory
EEE455	Digital Image Processing
EEE456	Optimization Techniques
EEE457	Communication Engineering

Elective IV

EEE472	Power System Control
EEE473	High Voltage Engineering
EEE474	Special Electric Machines
EEE475	Power Plant Instrumentation
EEE476	Financial Engineering
EEE413	Biomedical Instrumentation
EEE478	Utilization of Electric Energy

Elective II

EEE458	Illumination Engineering
EEE459	Power System Stability
EEE460	Introduction to Computer Networks
EEE461	Embedded Systems Design
EEE462	Fundamentals of Soft Computing
EEE463	Industrial Electronics
EEE464	Network Synthesis
EEE465	Digital Control Systems
EEE466	Digital Signal Processors

Elective III

EEE467	Renewable Energy and Energy Conservation
EEE468	Flexible AC Transmission Systems
EEE469	Electromagnetic Compatibility
EEE470	Process Control and Instrumentation
EEE471	Optoelectronics and Laser Instrumentation

EEE479 Information Technology Essentials – under any Elective group

MANAGEMENT ELECTIVES

Elective I

EEE441	Power System Management
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Elective II

EEE442	Energy Management and IT Applications
EEE443	Management of Power Distribution

**B TECH – ELECTRONICS AND INSTRUMENTATION ENGINEERING
CURRICULUM**
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	LTP	Cr	Cat	Code	Title	LTP	Cr
		Integral Transforms and Complex Analysis	3 1 0	4			Mathematical Statistics and Numerical Methods	3 1 0	4
		Humanities Elective I	1 0 2	2			Humanities Elective II	1 0 2	2
		Science Elective I	3 0 0	3			Science Elective II	3 0 0	3
	ECE220	Signals and Systems	3 1 0	4		EIE210	Industrial Instrumentation I	3 1 0	4
	ECE210	Digital Systems	3 1 0	4		ECE211	Electronic Circuits I	3 1 0	4
	EEE212	Electric Circuits	3 1 0	4		ECE221	Digital Signal Processing	3 1 0	4
	ECE281	Signals and Systems Lab.	0 0 3	1		ECE283	Electronic Circuits Lab.	0 0 3	1
	ECE280	Digital Systems Lab.	0 0 3	1		ECE282	Digital Signal Processing Lab.	0 0 3	1
							SOFT SKILLS I		1
		TOTAL		23			TOTAL		24
SEMESTER V					SEMESTER VI				
	ECE311	Electronic Circuits II	3 1 0	4			Environmental Studies Science and Engg.	3 1 0	4
	EIE310	Electrical and Electronic Measurements I	3 1 0	4		EIE330	Process Control	3 1 0	4
	ECE310	Introduction to Microcontrollers and Applications	3 1 0	4		EIE331	Electrical Machines	3 1 0	4
	EEE342	Control Engineering	3 1 0	4		ECE313	VLSI Design	3 1 0	4
		Core Elective I	3 0 0	3		EIE311	Industrial Instrumentation II	3 0 0	3
		SOFT SKILLS II		1			SOFT SKILLS III		1
	ECE380	Microcontroller Lab.	1 0 3	2		EIE381	Process Control Lab.	0 0 3	1
	EIE380	Measurements and Control Systems Lab.	0 0 3	1		ECE382	VLSI Design Lab.	0 0 3	1
						EIE399	Seminar	0 0 1	2
		TOTAL		23			TOTAL		24
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	EIE440	Industrial Automation	3 1 0	4			Core Elective III	3 0 0	3
	EIE432	Power Electronics	3 1 0	4			Core Elective IV	3 0 0	3
		Core Elective II	3 0 0	3		EIE499	Project Phase II		8
	EIE413	Biomedical Instrumentation	3 0 0	3					
	EIE480	Industrial Automation Lab.	0 0 3	1					
	EIE498	Project Phase I		2					
		TOTAL		20			TOTAL		17

Total credits for the programme = 179

ELECTIVES

ECE325 Soft Computing
ECE326 Image Processing
ECE315 Analog IC Design
EIE314 Fibre Optic Sensors and Applications
CSE3xx Introduction to Data Structures and Algorithms

EIE416 Advanced Sensors
EIE433 Digital Control Systems
ECE425 Adaptive Signal Processing
ECE415 VLSI Technology
ECE426 Wavelet-based Signal Processing and Application
EIE412 Analytical Instrumentation

EIE434 Advanced Process Control
ECE428 Speech Processing
ECE429 Pattern Recognition Techniques and Algorithms

MANAGEMENT ELECTIVES

ELECTIVE I

Enterprise Management
Operations Research
ECE4xx Financial Engineering
ECE6xx Econometrics

ECE316 Embedded Systems
ECE317 Digital IC Design
ECE312 Microprocessors
EIE341 Robotic Control
EIE342 Virtual Instrumentation
ECE327 Digital Signal Processors and Applications
EIE340 Principles of Communication Engineering

EIE415 Instrumentation System design
EIE411 Electrical and Electronic Measurements II
ECE427 Biomedical Signal Processing
ECE417 VLSI System Design
EEE475 Power Plant Instrumentation

EIE414 Environmental and Pollution Monitoring Instrumentation
CSExxx Information Technology Essentials

ELECTIVE II

ECE4xx Signal Processing for Business Applications
Financial Management
Total Quality Management

**B TECH - MECHANICAL ENGINEERING
CURRICULUM**
(effective from 2010 onwards)

SEMESTER III					SEMESTER IV				
Cat	Code	Title	L T P	Cr	Cat	Code	Title	L T P	Cr
	MA	Integral Transforms and Complex Analysis	3 1 0	4		MA	Mathematical Statistics and Numerical Methods	3 1 0	4
	HU	Humanities Elective I	1 0 2	2		HU	Humanities Elective II	1 0 2	2
		Science Elective I	3 0 0	3		MEE221	Heat Power Engineering	3 1 0	4
	MEE220	Applied Thermodynamics	3 1 0	4		MEE222	Fluid Mechanics and Machinery	3 1 0	4
	MEE200	Metallurgy and Material Science	4 0 0	4		MEE212	Machine Dynamics	3 1 0	4
	MEE210	Mechanics of Solids	3 1 0	4		MEE230	Manufacturing Technology I	4 0 0	4
	MEE211	Machine Drawing	1 1 3	3		MEE280	Metallurgy and Material Testing Lab.	0 1 3	2
		Electrical Engineering and Electronics Lab.	0 0 3	1		MEE281	Manufacturing Process Lab. I	0 1 3	2
		TOTAL		25			SOFT SKILLS I		1
							TOTAL		27
SEMESTER V					SEMESTER VI				
	MEE330	Manufacturing Technology II	3 1 0	4		MEE311	Introduction to FEM	3 1 0	4
	MEE320	Heat Transfer	3 1 0	4		MEE312	Design of Machine Elements II	3 1 0	4
	MEE310	Design of Machine Elements I	3 1 0	4			Environmental Studies	3 1 0	4
		Core Elective I	3 0 0	3			Core Elective III	3 0 0	3
		Core Elective II	3 0 0	3			Core Elective IV	3 0 0	3
		SOFT SKILLS II		1			SOFT SKILLS III		1
	MEE380	a) Thermal Engineering b) Fluid Mechanics Lab	0 1 3	2		MEE382	a) Heat Transfer b) Dynamics Lab.	0 1 3	2
	MEE381	Manufacturing Process Lab. I	0 1 3	2		MEE383	a) Fluid Power Lab. b) Fluid Machinery Lab	0 1 3	2
		TOTAL		22		MEE397	Seminar	0 0 1	1
							TOTAL		24
SEMESTER VII					SEMESTER VIII				
		Management Elective I	3 0 0	3			Management Elective II	3 0 0	3
	MEE440	Industrial Engineering	3 1 0	4			Science Elective II	3 0 0	3
	MEE400	Instrumentation and Control Systems	3 1 0	4			Core Elective VI	3 0 0	3
		Core Elective V	3 0 0	3		MEE499	Project Phase II		8
	MEE480	CAE / CAM Lab.	0 0 3	1					
	MEE481	a) Instrumentation and Control Lab. b) Metrology Lab.	0 0 3	1					
	MEE499	Project Phase I		2					
		TOTAL		18			TOTAL		17

Total credits for the programme = 182

Elective Courses in Mechanical Engineering

Elective category	Code	Subject
Elective-I	MEE350	Theory of Elasticity
	MEE351	Design for Manufacture and Assembly
	MEE352	Pressure Vessel Design
	MEE353	Computational Methods in Engineering
	MEE354	Automotive Technology
Elective-II	MEE355	Refrigeration and Air-conditioning
	MEE356	Gas Dynamics and Jet Propulsion
	MEE357	Design of Thermal Systems
	MEE358	Internal Combustion Engines & Pollution control
	MEE359	Turbomachinery
	MEE360	Fluid Power Drives and Controls
Elective-III	MEE361	Automotive Chassis Design
	MEE362	Fracture Mechanics
	MEE363	Theory of Vibrations
	MEE364	Optimization for Engineering
	MEE365	Condition Monitoring and Diagnostic maintenance
	MEE366	Modeling and Simulation of Engineering Systems
Elective-IV	MEE367	Renewable Sources of Energy
	MEE368	Advanced Fluid Mechanics
	MEE369	Combustion Engineering
	MEE370	Computational Fluid Dynamics
	MEE371	Automotive Electronics
	MEE372	Fundamentals of Nuclear Engineering
	MEE450	Materials Selection in Mechanical Design
Elective-V	MEE451	Metal Forming Technology
	MEE452	Composite Materials and Processing
	MEE453	Modern Practices In Product Design & Manufacture
	MEE454	Non-Destructive testing
	MEE455	Industrial Robotics
Elective-VI	MEE468	Advanced Casting Technology
	MEE469	Tool Engineering Design
	MEE470	Micro-manufacturing
	MEE471	Advanced Welding Technology
	MEE472	Advanced Manufacturing Technology
	MEE473	Advanced Materials and Processes
	MEE474	Aircraft Systems and Engineering
Management Elective-I	MEE456	Operations Management
	MEE457	Total Quality Management
	MEE458	Financial Management
	MEE459	Managerial Statistics
	MEE460	Project Management
	MEE461	Supply Chain Management
Management Elective-II	MEE462	Engineering Economic Analysis
	MEE463	Operations Research
	MEE464	Marketing Management
	MEE465	Lean Manufacturing
	MEE466	Quality Control and Reliability Engineering
MEE467	Simulation Modeling of Manufacturing Systems	

List of Science Electives

- Chemistry -
- CHY300 Catalytic Chemistry
 - CHY301 Chemistry of Engineering Materials
 - CHY330 Corrosion Science
 - CHY340 Instrumental Methods of Analysis
 - CHY320 Organic Synthesis and Stereochemistry
 - CHY331 Electrochemical Energy Systems and Processes
 - CHY302 Chemistry of Advanced Materials
 - CHY303 Advanced Polymer Chemistry
 - CHY332 Computational Chemistry and Molecular Modelling
 - CHY333 Fuel Cells – Principles and Applications
 - CHY304 Polymers for Electronics
 - CHY305 Chemistry of Toxicology
 - CHY321 Unit Processes in Organic Synthesis
 - CHY334 Solid State Chemistry
 - CHY306 Chemistry of Nanomaterials
 - CHY307 Biomaterials Science
 - CHY322 Medicinal Organic Chemistry
 - CHY323 Organic Reaction Mechanisms
 - CHY335 Environmental Chemistry

- Physics -
- PHY230 Optoelectronic Devices
 - PHY330 Quantum Physics and its Applications
 - PHY310 Advanced Classical Dynamics
 - PHY246 Electrical Engineering Materials
 - PHY247 Lasers in Material Processing
 - PHY236 Astrophysics
 - PHY320 Electromagnetic Fields and Waves
 - PHY240 Physics of Semiconductor Devices
 - PHY331 Computational Physics
 - PHY346 Thin Film Physics
 - PHY347 Electronic Material Science
 - PHY332 Non-linear Dynamics
 - PHY345 Concepts of Nanophysics and Nanotechnology
 - PHY344 Microelectronic Fabrication
 - PHY245 Physics of Lasers and Applications
 - PHY348 Medical Physics