

**1.2.1. Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**


1. "Kindly provide the authenticated list of the new courses along with the consolidated number of courses" signed by the Principal.

The list of the new courses along with the consolidated number of courses which is signed by the Principal is presented from **Page Number 2 to 29**

2. Provide Minutes of relevant Academic Council/BOS meetings highlighting the list of name of the new courses introduced

The introduction of new courses was approved in the Academic Council meetings 30, 34 and 35. The corresponding minutes with the relevant details highlighted are presented from **Page Number 30 to 259**

<b>1.2.1</b>	<b>Findings of DVV</b>	<b>Response of HEI presented in Page Nos.</b>
<b>1</b>	Number of new courses	<b>2-29</b>
<b>2</b>	Academic Council/BOS meeting minutes	<b>30-259</b>
	(i) 30 <sup>th</sup> Academic Council	<b>30-202</b>
	(ii) 34 <sup>th</sup> Academic Council	<b>203-212</b>
	(iii) 35 <sup>th</sup> Academic Council	<b>213-259</b>

  
**PRINCIPAL**  
**Principal**  
**Government College of Technology**  
**Coimbatore -641 013.**



# **GOVERNMENT COLLEGE OF TECHNOLOGY**

*( An Autonomous Institution - Anna University, Chennai )*

**COIMBATORE - 641 013**

## **OFFICE OF THE CONTROLLER OF EXAMINATIONS**

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### **LIST OF NEW COURSES INTRODUCED**

- **30<sup>th</sup> Academic Council : Item : 30.9**
- **30<sup>th</sup> Academic Council : Item : 30.10**
- **34<sup>th</sup> Academic Council : Item : 34.12**
- **35<sup>th</sup> Academic Council : Item : 35.4**
- **35<sup>th</sup> Academic Council : Item : 35.8**





# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution Affiliated to Anna University, Chennai )

COIMBATORE - 641 013

## 1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years

Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	Basics of Electrical and Electronics Engineering	18CES103	2018
	Basics of Electrical and Electronics Engineering Laboratory	18CES105	2018
	Engineering Mechanics for Civil Engineers	18CES302	2018
	Strength of Materials	18CPC303	2018
	Surveying	18CPC305	2018
	Constitution of India	18CMC3Z7	2018
	Survey Laboratory	18CPC308	2018
	Materials Testing Laboratory	18CPC309	2018
	Civil Engineering - Societal and Global impact	18CHS401	2018
	Construction Materials and Technology	18CES403	2018
	Environmental Engineering Laboratory	18CPC409	2018
	Professional Practices, Ethics and Building Bye-laws	18CHS501	2018
	Geotechnical Engineering Laboratory	18CPC507	2018
	Computer Aided Civil Engineering Drawing	18CEE508	2018
	Transportation Engineering Laboratory	18CPC607	2018
	Concrete and Structural Analysis Laboratory	18CEE608	2018
	Construction Management	18CPC701	2018

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<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
	Engineering Economics, Estimation and Costing	18CPC702	2018
	Prestressed Concrete Structures	18CPC703	2018
	Computer Applications Laboratory	18CPC707	2018
	Mini Project	18CEE708	2018
	Project Work	18CEE803	2018
	Finite Element Method	18CPES03	2018
	Advanced Concrete Design	18CPES04	2018
	Basics of Dynamics and Aseismic Design of Structures	18CPES05	2018
	Valuation	18CPES10	2018
	Ground Improvement Techniques	18CPES15	2018
	Highways – State of Art	18CPES18	2018
	Highway and Railway Engineering	18CPES21	2018
	Climate Change and Adaptation	18COES01	2018
	Disaster Management and Mitigation	18COES02	2018
	Energy Efficient Bulidings	18COES03	2018
	Water Sanitation and Health	18COE\$28	2018
	Microsoft Office Fundamentals	18CVA\$04	2018
	Building Information Modeling	18CVA\$05	2018
	Transportation Infrastructure – Airports, Metros & Seaports	18CVA\$06	2018
	High rise building design	18CVA\$07	2018
	Design and Construction of Steel Buildings	18CVA\$08	2018

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Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
B.E - CIVIL ENGINEERING	Sustainable Building Design	18CVA\$09	2018
	Integrated Building Services	18CVA\$14	2018
	Earthquake Engineering	18CPES08	2021(2018 A)
	Environmental Legislations in India	18CPES12	2021(2018 A)
	Sustainable Engineering and Technology	18CPES14	2021(2018 A)
	Environmental Management	18CPES26	2021(2018 A)
	Air Pollution Management	18CPES27	2021(2018 A)
	Integrated Urban Water Management	18CPES28	2021(2018 A)
	Slope Stability and Landslides	18CPES29	2021(2018 A)
	Earth Retaining Structures	18CPES30	2021(2018 A)
	Foundations in Expansive Soil	18CPES31	2021(2018 A)
	Land Reclamation	18CPES32	2021(2018 A)
	Environmental Geotechnology	18CPES33	2021(2018 A)
	Reinforced Soil Structures	18CPES34	2021(2018 A)
	Design of Underground Excavations	18CPES35	2021(2018 A)
	Geotechniques for infrastructure	18CPES36	2021(2018 A)
	Safety in Civil Engineering Practices	18CPES09	2021(2018 A)
	IoT in Construction	18CPES37	2021(2018 A)
Intelligent Building Techniques	18CPES38	2021(2018 A)	
GIS implementation in smart city development	18CPES39	2021(2018 A)	
SUSTAINABLE INFRASTRUCTURE DEVELOPMENT	18CPES40	2021(2018 A)	

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Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	SUSTAINABLE ENVIRONMENTAL MANAGEMENT	18CPES41	2021(2018 A)
	MATERIALS FOR ENERGY SUSTAINABILITY	18CPES42	2021(2018 A)
	GREEN TECHNOLOGY	18CPES43	2021(2018 A)
	BUILDING INFORMATION MODELING SYSTEMS	18CPES44	2021(2018 A)
	MODERN CONSTRUCTION EQUIPMENTS	18CPES45	2021(2018 A)
	Construction Equipment	18COE\$29	2021(2018 A)
	Digital Marketing	18CVA\$10	2021(2018 A)
	BlockChain	18CVA\$11	2021(2018 A)
	Robotic Process Automation	18CVA\$12	2021(2018 A)
	Employability Skill Training	18CVA\$13	2021(2018 A)
	LINEAR ALGEBRA AND CALCULUS	22CBS1Z1	2022
	ENGINEERING PHYSICS	22CBS1Z2	2022
	DIFFERENTIAL EQUATIONS AND NUMERICAL METHODS	22CBS205	2022
	HERITAGE OF TAMILS	22CHS1Z1	2022
	VALUES AND ETHICS	22CHS1Z2	2022
	CAMBRIDGE ENGLISH	22CHS1Z3	2022
	TAMILS AND TECHNOLOGY	22CHS2Z4	2022
	PROFESSIONAL ENGLISH	22CHS2Z5	2022
	Research Methodology and IPR	18SEFCZ1	2018
	Computer Methods of Structural Analysis	18SEPC01	2018
	Design of Advanced Reinforced concrete structures	18SEPC02	2018

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<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
<b>M.E. STRUCTURAL ENGINEERING</b>	Theory of Elasticity and Plasticity	18SEPC03	2018
	Experimental Techniques Laboratory	18SEPC04	2018
	Finite Element Analysis	18SEPC05	2018
	Structural Dynamics	18SEPC06	2018
	Advanced Steel Structures	18SEPC07	2018
	Design Project	18SEEE01	2018
	Project Phase I	18SEEE02	2018
	Project Phase II	18SEEE03	2018
	Analytical and Numerical Methods (Common with ME Geotechnical Engineering)	18SEPE01	2018
	Analysis of Laminated Composite Plates	18SEPE03	2018
	Stability of Structures	18SEPE06	2018
	Theory and Applications of Cement Composites	18SEPE07	2018
	Design of Advanced Industrial Structures	18SEPE11	2018
	Prestressed Concrete Structures	18SEPE13	2018
	Structural Health Monitoring	18SEPE18	2018
	Design of Formwork	18SEPE19	2018
	Vastu Science For Building Construction	18SEOE01	2018
	Planning of Smart Cities	18SEOE02	2018
	Green Building	18SEOE03	2018
	English for Research Paper Writing	18SEACZ1	2018
Disaster Management	18SEACZ2	2018	

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	Value Education	18SEACZ3	2018
	Constitution of India	18SEACZ4	2018
	Pedagogy Studies	18SEACZ5	2018
	Stress Management by Yoga	18SEACZ6	2018
	Personality Development Through Life Enlightenment Skills	18SEACZ7	2018
	Sanskrit For Technical Knowledge	18SEACZ8	2018
M.E. ENVIRONMENTAL ENGINEERING	Transport of water and wastewater	18EEPC03	2018
	Environmental chemistry and Microbiology Laboratory	18EEPC05	2018
	Industrial wastewater management	18EEPC08	2018
	Water Quantity Modeling	18EEPE01	2018
	Ground water contamination and transport modeling	18EEPE08	2018
	Membrane separation for water and wastewater Treatment	18EEPE10	2018
	Environment, Health and Safety in Industries	18EEOE04	2018
	Climate Change and Adaptation	18EEOE05	2018
	Waste to Energy	18EEOE06	2018
M.E. GEOTECHNICAL ENGINEERING	Advanced Foundation Engineering	18GEPC01	2018
	Soil Mechanics Laboratory	18GEPC03	2018
	Subsoil Exploration Laboratory	18GEPC06	2018
	Finite Element Analysis Laboratory	18GEPC07	2018
	Design of Underground Excavations	18GEPE11	2018
	Computational Geomechanics	18GEPE12	2018

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ENGINEERING	Structural Design of Foundations and Substructures	18GEPE15	2018
	Land Reclamation	18GEPE16	2018
	Energy in built environment	18GEOE07	2018
	Earth and its environment	18GEOE08	2018
	Natural hazards and mitigation	18GEOE09	2018
	Communicative English	18MHS201	2018
	Calculus and Linear Algebra	18MBS102	2018
	Differential Equations and Complex Variables	18MBS202	2018
	Introduction to Electromagnetism and Applied Physics	18MBS203	2018
	Partial differential equations, probability and statistics	18MBS302	2018
	Waves and Optics	18MBS402	2018
	Basics of Electrical Engineering	18MES103	2018
	Basics of Electrical Engineering Laboratory	18MES105	2018
	Python Programming	18MES204	2018
	Python Programming Laboratory	18MES207	2018
	Basic Electronics Engineering	18MES403	2018
	Biology for Mechanical Engineers	18MES502	2018
	Business Communication skills	18MHS301	2018
	Professional Ethics	18MHS401	2018
	Principles of Management	18MHS501	2018
Nanotechnology and Surface Engineering	18MOE\$04	2018	



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B.E.MECHANICAL ENGINEERING	Renewable Energy Sources	18MOE\$06	2018
	Mechanics of Materials	18MPC304	2018
	Machine Drawing	18MPC308	2018
	Strength of Materials Laboratory	18MPC309	2018
	Thermodynamics	18MPC405	2018
	CAD Laboratory	18MPC408	2018
	Manufacturing Process Laboratory	18MPC409	2018
	Materials Engineering	18MPC602	2018
	Computer Aided Design	18MPC702	2018
	Internal Combustion Engines	18MPE\$01	2018
	INDUSTRIAL ENGINEERING	18MPE\$05	2018
	ADVANCED STRENGTH OF MATERIALS	18MPE\$06	2018
	BOILER TECHNOLOGY	18MPE\$11	2018
	PROCESS PLANNING AND COST ESTIMATION	18MPE\$13	2018
	TOTAL QUALITY MANAGEMENT	18MPE\$20	2018
	ENERGY CONSERVATION AND MANAGEMENT	18MPE\$21	2018
	INSTRUMENTATION AND CONTROL	18MPE\$25	2018
	AUTOMATION IN MANUFACTURING	18MPE\$26	2018
	Powering IoT using Arduino/Raspberry PI	18MVA\$12	2018
	Robotics Simulation for Manufacturing	18MVA\$13	2018
	Machine Learning	18MVA\$14	2018

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<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
	Electric Systems for E-Mobility	18MVA\$15	2018
	Industry 4.0	18MVA\$16	2018
	ROBOTIC PROCESS AUTOMATION DEVELOPMENT	18MVA\$18	2018
	PRODUCT DESIGN AND MANUFACTURING - 3D SURFACE MODELLING	18MVA\$20	2018
	SMART AND ADVANCED MANUFACTURING – DESIGN & SIMULATION	18MVA\$21	2018
	ELECTRIC VEHICLE DESIGN	18MVA\$22	2018
	Automotive materials, components, design and testing	18MPE\$27	2018A
	Conventional and futuristic vehicle Technology	18MPE\$28	2018A
	Renewable powered off high way vehicles and emission control technologies	18MPE\$29	2018A
	Vehicle Health monitoring, Maintenance and Safety	18MPE\$30	2018A
	CAE and CFD approach in future Mobility	18MPE\$31	2018A
	Hybrid and Electric Vehicle Technology	18MPE\$32	2018A
	Value Engineering	18MPE\$33	2018A
	Computer Integrated Manufacturing	18MPE\$34	2018A
	Ergonomics in design	18MPE\$35	2018A
	Principles of Robotics	18MPE\$36	2018A
	Robotic Drives and Control techniques	18MPE\$37	2018A
	Robot Programming and Simulation	18MPE\$39	2018A
	Robots Applications and Maintenance	18MPE\$40	2018A
	Drone Technology	18MPE\$41	2018A
	Green manufacturing Design and Practices	18MPE\$42	2018A

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	Environment Sustainability and Impact assessment	18MPE\$43	2018A
	Energy Saving Machinery and Components	18MPE\$44	2018A
	Green Supply Chain Management	18MPE\$45	2018A
	Design of Pressure Vessels	18MPE\$46	2018A
	Failure Analysis and NDT Techniques	18MPE\$47	2018A
	Material processing and Solid processing equipment	18MPE\$48	2018A
	Rotating Machinery design	18MPE\$49	2018A
	Thermal and Fired equipment design	18MPE\$50	2018A
	Computational Solid Mechanics	18MPE\$51	2018A
	Theory on Computational and Visualisation	18MPE\$52	2018A
	Computational Bio-Mechanics	18MPE\$53	2018A
	CAD and CAE	18MPE\$54	2018A
	Machine Learning	18MPE\$55	2018A
	MATERIALS SCIENCE	22MBS206	2022
M.E ENGINEERING DESIGN	Vibration Lab	18EDPC04	2018
	Simulation Lab	18EDPC08	2018
	Computational Fluid Dynamics for Design	18EDPE20	2018
	Business Analytics	18EDOE10	2018
	Cost Management of Engineering Projects	18EDOE11	2018
	Introduction to Industrial Engineering	18EDOE12	2018
	Additive Manufacturing and Automation Laboratory	18MFPC04	2018

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M.E MANUFACTURING ENGINEERING	Material Processing and Testing Laboratory	18MFPC08	2018
	Wear Analysis and Control	18MFPE04	2018
	Industrial Automation and Mechatronics	18MFPE12	2018
	Manufacturing of Non Metallic Products	18MFPE21	2018
	Advanced Metal Joining Techniques	18MFPE23	2018
	Sensors For Intelligent Manufacturing	18MFPE25	2018
	Industrial Safety	18MFOE13	2018
	Operations Research	18MFOE14	2018
	Composite Materials	18MFOE15	2018
M.E THERMAL ENGINEERING	Thermodynamics And Combustion	18TEPC01	2018
	Advanced Fluid Dynamics	18TEPC02	2018
	Gas Turbines	18TEPC03	2018
	Advanced Combustion Laboratory	18TEPC08	2018
	Advanced IC Engines Laboratory	18TEPC04	2018
	Air Conditioning System Design	18TEPE16	2018
	Global Warming Science	18THOE17	2018
	Green Supply Chain Management	18THOE19	2018
	Introduction to Nano Electronics	18THOE18	2018
	Nuclear Engineering	18TEPE19	2018
	Refrigeration And Cryogenics	18TEPE10	2018
	Steam Engineering	18TEPC06	2018

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<b>B.E -ELECTRICAL AND ELECTRONICS ENGINEERING</b>	Calculus and Differential Equations	18EBS102	2018
	Linear algebra, Numerical methods and Transform calculus	18EBS202	2018
	Probability and Applied Statistics	18EBS401	2018
	Object Oriented Programming with C++	18EES301	2018
	Technology Management	18EHS601	2018
	Renewable Power Generation Systems	18EOE\$07	2018
	Electric Vehicles	18EOE\$08	2018
	Smart Grid Systems	18EOE\$09	2018
	Electronic Devices and Circuits	18EPC304	2018
	Electrical Machines - I	18EPC305	2018
	Electric Circuits and Electronic Devices Laboratory	18EPC308	2018
	Principles of Signals and Systems	18EPC403	2018
	Linear Integrated Circuits	18EPC404	2018
	Electrical Machines - II	18EPC405	2018
	Analog Circuits and Digital IC Laboratory	18EPC408	2018
	Power Generation, Transmission and Distribution	18EPC502	2018
	Microprocessors and Microcontrollers Laboratory	18EPC507	2018
	Measurements and Control Systems Laboratory	18EPC608	2018
	Power System Operation, Control and Protection	18EPC702	2018
	Restructured Power Systems	18EPE\$16	2018
Biomedical Instrumentation	18EPE\$19	2018	

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Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	Smart Grid Technology	18EPE\$24	2018
	Modern Control Theory	18EPE\$25	2018
	Distributed Generation and Microgrid	18EPE\$26	2018
	ELECTRONIC CIRCUIT DESIGN	18EPE\$27	2018
	ELECTRONIC SYSTEM DESIGN AND PRODUCTIZATION	18EPE\$28	2018
	ELECTRIC VEHICLE ARCHITECTURE	18EPE\$30	2018A
	DESIGN OF MOTOR AND POWER CONVERTERS FOR ELECTRIC VEHICLES	18EPE\$31	2018A
	HYBRID ELECTRIC AND FUEL CELL VEHICLES	18EPE\$32	2018A
	DESIGN OF ELECTRIC VEHICLE CHARGING SYSTEM	18EPE\$33	2018A
	TESTING OF ELECTRIC VEHICLES	18EPE\$34	2018A
	GRID INTEGRATION OF ELECTRIC VEHICLES	18EPE\$35	2018A
	INTELLIGENT CONTROL OF ELECTRIC VEHICLES.	18EPE\$36	2018A
	AUGMENTED REALITY AND VIRTUAL REALITY DEVELOPMENT	18EVA\$11	2018
	ELECTRIC VEHICLE CHARGING SYSTEM	18EVA\$13	2018
	SMART ENERGY GRID	18EVA\$14	2018
	EMPLOYMENT SKILLS	18EVA\$23	2018A
	PLC USING SIMATICS	18EVA\$24	2018A
	M.E - POWER SYSTEM ENGINEERING	Distributed Generations And Microgrid	18PSPE13
Fuzzy And Neural Systems		18PSPE16	2018
Mini Project With Seminar		18PSEE01	2018
Optimization Techniques		18PSFC02	2018

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Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
M.E - POWER ELECTRONICS AND DRIVES	Energy Auditing	18PEOE02	2018
	Power Semiconductor Devices And Components	18PEPC02	2018
	Analysis Of Power Converters	18PEPC03	2018
	Power Electronic Circuits And Power Quality Laboratory	18PEPC04	2018
	Solid State Drives	18PEPC05	2018
	Modelling Of Power Converters	18PEPE01	2018
	Adhoc and Wireless Sensor Networks	18LPE\$17	2018
	Advanced Digital Signal Processing	18LPE\$12	2018
	Waves , Optics and Introduction to Quantum Mechanics	18LBS103	2018
	Transforms and Partial Differential Equations	18LBS301	2018
	Probability Theory and Random Processes	18LBS401	2018
	Principles of Electrical Engineering	18LES203	2018
	Principles of Electrical Engineering Laboratory	18LES205	2018
	Data Structures and Algorithms	18LES302	2018
	Electromagnetic Waves	18LES402	2018
	Analog Circuits	18LES403	2018
	Youth Empowerment for Yoga Practice	18LHS501	2018
	Mobile Communication	18LOE\$10	2018
	Introduction to VLSI System Design	18LOE\$11	2018
	Electron Devices and Circuits	18LPC303	2018
	Network Theory	18LPC306	2018



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	Digital Circuits Laboratory	18LPC309	2018
	Analog Communication	18LPC404	2018
	Analog Circuits and IC Laboratory	18LPC408	2018
	Transmission lines and waveguides	18LPC503	2018
	VLSI Design	18LPC602	2018
	Computer System Architecture and Organization	18LPC604	2018
	Microwave Engineering	18LPC702	2018
	Microwave and Antenna Laboratory	18LPC707	2018
	Speech Signal Processing	18LPE\$02	2018
	Introduction to MEMS	18LPE\$03	2018
	Power Electronics	18LPE\$04	2018
	Soft computing	18LPE\$06	2018
	Automotive Electronics	18LPE\$07	2018
	Mixed Signal Design	18LPE\$08	2018
	Embedded systems	18LPE\$09	2018
	Data Communication Networks	18LPE\$10	2018
	Low Power VLSI	18LPE\$13	2018
	Wireless Technologies	18LPE\$14	2018
	Digital Image and Video Processing	18LPE\$15	2018
	Control Systems	18LPE\$16	2018
	High Speed Electronics	18LPE\$19	2018

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B.E- ELECTRONICS AND COMMUNICATION ENGINEERING	Wavelet Transform	18LPE\$20	2018
	Error Correcting codes	18LPE\$21	2018
	Bio-Medical Electronics	18LPE\$22	2018
	Operation Research	18LPE\$23	2018
	Software Defined Radio	18LPE\$24	2018
	Internet of Things	18LPE\$25	2018
	Wireless Communication Techniques	18LPE\$27	2018A
	High Speed Networks	18LPE\$28	2018A
	Coding Theory and Secured Communication	18LPE\$29	2018A
	Software Defined Networks	18LPE\$30	2018A
	Massive MIMO and mmwave systems	18LPE\$31	2018A
	Optical Communication & Networks	18LPE\$32	2018A
	Evolution of 4G/5G Technologies	18LPE\$33	2018A
	Advanced Radiation Systems	18LPE\$34	2018A
	Electromagnetic Interference and Compatibility	18LPE\$35	2018A
	RF Transceivers	18LPE\$36	2018A
	RF system Design	18LPE\$37	2018A
	Smart Antennas	18LPE\$38	2018A
	RFID System Design and Testing	18LPE\$39	2018A
	VLSI Signal Processing	18LPE\$40	2018A
Nonlinear Signal Processing	18LPE\$41	2018A	

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	Radar Signal Processing	18LPE\$42	2018A
	Computer Vision Algorithms and Applications	18LPE\$43	2018A
	Analog IC Design	18LPE\$45	2018A
	Programming FPGA using HDLs	18LPE\$46	2018A
	ASIC Design	18LPE\$47	2018A
	System on Chip Design	18LPE\$48	2018A
	VLSI Testing and Design for Testability	18LPE\$49	2018A
	Design for Verification using UVM	18LPE\$50	2018A
	Bio sensors	18LPE\$51	2018A
	Medical Instrumentation	18LPE\$52	2018A
	Medical imaging systems	18LPE\$53	2018A
	Bio Informatics for Bio Medical Engineers	18LPE\$54	2018A
	Bio telemetry and Telemedicine	18LPE\$55	2018A
	Embedded systems in Medicine	18LPE\$56	2018A
	Wearable Technologies	18LPE\$57	2018A
	Hospital safety and management	18LPE\$58	2018A
	Smart Sensors	18LPE\$59	2018A
	Industrial Internet of Things	18LPE\$60	2018A
	Embedded Operating Systems	18LPE\$61	2018A
	WEB DESIGNING	18LVA\$06	2018
	APTITUDE-I	18LVA\$17	2018

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	CLOUD ESSENTIALS	18LVA\$23	2018
	CYBER SECURITY	18LVA\$24	2018
	BIG DATA ANALYTICS	18LVA\$25	2018
	PROFESSIONAL READINESS FOR INNOVATION EMPLOYABILITY AND	18LVA\$33	2018
	NETWORK ESSENTIALS	18LVA\$31	2018A
M.E.APPLIED ELECTRONICS	Advanced Digital System Design Laboratory	18AEPC03	2018
	Advanced Processors	18AEOE26	2018
	Analog Integrated Circuits	18AEPE09	2018
	Design of Digital Systems	18AEOE25	2018
	Digital CMOS VLSI Design	18AEPE02	2018
	Embedded System Design	18AEPC04	2018
	Image Processing and Computer Vision	18AEPC05	2018
	Machine Learning	18AEPE14	2018
	Pattern Recognition	18AEOE27	2018
	Reconfigurable architectures	18AEPE07	2018
	RF IC Design	18AEPE19	2018
	Synthesis and Optimization of Digital Systems	18AEPE17	2018
	VLSI Digital Signal Processing	18AEPE03	2018
		Analog & Mixed Mode VLSI Circuits	18VLOE29
Analog VLSI Design		18VLPC04	2018
Analog VLSI Design Laboratory		18VLPC06	2018

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
M.E.VLSI DESIGN	Digital CMOS VLSI Design Laboratory	18VLPC03	2018
	Hardware Description Languages	18VLOE30	2018
	Programming FPGA using HDLs	18VLPE04	2018
	RTL Simulation and Synthesis	18VLPE05	2018
	VLSI Design	18VLOE28	2018
	VLSI Design Verification and Testing	18VLPC05	2018
	VLSI for Wireless Communication System	18VLPE20	2018
	VLSI Technology	18VLPE18	2018
	CNC Technology	18PPE\$04	2018
	Electronics Manufacturing Technology	18PPE\$25	2018
	Hydraulics and Pneumatics	18POE\$15	2018
	Investment Casting	18PPE\$24	2018
	Manufacturing Technology	18PPC306	2018
	Production Drawing	18PPC409	2018
	Rapid Prototyping	18POE\$13	2018
	Skill Development on Industrial Practices / Technical Projects	18PEE508	2018
	Smart Manufacturing	18PPE\$26	2018
	Total Quality Management Concepts	18PHS401	2018
	Modern Control Technology	18PPE\$27	2018A
	Image Processing in Manufacturing	18PPE\$28	2018A
	Introduction to Composite Materials	18PPE\$29	2018A

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	Industrial Ergonomics	18PPE\$30	2018A
	Surface Engineering and Tribology	18PPE\$31	2018A
	Industrial Safety Engineering	18PPE\$32	2018A
	EV Design	18PVA\$25	2018
	Blockchain Development	18PVA\$26	2018A
	Product Design and Manufacturing - 3D Surface Modelling	18PVA\$29	2018A
	3D Printing using NX	18PVA\$31	2018
	Physics Laboratory	18NBS105	2018
	Applied Chemistry	18NBS201	2018
	Biology for Engineers	18NBS302	2018
	Virtual Instrumentation Laboratory	18NEE508	2018
	Workshop Practice	18NES106	2018
	Electrical Circuits and Networks	18NES203	2018
	Electrical Circuits and Networks Laboratory	18NES205	2018
	Principles of Electrical Machines	18NES303	2018
	Measurement and Control	18NOE\$16	2018
	Industrial Automation	18NOE\$17	2018
	Virtual Instrumentation	18NOE\$18	2018
	Electronic circuits	18NPC304	2018
	Electronics for Analog Signal Processing	18NPC404	2018
	Digital Electronics	18NPC405	2018

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
B.E-ELECTRICAL AND INSTRUMENTATION ENGINEERING	Fundamentals of Microprocessors and Microcontrollers	18NPC406	2018
	Control System Design	18NPC503	2018
	Basics of Signals and Systems	18NPC504	2018
	Principles of Communication	18NPC601	2018
	Soft Computing Techniques	18NPC701	2018
	Industrial Automation Laboratory	18NPC707	2018
	Advanced Control Theory	18NPE\$01	2018
	Computer Control of Process	18NPE\$03	2018
	System Identification and Adaptive Control	18NPE\$05	2018
	Optimal Control	18NPE\$06	2018
	Machine Learning Techniques	18NPE\$07	2018
	Fault Diagnosis and Tolerances	18NPE\$08	2018
	Instrument Standards	18NPE\$09	2018
	Power Electronics and Drives	18NPE\$13	2018
	Industrial Data Networks	18NPE\$14	2018
	Wireless Sensor Network	18NPE\$16	2018
	Instrumentation and Control in Iron and Steel Industries	18NPE\$23	2018
	Automotive Instrumentation	18NPE\$26	2018
	Basics of VLSI Technology	18NPE\$28	2018
	VHDL Based Digital System Design	18NPE\$29	2018
Process Modeling and Simulation	18NPE\$32	2018A	



**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
	System Identification	18NPE\$33	2018A
	Non Linear Control	18NPE\$34	2018A
	Adaptive Control	18NPE\$35	2018A
	Model Based Control	18NPE\$36	2018A
	Machine Monitoring System	18NPE\$37	2018A
	Electrical Vehicle technology	18NPE\$38	2018A
	Bio Signal Processing	18NPE\$39	2018A
	Medical Imaging	18NPE\$40	2018A
	Medical Image Processing	18NPE\$41	2018A
	Medical Robotics	18NPE\$42	2018A
	Diagnosis and Therapeutic Equipment	18NPE\$43	2018A
	Physiological Control Systems	18NPE\$44	2018A
	PLC Programming	18NPE\$45	2018A
	Data Analytics for IoT	18NPE\$46	2018A
	IoT for Smart Cities	18NPE\$47	2018A
	Building Automation	18NPE\$48	2018A
	Smart Farming	18NPE\$49	2018A
	MATLAB Programming	18NVA\$01	2018
	PCB Design and Fabrication	18NVA\$02	2018
	Calibration of Instrument	18NVA\$03	2018
	Safety Practices and Management in Process Industries	18NVA\$04	2018

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
	Embedded System for Industrial Applications	18NVA\$11	2018
	PHYSICS OF MATERIALS	22NBS205	2022
	Calculus	18SBS102	2018
	Data Warehousing and Data Mining	18SPE\$17	2018
	Differential Equations and Linear Algebra	18SBS202	2018
	Fundamentals of Electrical and Electronics Engineering Laboratory	18SES205	2018
	Fundamentals of Internet of Things	18SPE\$11	2018
	High Performance Computing	18SPE\$09	2018
	Humanities	18SHS301	2018
	Probability Theory and Applied Statistics	18SBS302	2018
	Professional Communication Skills	18SHS501	2018
	Programming in Java	18SOE\$19	2018
	Semiconductor Physics	18SBS103	2018
	Social Networks	18SPE\$16	2018
	Software Engineering Methodologies Laboratory	18SVL608	2018
	System Programming and Operating Systems	18SPC405	2018
	System Programming and Operating Systems Laboratory	18SPC409	2018
	Knowledge Representation	18SPE\$19	2018A
	Ethics and AI	18SPE\$20	2018A
	Deep Learning	18SPE\$21	2018A
	Natural Language Processing	18SPE\$05	2018A

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
B.E- COMPUTER SCIENCE AND ENGINEERING	Game Theory	18SPE\$22	2018A
	Cognitive Science	18SPE\$24	2018A
	Web Application Security	18SPE\$25	2018A
	Dev-ops	18SPE\$26	2018A
	Introduction to Web Technology	18SPE\$01	2018A
	Cloud Engineering	18SPE\$07	2018A
	Principles of Programming Languages	18SPE\$27	2018A
	UI & UX design	18SPE\$28	2018A
	App Development	18SPE\$29	2018A
	Computer Vision	18SPE\$08	2018A
	Recommender Systems	18SPE\$30	2018A
	Exploratory Data Analytics	18SPE\$31	2018A
	Video Analytics	18SPE\$32	2018A
	Modern Cryptography	18SPE\$33	2018A
	Network Security	18SPE\$34	2018A
	Security and Privacy in cloud	18SPE\$35	2018A
	Crypto-currency and Blockchain Technologies	18SPE\$36	2018A
	Ethical Hacking	18SPE\$37	2018A
	Digital and Mobile Forensics	18SPE\$38	2018A
Social Network Security	18SPE\$39	2018A	
Machine Learning with Application to Object Recognition	18SVA\$02	2018	

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	Full Stack	18SVA\$06	2018A
	Foundations of Artificial Intelligence, Machine Learning and Data Science	18SVA\$10	2018A
	Full Stack with Python Programming	18SVA\$14	2018
	VECTOR SPACES AND DIFFERENTIAL EQUATIONS WITH MATLAB	22SBS204	2022
M.E- COMPUTER SCIENCE AND ENGINEERING	Advanced Algorithms and Elective Lab	18CSPC04	2018
	Advanced Computer Networks and Electives Lab	18CSPC08	2018
	Advanced Software Engineering	18CSPE26	2018
	Artificial Intelligence and Machine Learning	18CSOE31	2018
	Computer Network Engineering	18CSOE32	2018
	Computer Vision Engineering	18CSPE01	2018
	Robotics process automation	18CSPE27	2018
	Virtual Reality	18CSPE05	2018
	Wireless Sensor Networks	18CSPE16	2018
	Analysis and Design of Algorithms	18IPC504	2018
	Basics of Microprocessors and Microcontroller	18IES304	2018
	Data Analytics*	18IPE\$30	2018
	Data Mining and Data Warehousing	18IPE\$01	2018
	Database Design and Management	18IPC404	2018
	Database Design and Management Laboratory	18IPC408	2018
	Foundations of Image Processing	18IPE\$26	2018
	Intellectual Property Rights	18IPE\$07	2018

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

<b>Name of the programme</b>	<b>Name of the Course</b>	<b>Course Code</b>	<b>Year of introduction (during the last five</b>
<b>B.TECH- INFORMATION TECHNOLOGY</b>	Internet of Things and its Applications	18IPC703	2018
	Internet of Things Laboratory	18IPC707	2018
	Introduction to Natural Language Processing	18IPE\$21	2018
	Object Oriented Programming	18IPC306	2018
	Open source and tools laboratory	18IEE608	2018
	Resource Management Techniques	18IHS401	2018
	Software Defined Networking	18IPE\$28	2018
	Web Technology and Application Development Laboratory	18IEE508	2018
	Neural Networks and Deep Learning	18IPE\$33	2018A
	Text and Speech Analysis	18IPE\$34	2018A
	Business Analytics	18IPE\$35	2018A
	Image and video analytics	18IPE\$36	2018A
	Computer Vision and Applications	18IPE\$37	2018A
	Big Data Science and Analytics	18IPE\$38	2018A
	Cloud Services Management	18IPE\$40	2018A
	Storage Technologies	18IPE\$46	2018A
	Stream Processing	18IPE\$47	2018A
	Engineering Secure software systems	18IPE\$53	2018A
	Multimedia and Animation	18IPE\$55	2018A
	Video Creation and Editing	18IPE\$56	2018A
Digital marketing	18IPE\$57	2018A	

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five
	Visual Effects	18IPE\$58	2018A
	Game Development	18IPE\$59	2018A
	Multimedia Data Compression and Storage	18IPE\$60	2018A
	Knowledge Engineering	18IPE\$61	2018A
	Optimization Techniques and Applications	18IPE\$62	2018A
	PHYSICS FOR INFORMATION SCIENCE	22IBS205	2022
B.TECH- INDUSTRIAL BIOTECHNOLOGY	Business Communication Skills Laboratory	18BHS507	2018
	Cell Biology Laboratory	18BPC309	2018
	Clinical Trials and Bioethics	18BHS501	2018
	Computational Biology	18BOE\$25	2018
	Fundamentals of Bioengineering	18BOE\$27	2018
	Genetics	18BPE\$23	2018
	Genomics and Proteomics	18BPE\$13	2018
	Immunology Laboratory	18BPC609	2018
	Mass Transfer Operations	18BES502	2018
	Mechanics and Properties of Solids	18BBS203	2018
	Metabolic Engineering	18BPE\$20	2018
	Molecular Biology and Genetic Engineering Laboratory	18BPC509	2018
	Pharmacogenomics	18BPE\$22	2018
	Process Calculations and Heat Transfer	18BES401	2018
	Tissue Engineering	18BPE\$19	2018

**1.2.1 Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years**

Name of the programme	Name of the Course	Course Code	Year of introduction (during the last five)
	Transforms, Calculus and Partial Differential Equations	18BBS301	2018
	Conservation economics	18BPE\$40	2018A
	Aspects of Biochemical Engineering	18BPE\$28	2018A
	Intellectual property rights in Biotechnology	18BPE\$38	2018A
	Stem cell Technology	18BPE\$21	2018A
	Entrepreneurship and patent design	18BPE\$37	2018A
	Fermentation technology	18BPE\$29	2018A
	Bioreactor design and scale up	18BPE\$30	2018A
	Bioprocess control and Instrumentation	18BPE\$32	2018A
	Bioprocess modelling and simulation	18BPE\$33	2018A
	Biomass and Bioenergy	18BPE\$44	2018A
	Plant Simulation	18BVA\$05	2018A
	BIOCHEMISTRY-I	22BPC201	2022

**TOTAL NUMBER OF NEW COURSES INTRODUCED AND OFFERED DURING LAST 5 YEARS : 576**

  
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# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution - Anna University, Chennai )

COIMBATORE - 641 013

## OFFICE OF THE CONTROLLER OF EXAMINATIONS

### 30<sup>th</sup> ACADEMIC COUNCIL

#### ITEM 30.9

Approval of 2018 regulations Full Time B.E./ B.Tech. Curriculum for I to VIII semesters and syllabi (Course Objective, Course Outcomes, Course content , CO-PO & PSO mapping matrix) for first and second semesters.

ANNEXURE - E
B.E. CIVIL ENGINEERING
B.E. MECHANICAL ENGINEERING
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
B.E. ELECTRONICS AND COMMUNICATION ENGINEERING
B.E. PRODUCTION ENGINEERING
B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING
B.E. COMPUTER SCIENCE AND ENGINEERING
B.Tech. INFORMATION TECHNOLOGY
B.Tech. INDUSTRIAL BIOTECHNOLOGY

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE-641013**

**B.E.CIVIL ENGINEERING**

**CBCS 2018 REGULATIONS**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2	18CBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18CES103	Basics of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18CBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18CES105	Basics of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18CES106	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18CBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
3	18CBS203	Mechanics and Properties of Solids	BS	50	50	100	3	1	0	4
4	18CES204	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18CBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18CES206	Workshop Practice	ES	50	50	100	1	0	4	3
7	18CES207	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

  
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**B.E.CIVIL ENGINEERING**

**CBCS 2018 REGULATIONS**

**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CBS301	Transform Calculus and Partial Differential Equations	BS	50	50	100	3	1	0	4
2	18CES302	Engineering Mechanics for Civil Engineers	ES	50	50	100	3	1	0	4
3	18CPC303	Strength of Materials	PC	50	50	100	3	1	0	4
4	18CPC304	Mechanics of Fluids	PC	50	50	100	3	0	0	3
5	18CPC305	Surveying	PC	50	50	100	3	0	0	3
6	18CPC306	Water Supply Engineering	PC	50	50	100	3	0	0	3
7	18CMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18CPC308	Survey Laboratory	PC	50	50	100	0	0	3	1.5
9	18CPC309	Materials Testing Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>3</b>	<b>6</b>	<b>24</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CHS401	Civil Engineering – Societal and Global impact	HS	50	50	100	3	0	0	3
2	18CBS402	Engineering Geology	BS	50	50	100	3	0	0	3
3	18CES403	Construction Materials and Technology	ES	50	50	100	4	0	0	4
4	18CPC404	Basic Structural Design - I (Steel)	PC	50	50	100	3	0	0	3
5	18CPC405	Applied Hydraulics and Fluid Machinery	PC	50	50	100	3	0	0	3
6	18CPC406	Waste Water Engineering	PC	50	50	100	3	0	0	3
7	18CMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18CPC408	Fluid Mechanics and Machinery Laboratory	PC	50	50	100	0	0	3	1.5
9	18CPC409	Environmental Engineering Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>22</b>	<b>0</b>	<b>6</b>	<b>22</b>

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**B.E.CIVIL ENGINEERING**

**CBCS 2018 REGULATIONS**

**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CHS501	Professional Practices, Ethics and Building Bye-laws	HS	50	50	100	3	0	0	3
2	18CPC502	Structural Analysis I	PC	50	50	100	3	0	0	3
3	18CPC503	Basic Structural Design II (Concrete)	PC	50	50	100	3	0	0	3
4	18CPC504	Mechanics of Soils	PC	50	50	100	3	0	0	3
5	18CPE5XX	Professional Elective-I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective -I	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18CPC507	Geotechnical Engineering Laboratory	PC	50	50	100	0	0	3	1.5
8	18CEE508	Computer Aided Civil Engineering Drawing	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CPC601	Structural Analysis II	PC	50	50	100	3	0	0	3
2	18CPC602	Foundation Engineering	PC	50	50	100	3	0	0	3
3	18CPC603	Water Resources Engineering	PC	50	50	100	3	0	0	3
4	18CPE6XX	Professional Elective – II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective –II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective -III	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18CPC607	Transportation Engineering Laboratory	PC	50	50	100	0	0	3	1.5
8	18CEE608	Concrete and Structural Analysis Laboratory	EEC	50	50	100	0	0	4	2
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>7</b>	<b>21.5</b>

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**B.E.CIVIL ENGINEERING**

**CBCS 2018 REGULATIONS**

**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CPC701	Construction Management	PC	50	50	100	3	0	0	3
2	18CPC702	Engineering Economics, Estimation and Costing	PC	50	50	100	3	0	0	3
3	18CPC703	Prestressed Concrete Structures	PC	50	50	100	3	0	0	3
4	18CPE7XX	Professional Elective - III	PE	50	50	100	3	0	0	3
5	18CPE7XX	Professional Elective - IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective -IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18CPC707	Computer Applications Laboratory	PC	50	50	100	0	0	3	1.5
8	18CEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18CPE8XX	Professional Elective – V	PE	50	50	100	3	0	0	3
2	18CPE8XX	Professional Elective –VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18CEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

  
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**CATEGORY-WISE CREDIT DISTRIBUTION**

**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18CHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18CHS401	Civil Engineering – Societal and Global impact	HS	50	50	100	3	0	0	3
3	18CHS501	Professional Practices, Ethics and Building Bye-laws	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**


Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2.	18CBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3.	18CBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
4.	18CBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
5.	18CBS203	Mechanics and Properties of Solids	BS	50	50	100	3	1	0	4
6.	18CBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
7.	18CBS301	Transform Calculus and Partial Differential Equations	BS	50	50	100	3	1	0	4
8.	18CBS402	Engineering Geology	BS	50	50	100	3	0	0	3

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CES103	Basics of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
2.	18CES105	Basics of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
3.	18CES106	Engineering Graphics	ES	50	50	100	2	0	4	4
4.	18CES204	Programming in C	ES	50	50	100	3	0	0	3
5.	18CES206	Workshop Practice	ES	50	50	100	1	0	4	3
6.	18CES207	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
7.	18CES302	Engineering Mechanics for Civil Engineers	ES	50	50	100	3	1	0	4
8.	18CES403	Construction Materials and Technology	ES	50	50	100	4	0	0	4

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18CPC303	Strength of Materials	PC	50	50	100	3	1	0	4
2	18CPC304	Mechanics of Fluids	PC	50	50	100	3	0	0	3
3	18CPC305	Surveying	PC	50	50	100	3	0	0	3
4	18CPC306	Water Supply Engineering	PC	50	50	100	3	0	0	3
5	18CPC308	Survey Laboratory	PC	50	50	100	0	0	3	1.5
6	18CPC309	Materials Testing Laboratory	PC	50	50	100	0	0	3	1.5
7	18CPC404	Basic Structural Design I (Steel)	PC	50	50	100	3	0	0	3
8	18CPC405	Applied Hydraulics and Fluid Machinery	PC	50	50	100	3	0	0	3
9	18CPC406	Waste Water Engineering	PC	50	50	100	3	0	0	3
10	18CPC408	Fluid Mechanics and Machinery Laboratory	PC	50	50	100	0	0	3	1.5
11	18CPC409	Environmental Engineering Laboratory	PC	50	50	100	0	0	3	1.5
12	18CPC502	Structural Analysis I	PC	50	50	100	3	0	0	3
13	18CPC503	Basic Structural Design II (Concrete)	PC	50	50	100	3	0	0	3
14	18CPC504	Mechanics of Soils	PC	50	50	100	3	0	0	3
15	18CPC507	Geotechnical Engineering Laboratory	PC	50	50	100	0	0	3	1.5
16	18CPC601	Structural Analysis II	PC	50	50	100	3	0	0	3
17	18CPC602	Foundation Engineering	PC	50	50	100	3	0	0	3
18	18CPC603	Water Resources Engineering	PC	50	50	100	3	0	0	3
19	18CPC607	Transportation Engineering Laboratory	PC	50	50	100	0	0	3	1.5
20	18CPC701	Construction Management	PC	50	50	100	3	0	0	3
21	18CPC702	Engineering Economics, Estimation and Costing	PC	50	50	100	3	0	0	3
22	18CPC703	Prestressed Concrete Structures	PC	50	50	100	3	0	0	3
23	18CPC707	Computer Applications Laboratory	PC	50	50	100	0	0	3	1.5

  
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**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>Structural Engineering</b>										
1.	18CPE\$01	Steel Structures	PE	50	50	100	3	0	0	3
2.	18CPE\$02	Concrete Technology	PE	50	50	100	3	0	0	3
3.	18CPE\$03	Finite Element Method	PE	50	50	100	3	0	0	3
4.	18CPE\$04	Advanced Concrete Design	PE	50	50	100	3	0	0	3
5.	18CPE\$05	Basics of Dynamics and Aseismic Design of Structures	PE	50	50	100	3	0	0	3
6.	18CPE\$06	Concrete Structures	PE	50	50	100	3	0	0	3
7.	18CPE\$07	Bridge Engineering	PE	50	50	100	3	0	0	3
8.	18CPE\$08	Earthquake Engineering	PE	50	50	100	3	0	0	3
9.	18CPE\$09	Safety in Civil Engineering Practices	PE	50	50	100	3	0	0	3
10.	18CPE\$10	Valuation	PE	50	50	100	3	0	0	3
<b>Environmental Engineering</b>										
11.	18CPE\$11	Design and Drawing (Irrigation and Environmental Engineering)	PE	50	50	100	2	0	2	3
12.	18CPE\$12	Environmental Legislations in India	PE	50	50	100	3	0	0	3
13.	18CPE\$13	Industrial Wastewater Management	PE	50	50	100	3	0	0	3
14.	18CPE\$14	Sustainable Engineering and Technology	PE	50	50	100	3	0	0	3
<b>Geotechnical and Transportation Engineering</b>										
15.	18CPE\$15	Ground Improvement Techniques	PE	50	50	100	3	0	0	3
16.	18CPE\$16	Pavement Engineering	PE	50	50	100	3	0	0	3
17.	18CPE\$17	Airport, Docks and Harbour Engineering	PE	50	50	100	3	0	0	3
18.	18CPE\$18	Highways – State of Art	PE	50	50	100	3	0	0	3
19.	18CPE\$19	Traffic Engineering and Management	PE	50	50	100	3	0	0	3
20.	18CPE\$20	Fundamentals of Remote Sensing and GIS Applications	PE	50	50	100	3	0	0	3
21.	18CPE\$21	Highway and Railway Engineering	PE	50	50	100	3	0	0	3
<b>Hydraulics and Hydrology</b>										
22.	18CPE\$22	Irrigation Engineering and Hydraulic Structures	PE	50	50	100	3	0	0	3
23.	18CPE\$23	Hydrology	PE	50	50	100	3	0	0	3
<b>Construction Engineering and Management</b>										
24.	18CPE\$24	Maintenance and Rehabilitation of Structures	PE	50	50	100	3	0	0	3
25.	18CPE\$25	Prefabricated Structures	PE	50	50	100	3	0	0	3



**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18CEE508	Computer Aided Civil Engineering Drawing	EEC	50	50	100	0	0	3	1.5
2	18CEE608	Concrete and Structural Analysis Laboratory	EEC	50	50	100	0	0	4	2
3	18CEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18CEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSE (MC) (NO - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18CMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
2	18CMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (VA) (ONE - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18CVA\$01	Surveying using Total Station and Autoplotter 8	VA	100	-	100	1	0	0	1
2	18CVA\$02	Environmental Audit	VA	100	-	100	1	0	0	1
3	18CVA\$03	Yoga for Youth empowerment	VA	100	-	100	1	0	0	1

  
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## SUMMARY OF CREDIT DISTRIBUTION

Sl. No.	Course component	Credits per semester								GCT Total Credit	% of Total Credit	Suggested Credit
		I	II	III	IV	V	VI	VII	VIII			
1	Humanities and Social Sciences including management (HS)	-	3	-	3	3	-	-	-	9	5.5	12
2	Basic Sciences (BS)	9.5	9.5	4	3	-	-	-	-	26	15.9	25
3	Engineering Sciences (ES)	8.5	7.5	4	4	-	-	-	-	24	14.6	25
4	Professional Core (PC)	-	-	16	12	10.5	10.5	10.5	-	59.5	36.3	52.5
5	Professional Elective (PE)	-	-	-	-	3	3	6	6	18	11.0	18
6	Open Elective (OE)	-	-	-	-	3	6	3	-	12	7.3	12
7	Employability Enhancement Course (EEC)	-	-	-	-	1.5	2	4	8	15.5	9.5	15.5
8	Mandatory course (MC)	-	-	-	-	-	-	-	-	-	0	-
9	Value added Course (VA)	-	-	-	-	-	-	-	-	-	0	-
	<b>Total</b>	<b>18</b>	<b>20</b>	<b>24</b>	<b>22</b>	<b>21</b>	<b>21.5</b>	<b>23.5</b>	<b>14</b>	<b>164</b>	<b>100</b>	<b>160</b>

HS	Humanities and Social Sciences including Management
BS	Basic Sciences
ES	Engineering Sciences
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course

  
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GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013

B.E.MECHANICAL ENGINEERING

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FIRST SEMESTER

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18MBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2	18MBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18MES103	Basics of Electrical Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18MBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18MES105	Basics of Electrical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18MES106	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

SECOND SEMESTER

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18MHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18MBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
3	18MBS203	Introduction to Electromagnetism and Applied Physics	BS	50	50	100	3	1	0	4
4	18MES204	Python Programming	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18MBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18MES206	Workshop Practice	ES	50	50	100	1	0	4	3
7	18MES207	Python Programming Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

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**THIRD SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18MHS301	Business Communication skills	HS	50	50	100	3	0	0	3
2	18MBS302	Partial differential equations, probability and statistics	BS	50	50	100	3	1	0	4
3	18MES303	ENGINEERING MECHANICS	ES	50	50	100	3	1	0	4
4	18MPC304	Mechanics of Materials	PC	50	50	100	3	0	0	3
5	18MPC305	Fluid Mechanics and Machinery	PC	50	50	100	3	0	0	3
6	18MPC306	Manufacturing Technology I	PC	50	50	100	3	0	0	3
7	18MMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18MPC308	Machine Drawing	PC	50	50	100	0	0	4	2
9	18MPC309	Strength of Materials Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>2</b>	<b>7</b>	<b>23.5</b>

**FOURTH SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18MHS401	Professional Ethics	HS	50	50	100	3	0	0	3
2	18MBS402	Waves and Optics	BS	50	50	100	3	0	0	3
3	18MES403	Basic Electronics Engineering	ES	50	50	100	3	0	0	3
4	18MPC404	Kinematics of Machines	PC	50	50	100	3	0	0	3
5	18MPC405	Thermodynamics	PC	50	50	100	3	0	0	3
6	18MPC406	Manufacturing Technology II	PC	50	50	100	3	0	0	3
7	18MMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18MPC408	CAD Laboratory	PC	50	50	100	0	0	4	2
9	18MPC409	Manufacturing Process Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>7</b>	<b>21.5</b>

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**FIFTH SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18MHS501	Principles of Management	HS	50	50	100	3	0	0	3
2	18MES502	Biology for Mechanical Engineers	ES	50	50	100	3	0	0	3
3	18MPC503	Dynamics of Machines	PC	50	50	100	3	0	0	3
4	18MPC504	Thermal Engineering	PC	50	50	100	3	0	0	3
5	18MPE5XX	Professional Elective I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective I	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18MPC507	Thermal Engineering Laboratory I	PC	50	50	100	0	0	3	1.5
8	18MEE508	Skill Development Practices	EEC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>

**SIXTH SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18MPC601	Design of Machine Elements	PC	50	50	100	3	0	0	3
2	18MPC602	Materials Engineering	PC	50	50	100	3	0	0	3
3	18MPC603	Heat and Mass Transfer	PC	50	50	100	3	0	0	3
4	18MPE6XX	Professional Elective II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective III	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18MPC607	Thermal Engineering Laboratory II	PC	50	50	100	0	0	3	1.5
8	18MEE608	Skill development on Technical and Industrial practices	EEC	50	50	100	0	0	4	2
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>7</b>	<b>21.5</b>

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**SEVENTH SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18MPC701	Design of Transmission Systems	PC	50	50	100	3	0	0	3
2	18MPC702	Computer Aided Design	PC	50	50	100	3	0	0	3
3	18MPC703	Finite Element Analysis	PC	50	50	100	3	0	0	3
4	18MPE7XX	Professional Elective III	PE	50	50	100	3	0	0	3
5	18MPE7XX	Professional Elective IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective IV	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18MPC707	Simulation Laboratory	PC	50	50	100	0	0	3	1.5
8	18MEE708	Mini Project	EEC	50	50	100	0	0	8	4
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18MPE8XX	Professional Elective V	PE	50	50	100	3	0	0	3
2	18MPE8XX	Professional Elective VI	PE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
3	18MEE803	Project Work	EEC	50	50	100	0	0	16	8
<b>TOTAL</b>				<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

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**CATEGORY-WISE CREDIT DISTRIBUTION**

**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Mark	Total Marks	Hours/Week			
							L	T	P	C
1	18MHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18MHS301	Business Communication skills	HS	50	50	100	3	0	0	3
3	18MHS401	Professional Ethics	HS	50	50	100	3	0	0	3
4	18MHS501	Principles of Management	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18MBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2	18MBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18MBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
4	18MBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
5	18MBS203	Introduction to Electromagnetism and Applied Physics	BS	50	50	100	3	1	0	4
6	18MBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
7	18MBS302	Partial differential equations, probability and statistics	BS	50	50	100	3	1	0	4
8	18MBS402	Waves and Optics	BS	50	50	100	3	0	0	3


**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18MES103	Basics of Electrical Engineering	ES	50	50	100	3	0	0	3
2	18MES105	Basics of Electrical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
3	18MES106	Engineering Graphics	ES	50	50	100	2	0	4	4
4	18MES204	Python Programming	ES	50	50	100	3	0	0	3
5	18MES206	Workshop Practice	ES	50	50	100	1	0	4	3
6	18MES207	Python Programming Laboratory	ES	50	50	100	0	0	3	1.5
7	18MES303	Engineering Mechanics	ES	50	50	100	3	1	0	4
8	18MES403	Basic Electronics Engineering	ES	50	50	100	3	0	0	3
9	18MES502	Biology for Mechanical Engineers	ES	50	50	100	3	0	0	3



**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPC304	Mechanics of Materials	PC	50	50	100	3	0	0	3
2.	18MPC305	Fluid Mechanics and Machinery	PC	50	50	100	3	0	0	3
3.	18MPC306	Manufacturing Technology I	PC	50	50	100	3	0	0	3
4.	18MPC308	Machine Drawing	PC	50	50	100	0	0	4	2
5.	18MPC309	Strength of Materials Laboratory	PC	50	50	100	0	0	3	1.5
6	18MPC404	Kinematics of Machines	PC	50	50	100	3	0	0	3
7	18MPC405	Thermodynamics	PC	50	50	100	3	0	0	3
8	18MPC406	Manufacturing Technology II	PC	50	50	100	3	0	0	3
9	18MPC408	CAD Laboratory	PC	50	50	100	0	0	4	2
10	18MPC409	Manufacturing Process Laboratory	PC	50	50	100	0	0	3	1.5
11	18MPC503	Dynamics of Machines	PC	50	50	100	3	0	0	3
12	18MPC504	Thermal Engineering	PC	50	50	100	3	0	0	3
13	18MPC507	Thermal Engineering Laboratory I	PC	50	50	100	0	0	3	1.5
14	18MPC601	Design of Machine Elements	PC	50	50	100	3	0	0	3
15	18MPC602	Materials Engineering	PC	50	50	100	3	0	0	3
16	18MPC603	Heat and Mass Transfer	PC	50	50	100	3	0	0	3
17	18MPC607	Thermal Engineering Laboratory II	PC	50	50	100	0	0	3	1.5
18	18MPC701	Design of Transmission Systems	PC	50	50	100	3	0	0	3
19	18MPC702	Computer Aided Design	PC	50	50	100	3	0	0	3
20	18MPC703	Finite Element Analysis	PC	50	50	100	3	0	0	3
21	18MPC707	Simulation Laboratory	PC	50	50	100	0	0	3	1.5

  
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**PROFESSIONAL ELECTIVES (PE)**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18MPES01	Internal Combustion Engines	PE	50	50	100	3	0	0	3
2	18MPES02	Design of Jigs, Fixtures and Press Tools	PE	50	50	100	3	0	0	3
3	18MPES03	Hydraulics and Pneumatic controls	PE	50	50	100	3	0	0	3
4	18MPES04	Composite Materials	PE	50	50	100	3	0	0	3
5	18MPES05	Industrial Engineering	PE	50	50	100	3	0	0	3
6	18MPES06	Advanced Strength of Materials	PE	50	50	100	3	0	0	3
7	18MPES07	Theory of Metal cutting	PE	50	50	100	3	0	0	3
8	18MPES08	Welding Technology	PE	50	50	100	3	0	0	3
9	18MPES09	Refrigeration and Air Conditioning	PE	50	50	100	3	0	0	3
10	18MPES10	Operations Research	PE	50	50	100	3	0	0	3
11	18MPES11	Boiler technology	PE	50	50	100	3	0	0	3
12	18MPES12	Gas Dynamics and Jet Propulsion	PE	50	50	100	3	0	0	3
13	18MPES13	Process Planning and Cost Estimation	PE	50	50	100	3	0	0	3
14	18MPES14	Lean Manufacturing	PE	50	50	100	3	0	0	3
15	18MPES15	Power Plant Engineering	PE	50	50	100	3	0	0	3
16	18MPES16	Mechanical Vibrations	PE	50	50	100	3	0	0	3
17	18MPES17	Additive Manufacturing	PE	50	50	100	3	0	0	3
18	18MPES18	Automobile Engineering	PE	50	50	100	3	0	0	3
19	18MPES19	Entrepreneurship Development	PE	50	50	100	3	0	0	3
20	18MPES20	Total Quality Management	PE	50	50	100	3	0	0	3
21	18MPES21	Energy Conservation and Management	PE	50	50	100	3	0	0	3
22	18MPES22	Industrial Robotics	PE	50	50	100	3	0	0	3
23	18MPES23	Computational Fluid Dynamics	PE	50	50	100	3	0	0	3
24	18MPES24	Design for Manufacture	PE	50	50	100	3	0	0	3
25	18MPES25	Instrumentation and Control	PE	50	50	100	3	0	0	3
26	18MPES26	Automation in Manufacturing	PE	50	50	100	3	0	0	3

**OPEN ELECTIVES (OE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND  
PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18MEE508	Skill Development Practices	EEC	50	50	100	0	0	3	1.5
2	18MEE608	Skill development on Technical and Industrial practices	EEC	50	50	100	0	0	4	2
3	18MEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18MEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSES (MC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18MMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
2	18MMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (ONE CREDIT) (VA)**

Sl. No	Course Code	Course Title	CAT	CA Marks	End sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18MVA\$01	Yoga for Youth Empowerment	VA	100	-	100	1	0	0	1
2	18MVA\$02	Basics of Civil Engineering	VA	100	-	100	1	0	0	1
3	18MVA\$03	Metallography	VA	100	-	100	1	0	0	1
4	18MVA\$04	Micromachining	VA	100	-	100	1	0	0	1
5	18MVA\$05	Wind Energy Management	VA	100	-	100	1	0	0	1
6	18MVA\$06	Solar Energy Management	VA	100	-	100	1	0	0	1
7	18MVA\$07	Project Management	VA	100	-	100	1	0	0	1
8	18MVA\$08	Six Sigma	VA	100	-	100	1	0	0	1
9	18MVA\$09	Professional Skills	VA	100	-	100	1	0	0	1
10	18MVA\$10	Industry 4.0	VA	100	-	100	1	0	0	1

**CURRICULAM DESIGN FOR CBCS 2018 REGULATIONS**

**FULL TIME B.E MECHANICAL ENGINEERING (U.G)**

**SUMMARY**

Sl.No	Category	Credits Per Semester								Total Credits	% of Credits	AICTE Suggested Credits.
		I	II	III	IV	V	VI	VII	VIII			
1	HS		3	3	3	3				12	7.36	12
2	BS	9.5	9.5	4	3					26	15.95	25
3	ES	8.5	7.5	4	3	3				26	15.95	24
4	PC			12.5	12.5	7.5	10.5	10.5		53.5	32.82	48
5	PE					3	3	6	6	18	11.04	18
6	OE					3	6	3		12	7.36	18
7	EEC					1.5	2	4	8	15.5	9.51	15
8	MC	0		0	0					0	0	0
<b>Total</b>		18	20	23.5	21.5	21	21.5	23.5	14	163	100	160

HS	Humanities and Social Sciences including Management
BS	Basic Science
ES	Engineering Science
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course

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**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18EHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18EBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
3	18EBS103	Waves, Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
4	18EES104	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18EBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18EES106	Workshop Practice	ES	50	50	100	1	0	4	3
7	18EES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		350	350	700				20

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18EBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
2	18EBS202	Linear Algebra, Numerical Methods and Transform Calculus	BS	50	50	100	3	1	0	4
3	18EES203	Basics of Civil and Mechanical Engineering	ES	50	50	100	4	0	1	4.5
		<b>PRACTICAL</b>								
4	18EBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18EES205	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		250	250	500				18

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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18EES301	Object Oriented Programming with C++	ES	50	50	100	3	0	0	3
2	18EPC302	Electric Circuit Theory	PC	50	50	100	3	1	0	4
3	18EPC303	Field Theory	PC	50	50	100	3	0	0	3
4	18EPC304	Electronic Devices and Circuits	PC	50	50	100	3	0	0	3
5	18EPC305	Electrical Machines - I	PC	50	50	100	3	0	0	3
6	18EPC306	Digital Circuits	PC	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18EES307	Object Oriented Programming Using C++ Laboratory	ES	50	50	100	0	0	3	1.5
8	18EPC308	Electric Circuits and Electronic Devices Laboratory	PC	50	50	100	0	0	3	1.5
9	18EPC309	Electrical Machines Laboratory – I	PC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>18</b>	<b>1</b>	<b>9</b>	<b>23.5</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18EBS401	Probability and Applied Statistics	BS	50	50	100	3	1	0	4
2	18EES402	Engineering Mechanics	ES	50	50	100	3	1	0	4
3	18EPC403	Principles of Signals and Systems	PC	50	50	100	3	0	0	3
4	18EPC404	Linear Integrated Circuits	PC	50	50	100	3	0	0	3
5	18EPC405	Electrical Machines - II	PC	50	50	100	3	0	0	3
6	18EPC406	Electrical and Electronic Measurements	PC	50	50	100	3	0	0	3
7	18EMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
<b>PRACTICAL</b>										
8	18EPC408	Analog Circuits and Digital IC Laboratory	PC	50	50	100	0	0	3	1.5
9	18EPC409	Electrical Machines Laboratory –II	PC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>2</b>	<b>6</b>	<b>23</b>



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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18EHS501	Business Communication Skills	HS	50	50	100	3	0	0	3
2	18EPC502	Power Generation, Transmission and Distribution	PC	50	50	100	3	0	0	3
3	18EPC503	Microprocessors, Microcontrollers and Applications	PC	50	50	100	3	0	0	3
4	18EPC504	Control Systems Engineering	PC	50	50	100	3	1	0	4
5	18#OE5XX	Open Elective – I	OE	50	50	100	3	0	0	3
6	18EMC5Z6	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
<b>PRACTICAL</b>										
7	18EPC507	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
8	18EEE508	Communication skills laboratory	EEC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>1</b>	<b>6</b>	<b>19</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18EHS601	Technology Management	HS	50	50	100	3	0	0	3
2	18EPC602	Power System Analysis	PC	50	50	100	3	0	0	3
3	18EPC603	Power Electronic Devices and Circuits	PC	50	50	100	3	0	0	3
4	18EPE6XX	Professional Elective – I	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective – II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective – III	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18EPC607	Power Electronics and Drives Laboratory	PC	50	50	100	0	0	3	1.5
8	18EPC608	Measurements and Control Systems Laboratory	PC	50	50	100	0	0	3	1.5
9	18EVL609	Virtual Laboratory in Electrical Engineering	PC	50	50	100	0	0	2	1
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>8</b>	<b>22</b>



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**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18EHS701	Professional Ethics	HS	50	50	100	3	0	0	3
2	18EPC702	Power System Operation, Control and Protection	PC	50	50	100	3	0	0	3
3	18EPE7XX	Professional Elective – II	PE	50	50	100	3	0	0	3
4	18EPE7XX	Professional Elective – III	PE	50	50	100	3	0	0	3
5	18EPE7XX	Professional Elective – IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective – IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18EPC707	Power System Laboratory	PC	50	50	100	0	0	3	1.5
8	18EEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18EPE8XX	Professional Elective – V	PE	50	50	100	3	0	0	3
2	18EPE8XX	Professional Elective – VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18EEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

Total Credits: 20+18+23.5+23+19+22+23.5+14=163

  
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**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18EHS501	Business Communication Skills	HS	50	50	100	3	0	0	3
3	18EHS601	Technology Management	HS	50	50	100	3	0	0	3
4	18EHS701	Professional Ethics	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
2	18EBS103	Waves and Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
3	18EBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
4	18EBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
5	18EBS202	Linear algebra, Numerical methods and Transform calculus	BS	50	50	100	3	1	0	4
6	18EBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
7	18EBS401	Probability and Applied Statistics	BS	50	50	100	3	1	0	4

**ENGINEERING SCIENCES (ES)**


Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EES104	Programming in C	ES	50	50	100	3	0	0	3
2	18EES106	Workshop Practice	ES	50	50	100	1	0	4	3
3	18EES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
4	18EES203	Basics of Civil and Mechanical Engineering	ES	50	50	100	4	0	1	4.5
5	18EES205	Engineering Graphics	ES	50	50	100	2	0	4	4
6	18EES301	Object Oriented Programming with C++	ES	50	50	100	3	0	0	3
7	18EES307	Object Oriented Programming Using C++ Laboratory	ES	50	50	100	0	0	3	1.5
8	18EES402	Engineering Mechanics	ES	50	50	100	3	1	0	4

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EPC302	Electric Circuit Theory	PC	50	50	100	3	1	0	4
2	18EPC303	Field Theory	PC	50	50	100	3	0	0	3
3	18EPC304	Electronic Devices and Circuits	PC	50	50	100	3	0	0	3
4	18EPC305	Electrical Machines - I	PC	50	50	100	3	0	0	3
5	18EPC306	Digital Circuits	PC	50	50	100	3	0	0	3
6	18EPC308	Electric Circuits and Electronic Devices Laboratory	PC	50	50	100	0	0	3	1.5
7	18EPC309	Electrical Machines Laboratory – I	PC	50	50	100	0	0	3	1.5
8	18EPC403	Principles of Signals and Systems	PC	50	50	100	3	0	0	3
9	18EPC404	Linear Integrated Circuits	PC	50	50	100	3	0	0	3
10	18EPC405	Electrical Machines - II	PC	50	50	100	3	0	0	3
11	18EPC406	Electrical and Electronic Measurements	PC	50	50	100	3	0	0	3
12	18EPC408	Analog Circuits and Digital IC Laboratory	PC	50	50	100	0	0	3	1.5
13	18EPC409	Electrical Machines Laboratory – II	PC	50	50	100	0	0	3	1.5
14	18EPC502	Power Generation, Transmission and Distribution	PC	50	50	100	3	0	0	3
15	18EPC503	Microprocessors, Microcontrollers and Applications	PC	50	50	100	3	0	0	3
16	18EPC504	Control Systems Engineering	PC	50	50	100	3	1	0	4
17	18EPC507	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
18	18EPC602	Power System Analysis	PC	50	50	100	3	0	0	3
19	18EPC603	Power Electronic Devices and Circuits	PC	50	50	100	3	0	0	3
20	18EPC607	Power Electronics and Drives Laboratory	PC	50	50	100	0	0	3	1.5
21	18EPC608	Measurements and Control Systems Laboratory	PC	50	50	100	0	0	3	1.5
22	18EVL609	Virtual Laboratory in Electrical Engineering	PC	50	50	100	0	0	2	1
23	18EPC702	Power System Operation, Control and Protection	PC	50	50	100	3	0	0	3
24	18EPC707	Power System Laboratory	PC	50	50	100	0	0	3	1.5

**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EPE\$01	Principles of Virtual Instrumentation	PE	50	50	100	3	0	0	3
2	18EPE\$02	Neural and Fuzzy Systems	PE	50	50	100	3	0	0	3
3	18EPE\$03	Power System Economics	PE	50	50	100	3	0	0	3
4	18EPE\$04	Power Quality Engineering	PE	50	50	100	3	0	0	3
5	18EPE\$05	HVDC Transmission Systems	PE	50	50	100	3	0	0	3
6	18EPE\$06	Facts Controllers	PE	50	50	100	3	0	0	3
7	18EPE\$07	Energy Auditing and Management	PE	50	50	100	3	0	0	3
8	18EPE\$08	Automotive Electronics for Electrical Engineering	PE	50	50	100	3	0	0	3
9	18EPE\$09	Power System Stability	PE	50	50	100	3	0	0	3
10	18EPE\$10	Power Plant Instrumentation	PE	50	50	100	3	0	0	3
11	18EPE\$11	Digital Signal Processing and Processors	PE	50	50	100	3	0	0	3
12	18EPE\$12	Computer System Architecture	PE	50	50	100	3	0	0	3
13	18EPE\$13	Principles of Embedded Systems	PE	50	50	100	3	0	0	3
14	18EPE\$14	Special Machines and Controllers	PE	50	50	100	3	0	0	3
15	18EPE\$15	Logic and Distributed Control Systems	PE	50	50	100	3	0	0	3
16	18EPE\$16	Restructured Power Systems	PE	50	50	100	3	0	0	3
17	18EPE\$17	Solid State Relays	PE	50	50	100	3	0	0	3
18	18EPE\$18	Mems and Applications	PE	50	50	100	3	0	0	3
19	18EPE\$19	Biomedical Instrumentation	PE	50	50	100	3	0	0	3
20	18EPE\$20	Industrial Drives and Control	PE	50	50	100	3	0	0	3
21	18EPE\$21	Energy Storage Technology	PE	50	50	100	3	0	0	3
22	18EPE\$22	Optimization Techniques	PE	50	50	100	3	0	0	3
23	18EPE\$23	Electrical Machine Design	PE	50	50	100	3	0	0	3
24	18EPE\$24	Smart Grid Technology	PE	50	50	100	3	0	0	3
25	18EPE\$25	Modern Control Theory	PE	50	50	100	3	0	0	3
26	18EPE\$26	Distributed Generation and Microgrid	PE	50	50	100	3	0	0	3
27	18EPE\$27	Electronic Circuit Design	PE	50	50	100	3	0	0	3
28	18EPE\$28	Electronic System Design And Productization	PE	50	50	100	3	0	0	3

  
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**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EEE508	Communication Skills Laboratory	EEC	50	50	100	0	0	3	1.5
2	18EEE708	Mini Project	EEC	50	50	100	0	0	8	4
3	18EEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSE (MC) (NO - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
2	18EMC5Z6	Environmental Science and Engineering	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (VA) ONE CREDIT**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EVAS01	Yoga for Youth Empowerment	VA	100	-	100	1	0	0	1
2	18EVAS02	Electrical Wiring, Winding and Earthing, Repairing of Household Appliances	VA	100	-	100	1	0	0	1
3	18EVAS03	Simulation of Electrical Systems And Control using DIgSILENT	VA	100	-	100	1	0	0	1
4	18EVAS04	Solar Power Plant-Design	VA	100	-	100	1	0	0	1
5	18EVAS05	PCB Design and Fabrication	VA	100	-	100	1	0	0	1
6	18EVAS06	Home Automation	VA	100	-	100	1	0	0	1
7	18EVAS07	Electrical Safety	VA	100	-	100	1	0	0	1
8	18EVAS08	Plug-In Electric Vehicle	VA	100	-	100	1	0	0	1
9	18EVAS09	Study of Weather Monitoring System	VA	100	-	100	1	0	0	1
10	18EVAS10	Online Course (NPTEL/SWAYAM)	VA	100	-	100	1	0	0	1

  
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## SUMMARY OF CREDIT DISTRIBUTION

B.E / B.TECH												
Sl. No.	Course Work Subject Area	Credits Per Semester								Total Credits	% of credit	AICTE Credit Range
		I	II	III	IV	V	VI	VII	VIII			
1	HS	3	-	-	-	3	3	3	-	12	7.36	12
2	BS	9.5	9.5	0	4	-	-	-	-	23	14.11	25
3	ES	7.5	8.5	4.5	4	-	-	-	-	24.5	15.03	24
4	PC	-	-	19	15	11.5	10	4.5	-	60	36.81	48
5	PE	-	-	-	-	-	3	9	6	18	11.04	18
6	OE	-	-	-	-	3	6	3	-	12	7.36	18
7	EEC	-	-	-	-	1.5	-	4	8	13.5	8.28	15
8	MC	0	-	-	0	0	-	-	-	0	0	0
	<b>Total</b>	<b>20</b>	<b>18</b>	<b>23.5</b>	<b>23</b>	<b>19</b>	<b>22</b>	<b>23.5</b>	<b>14</b>	<b>163</b>	<b>100</b>	<b>160</b>

BS – Basic Science;

ES – Engineering Sciences;

OE – Open Elective;

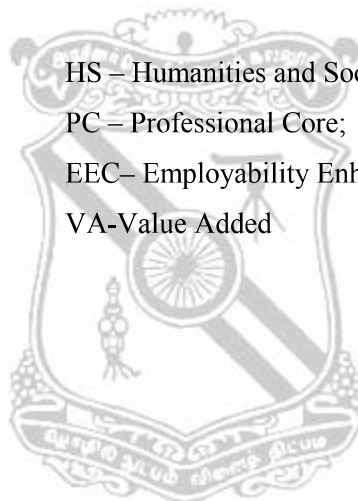
MC – Mandatory Course;

HS – Humanities and Social Science including Management;

PC – Professional Core; PE – Professional Elective;

EEC – Employability Enhancement Course;

VA – Value Added



  
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**CBCS 2018 REGULATIONS**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18LBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
3	18LBS103	Waves , Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
4	18LES104	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18LBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18LES106	Workshop Practice	ES	50	50	100	1	0	4	3
7	18LES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		350	350	700	12	3	10	20

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
2	18LBS202	Linear Algebra, Numerical Methods and Transform Calculus	BS	50	50	100	3	1	0	4
3	18LES203	Principles of Electrical Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18LBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18LES205	Principles of Electrical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18LES206	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		300	300	600	11	2	10	18



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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week				
							L	T	P	C	
<b>THEORY</b>											
1	18LBS301	Transforms and Partial Differential Equations	BS	50	50	100	3	0	0	3	
2	18LES302	Data Structures and Algorithms	ES	50	50	100	3	0	2	4	
3	18LPC303	Electron Devices and Circuits	PC	50	50	100	3	0	0	3	
4	18LPC304	Digital System Design	PC	50	50	100	3	0	0	3	
5	18LPC305	Signals and Systems	PC	50	50	100	3	0	0	3	
6	18LPC306	Network Theory	PC	50	50	100	3	0	0	3	
7	18LMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0	
<b>PRACTICAL</b>											
8	18LPC308	Electron Devices and Circuits Laboratory	PC	50	50	100	0	0	3	1.5	
9	18LPC309	Digital Circuits Laboratory	PC	50	50	100	0	0	3	1.5	
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>8</b>	<b>22</b>	

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	18LBS401	Probability Theory and Random Processes	BS	50	50	100	3	0	0	3
2	18LES402	Electromagnetic Waves	ES	50	50	100	3	0	0	3
3	18LES403	Analog Circuits	ES	50	50	100	3	0	0	3
4	18LPC404	Analog Communication	PC	50	50	100	3	0	0	3
5	18LPC405	Microprocessors and Microcontrollers	PC	50	50	100	3	0	0	3
6	18LPC406	Analog Integrated Circuits	PC	50	50	100	3	0	0	3
7	18LMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
<b>PRACTICAL</b>										
8	18LPC408	Analog Circuits and IC Laboratory	PC	50	50	100	0	0	3	1.5
9	18LPC409	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>6</b>	<b>21</b>

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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LHS501	Youth Empowerment for Yoga Practice	HS	50	50	100	3	0	0	3
2	18LPC502	Digital Communication	PC	50	50	100	3	0	0	3
3	18LPC503	Transmission lines and waveguides	PC	50	50	100	3	0	0	3
4	18LPC504	Digital Signal Processing	PC	50	50	100	3	0	0	3
5	18LPE5XX	Professional Elective – 1	PE	50	50	100	3	0	0	3
6	18LOE5XX	Open Elective -1	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18LPC507	Communication Engineering Laboratory	PC	50	50	100	0	0	3	2
8	18LPC508	Digital Signal Processing Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21.5</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LHS601	Professional Ethics	HS	50	50	100	3	0	0	3
2	18LPC602	VLSI Design	PC	50	50	100	3	0	0	3
3	18LPC603	Antennas and Wave Propagation	PC	50	50	100	3	0	0	3
4	18LPC604	Computer System Architecture and Organization	PC	50	50	100	3	0	0	3
5	18LPE6XX	Professional Elective – II	PE	50	50	100	3	0	0	3
6	18LOE6XX	Open Elective - II	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18LEE607	VLSI Design Laboratory	EEC	50	50	100	0	0	3	1.5
8	18LEE608	Embedded Systems Laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>

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**CBCS 2018 REGULATIONS**

**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LHS701	Management Theory and Practice	HS	50	50	100	3	0	0	3
2	18LPC702	Microwave Engineering	PC	50	50	100	3	0	0	3
3	18LPE7XX	Professional Elective – III	PE	50	50	100	3	0	0	3
4	18LPE7XX	Professional Elective – IV	PE	50	50	100	3	0	0	3
5	18LOE7XX	Open Elective –III	OE	50	50	100	3	0	0	3
6	18LOE7XX	Open Elective -IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18LPC707	Microwave and Antenna Laboratory	PC	50	50	100	0	0	3	1.5
8	18LEE708	Mini Project	EEC	50	50	100	0	0	8	4
9	18LVL709	Virtual Laboratory on Digital VLSI Design	EEC	50	50	100	0	0	2	1
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>13</b>	<b>24.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18LPE8XX	Professional Elective – V	PE	50	50	100	3	0	0	3
2	18LPE8XX	Professional Elective - VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18LEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

  
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**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18LHS501	Youth Empowerment for Yoga Practice	HS	50	50	100	3	0	0	3
3	18LHS601	Professional Ethics	HS	50	50	100	3	0	0	3
4	18LHS701	Management Theory and Practice	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
2	18LBS103	Waves , Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
3	18LBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
4	18LBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
5	18LBS202	Linear Algebra, Numerical Methods and Transform Calculus	BS	50	50	100	3	1	0	4
6	18LBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
7	18LBS301	Transforms and Partial Differential Equations	BS	50	50	100	3	0	0	3
8	18LBS401	Probability Theory and Random Processes	BS	50	50	100	3	0	0	3

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LES104	Programming in C	ES	50	50	100	3	0	0	3
2	18LES106	Workshop Practice	ES	50	50	100	1	0	4	3
3	18LES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
4	18LES203	Principles of Electrical Engineering	ES	50	50	100	3	0	0	3
5	18LES205	Principles of Electrical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18LES206	Engineering Graphics	ES	50	50	100	2	0	4	4
7	18LES302	Data Structures and Algorithms	ES	50	50	100	3	0	2	4
8	18LES402	Electromagnetic Waves	ES	50	50	100	3	0	0	3
9	18LES403	Analog Circuits	ES	50	50	100	3	0	0	3

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LPC303	Electron Devices and Circuits	PC	50	50	100	3	0	0	3
2	18LPC304	Digital System Design	PC	50	50	100	3	0	0	3
3	18LPC305	Signals and Systems	PC	50	50	100	3	0	0	3
4	18LPC306	Network Theory	PC	50	50	100	3	0	0	3
5	18LPC308	Electron Devices and Circuits Laboratory	PC	50	50	100	0	0	3	1.5
6	18LPC309	Digital Circuits Laboratory	PC	50	50	100	0	0	3	1.5
7	18LPC404	Analog Communication	PC	50	50	100	3	0	0	3
8	18LPC405	Microprocessors and Microcontrollers	PC	50	50	100	3	0	0	3
9	18LPC406	Analog Integrated Circuits	PC	50	50	100	3	0	0	3
10	18LPC408	Analog Circuits and IC Laboratory	PC	50	50	100	0	0	3	1.5
11	18LPC409	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
12	18LPC502	Digital Communication	PC	50	50	100	3	0	0	3
13	18LPC503	Transmission lines and waveguides	PC	50	50	100	3	0	0	3
14	18LPC504	Digital Signal Processing	PC	50	50	100	3	0	0	3
15	18LPC507	Communication Engineering Laboratory	PC	50	50	100	0	0	3	1.5
16	18LPC508	Digital Signal Processing Laboratory	PC	50	50	100	0	0	3	1.5
17	18LPC602	VLSI Design	PC	50	50	100	3	0	0	3
18	18LPC603	Antennas and Wave Propagation	PC	50	50	100	3	0	0	3
19	18LPC604	Computer System Architecture and Organization	PC	50	50	100	3	0	0	3
20	18LPC702	Microwave Engineering	PC	50	50	100	3	0	0	3
21	18LPC707	Microwave and Antenna Laboratory	PC	50	50	100	0	0	3	1.5

  
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**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LPE\$01	Information Theory and Coding	PE	50	50	100	3	0	0	3
2	18LPE\$02	Speech Signal Processing	PE	50	50	100	3	0	0	3
3	18LPE\$03	Introduction to MEMS	PE	50	50	100	3	0	0	3
4	18LPE\$04	Power Electronics	PE	50	50	100	3	0	0	3
5	18LPE\$05	Nano electronics	PE	50	50	100	3	0	0	3
6	18LPE\$06	Soft computing	PE	50	50	100	3	0	0	3
7	18LPE\$07	Automotive Electronics	PE	50	50	100	3	0	0	3
8	18LPE\$08	Mixed Signal Design	PE	50	50	100	3	0	0	3
9	18LPE\$09	Embedded systems	PE	50	50	100	3	0	0	3
10	18LPE\$10	Data Communication Networks	PE	50	50	100	3	0	0	3
11	18LPE\$11	Fiber Optic Communications	PE	50	50	100	3	0	0	3
12	18LPE\$12	Advanced Digital Signal Processing	PE	50	50	100	3	0	0	3
13	18LPE\$13	Low Power VLSI	PE	50	50	100	3	0	0	3
14	18LPE\$14	Wireless Technologies	PE	50	50	100	3	0	0	3
15	18LPE\$15	Digital Image and Video Processing	PE	50	50	100	3	0	0	3
16	18LPE\$16	Control Systems	PE	50	50	100	3	0	0	3
17	18LPE\$17	Adhoc and Wireless Sensor Networks	PE	50	50	100	3	0	0	3
18	18LPE\$18	Satellite Communication	PE	50	50	100	3	0	0	3
19	18LPE\$19	High Speed Electronics	PE	50	50	100	3	0	0	3
20	18LPE\$20	Wavelet Transform	PE	50	50	100	3	0	0	3
21	18LPE\$21	Error Correcting codes	PE	50	50	100	3	0	0	3
22	18LPE\$22	Bio-Medical Electronics	PE	50	50	100	3	0	0	3
23	18LPE\$23	Operation Research	PE	50	50	100	3	0	0	3
24	18LPE\$24	Software Defined Radio	PE	50	50	100	3	0	0	3
25	18LPE\$25	Internet of Things	PE	50	50	100	3	0	0	3
26	18LPE\$26	Microwave Integrated Circuits	PE	50	50	100	3	0	0	3

  
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**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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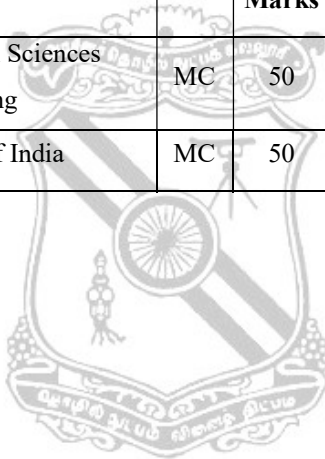


**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LEE607	VLSI Design Laboratory	EEC	50	50	100	0	0	3	1.5
2	18LEE608	Embedded Systems Laboratory	EEC	50	50	100	0	0	3	1.5
3	18LEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18LEE803	Project Work	EEC	50	50	100	0	0	16	8
5	18LVL709	Virtual Laboratory on Digital VLSI Design	EEC	50	50	100	0	0	2	1

**MANDATORY COURSE (MC) (NO - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
2	18LMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0



  
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**VALUE ADDED COURSES (VA) (ONE CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LVA\$01	Science of Creativity	VA	100	-	100	1	0	0	1
2	18LVA\$02	Personal Leadership	VA	100	-	100	1	0	0	1
3	18LVA\$03	Scripting Languages	VA	100	-	100	1	0	0	1
4	18LVA\$04	Social Work	VA	100	-	100	1	0	0	1
5	18LVA\$05	Android Application Development	VA	100	-	100	1	0	0	1
6	18LVA\$06	Web Designing	VA	100	-	100	1	0	0	1
7	18LVA\$07	Long Term Evolution	VA	100	-	100	1	0	0	1
8	18LVA\$08	Avionics	VA	100	-	100	1	0	0	1
9	18LVA\$09	Machine Vision	VA	100	-	100	1	0	0	1
10	18LVA\$10	Millimeter Wave Communication	VA	100	-	100	1	0	0	1
11	18LVA\$11	Telematics	VA	100	-	100	1	0	0	1
12	18LVA\$12	E-Commerce Security	VA	100	-	100	1	0	0	1
13	18LVA\$13	Simulation Techniques	VA	100	-	100	1	0	0	1
14	18LVA\$14	Cloud Computing	VA	100	-	100	1	0	0	1
15	18LVA\$15	Design of Power Supplies	VA	100	-	100	1	0	0	1
16	18LVA\$16	Design of Communication Systems	VA	100	-	100	0	0	2	1
17	18LVA\$17	Aptitude I	VA	100	-	100	1	0	0	1
18	18LVA\$18	Aptitude II	VA	100	-	100	1	0	0	1
19	18LVA\$19	Aptitude III	VA	100	-	100	1	0	0	1
20	18LVA\$20	Micro strip antenna design	VA	100	-	100	1	0	0	1

  
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**CREDIT SUMMARY**

Sl. No.	Subject Area	Credits per Semester								GCT Total Credits	% of Total Credits	AICTE Suggested Credits
		I	II	III	IV	V	VI	VII	VIII			
1	HS	3				3	3	3		12	7.4	12
2	BS	9.5	9.5	3	3					25	15.4	25
3	ES	7.5	8.5	4	6					26	16.0	24
4	PC			15	12	12.5	9	4.5		53	32.7	48
5	PE					3	3	6	6	18	11.1	18
6	OE					3	3	6		12	7.4	18
7	EEC						3	5	8	16	9.9	15
8	MC			0	0					0	0	0
	<b>TOTAL</b>	<b>20</b>	<b>18</b>	<b>22</b>	<b>21</b>	<b>21.5</b>	<b>21</b>	<b>24.5</b>	<b>14</b>	<b>162</b>	<b>100</b>	<b>160</b>

HS - Humanities and Social Sciences including Management

BS - Basic Science

ES - Engineering Science

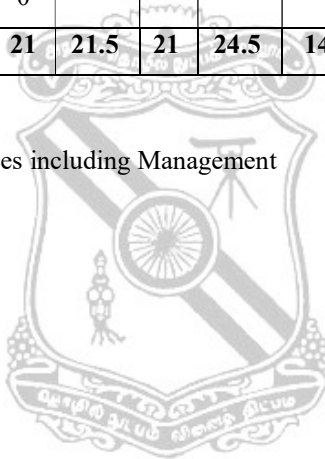
PC - Professional Core

PE - Professional Elective

OE - Open Elective

EEC - Employment Enhancement Course

MC – Mandatory Course



  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.E.PRODUCTION ENGINEERING**

**CBCS 2018 REGULATIONS**

**FIRST SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2	18PBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18PES103	Basics of Electrical Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18PBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18PES105	Basics of Electrical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18PES106	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18PBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
3	18PBS203	Introduction to Electromagnetism and Applied Physics	BS	50	50	100	3	1	0	4
4	18PES204	Python Programming	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18PBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18PES206	Workshop Practice	ES	50	50	100	1	0	4	3
7	18PES207	Python Programming Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

  
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**B.E.PRODUCTION ENGINEERING**

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**THIRD SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PHS301	Business Communication Skills	HS	50	50	100	3	0	0	3
2	18PBS302	Partial Differential Equations, Probability and Statistics	BS	50	50	100	3	1	0	4
3	18PES303	ENGINEERING MECHANICS	ES	50	50	100	3	1	0	4
4	18PES304	Thermal Sciences	ES	50	50	100	3	1	0	4
5	18PPC305	Engineering Metallurgy	PC	50	50	100	3	0	0	3
6	18PPC306	Manufacturing Technology	PC	50	50	100	3	0	0	3
7	18PMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18PPC308	Metallurgy Laboratory and Thermal Science Laboratory	PC	50	50	100	0	0	3	1.5
9	18PPC309	Manufacturing Processes Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>3</b>	<b>6</b>	<b>24</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PHS401	Total Quality Management Concepts	HS	50	50	100	3	0	0	3
2	18PBS402	Waves and Optics	BS	50	50	100	3	0	0	3
3	18PES403	Basic Electronics Engineering	ES	50	50	100	3	0	0	3
4	18PPC404	Fluid Mechanics and Machinery	PC	50	50	100	3	0	0	3
5	18PPC405	Mechanics of Materials	PC	50	50	100	3	0	0	3
6	18PPC406	Machine Tools and Processes	PC	50	50	100	3	0	0	3
7	18PMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18PPC408	Strength of Materials and Fluid Machinery Laboratory	PC	50	50	100	0	0	3	1.5
9	18PPC409	Production Drawing	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>6</b>	<b>21</b>

**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.E.PRODUCTION ENGINEERING**

**CBCS 2018 REGULATIONS**

**FIFTH SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
<b>THEORY</b>										
1	18PHS501	Operations Research Techniques	HS	50	50	100	3	1	0	4
2	18PPC502	Production Planning and Control	PC	50	50	100	3	0	0	3
3	18PPC503	Mechanics of Machines	PC	50	50	100	3	0	0	3
4	18PPC504	Metrology and Computer Aided Inspection	PC	50	50	100	3	0	0	3
5	18PPE5XX	Professional Elective I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective I	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18PPC507	Metrology Laboratory	PC	50	50	100	0	0	3	1.5
8	18PEE508	Skill Development on Industrial Practices / Technical Projects	EEC	50	50	100	0	0	4	2
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>1</b>	<b>7</b>	<b>22.5</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
<b>THEORY</b>										
1	18PPC601	Machine Elements Design	PC	50	50	100	3	1	0	4
2	18PPC602	Automation and CIM	PC	50	50	100	3	0	0	3
3	18PPC603	Fluid Power Drives and Controls	PC	50	50	100	3	0	0	3
4	18PPE6XX	Professional Elective II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective III	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7	18PPC607	Modelling Laboratory	PC	50	50	100	0	0	3	1.5
8	18PEE608	Automation and Control Systems Laboratory	EEC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>1</b>	<b>6</b>	<b>22</b>

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**B.E.PRODUCTION ENGINEERING**

**CBCS 2018 REGULATIONS**

**SEVENTH SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PPC701	Additive Manufacturing	PC	50	50	100	3	0	0	3
2	18PPC702	Production of Automotive Components	PC	50	50	100	3	0	0	3
3	18PPC703	Jigs, Fixtures and Press Tools	PC	50	50	100	3	0	0	3
4	18PPE7XX	Professional Elective III	PE	50	50	100	3	0	0	3
5	18PPE7XX	Professional Elective IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18PPC707	Simulation Laboratory	PC	50	50	100	0	0	3	1.5
8	18PEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
		<b>THEORY</b>								
1	18PPE8XX	Professional Elective V	PE	50	50	100	3	0	0	3
2	18PPE8XX	Professional Elective VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18PEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

  
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**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18PHS301	Business Communication Skill	HS	50	50	100	3	0	0	3
3	18PHS401	Total Quality Management Concepts	HS	50	50	100	3	0	0	3
4	18PHS501	Operations Research Techniques	HS	50	50	100	3	1	0	4

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PBS101	Engineering Chemistry	BS	50	50	100	3	1	0	4
2	18PBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18PBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
4	18PBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
5	18PBS203	Introduction to Electromagnetism and Applied Physics	BS	50	50	100	3	1	0	4
6	18PBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
7	18PBS302	Partial Differential Equations, Probability and Statistics	BS	50	50	100	3	1	0	4
8	18PBS402	Waves and Optics	BS	50	50	100	3	0	0	3

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PES103	Basics of Electrical Engineering	ES	50	50	100	3	0	0	3
2	18PES105	Basics of Electrical Engineering laboratory	ES	50	50	100	0	0	3	1.5
3	18PES106	Engineering Graphics	ES	50	50	100	2	0	4	4
4	18PES204	Python Programming	ES	50	50	100	3	0	0	3
5	18PES206	Workshop Practice	ES	50	50	100	1	0	4	3
6	18PES207	Python Programming Laboratory	ES	50	50	100	0	0	3	1.5
7	18PES303	Engineering Mechanics	ES	50	50	100	3	1	0	4
8	18PES304	Thermal Sciences	ES	50	50	100	3	1	0	4
9	18PES403	Basic Electronics Engineering	ES	50	50	100	3	0	0	3

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PPC305	Engineering Metallurgy	PC	50	50	100	3	0	0	3
2	18PPC306	Manufacturing Technology	PC	50	50	100	3	0	0	3
3	18PPC308	Metallurgy Laboratory and Thermal Science Laboratory	PC	50	50	100	0	0	3	1.5
4	18PPC309	Manufacturing Processes Laboratory	PC	50	50	100	0	0	3	1.5
5	18PPC404	Fluid Mechanics and Machinery	PC	50	50	100	3	0	0	3
6	18PPC405	Mechanics of Materials	PC	50	50	100	3	0	0	3
7	18PPC406	Machine Tools and Processes	PC	50	50	100	3	0	0	3
8	18PPC408	Strength of Materials and Fluid Machinery Laboratory	PC	50	50	100	0	0	3	1.5
9	18PPC409	Production Drawing	PC	50	50	100	0	0	3	1.5
10	18PPC502	Production Planning and Control	PC	50	50	100	3	0	0	3
11	18PPC503	Mechanics of Machines	PC	50	50	100	3	0	0	3
12	18PPC504	Metrology and Computer Aided Inspection	PC	50	50	100	3	0	0	3
13	18PPC507	Metrology Laboratory	PC	50	50	100	0	0	3	1.5
14	18PPC601	Machine Elements Design	PC	50	50	100	3	1	0	4
15	18PPC602	Automation and CIM	PC	50	50	100	3	0	0	3
16	18PPC603	Fluid Power Drives and Controls	PC	50	50	100	3	0	0	3
17	18PPC607	Modelling Laboratory	PC	50	50	100	0	0	3	1.5
18	18PPC701	Additive Manufacturing	PC	50	50	100	3	0	0	3
19	18PPC702	Production of Automotive Components	PC	50	50	100	3	0	0	3
20	18PPC703	Jigs, Fixtures and Press Tools	PC	50	50	100	3	0	0	3
21	18PPC707	Simulation Laboratory	PC	50	50	100	0	0	3	1.5




**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PPE\$01	Mechatronic Systems	PE	50	50	100	3	0	0	3
2	18PPE\$02	Finite Element Techniques	PE	50	50	100	3	0	0	3
3	18PPE\$03	Unconventional Manufacturing Processes	PE	50	50	100	3	0	0	3
4	18PPE\$04	CNC Technology	PE	50	50	100	3	0	0	3
5	18PPE\$05	Power Plant Engineering	PE	50	50	100	3	0	0	3
6	18PPE\$06	Robust Design	PE	50	50	100	3	0	0	3
7	18PPE\$07	Statistical Quality Control and Reliability Engineering	PE	50	50	100	3	0	0	3
8	18PPE\$08	Advanced Welding Technology	PE	50	50	100	3	0	0	3
9	18PPE\$09	Product Design and Process Engineering	PE	50	50	100	3	0	0	3
10	18PPE\$10	Design for Manufacture and Assembly	PE	50	50	100	3	0	0	3
11	18PPE\$11	Human Values and Professional Ethics II	PE	50	50	100	3	0	0	3
12	18PPE\$12	Plant Layout and Material Handling	PE	50	50	100	3	0	0	3
13	18PPE\$13	Non Destructive Testing Techniques	PE	50	50	100	3	0	0	3
14	18PPE\$14	Supply Chain Management	PE	50	50	100	3	0	0	3
15	18PPE\$15	Production Management	PE	50	50	100	3	0	0	3
16	18PPE\$16	Lean Manufacturing	PE	50	50	100	3	0	0	3
17	18PPE\$17	Micro manufacturing Processes	PE	50	50	100	3	0	0	3
18	18PPE\$18	Theory of Metal Cutting	PE	50	50	100	3	0	0	3
19	18PPE\$19	Advanced Casting Technology	PE	50	50	100	3	0	0	3
20	18PPE\$20	Total Productive Maintenance	PE	50	50	100	3	0	0	3
21	18PPE\$21	Green Manufacturing	PE	50	50	100	3	0	0	3
22	18PPE\$22	Computer Aided Design	PE	50	50	100	3	0	0	3
23	18PPE\$23	Robotics and Machine Vision System	PE	50	50	100	3	0	0	3
24	18PPE\$24	Investment Casting	PE	50	50	100	3	0	0	3
25	18PPE\$25	Electronics Manufacturing Technology	PE	50	50	100	3	0	0	3
26	18PPE\$26	Smart Manufacturing	PE	50	50	100	3	0	0	3

**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PEE508	Skill Development on Industrial Practices / Technical Projects	EEC	50	50	100	0	0	4	2
2	18PEE608	Automation and Control Systems Laboratory	EEC	50	50	100	0	0	3	1.5
3	18PEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18PEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSES (MC)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PMC3Z7	Constitution of India	MC	50	50	100	3	0	0	0
2	18PMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (ONE CREDIT) (VA)**

Sl. No.	Course Code	Course title	CAT	CA Marks	End sem marks	Total marks	Hours/week			
							L	T	P	C
1	18PVA\$01	Human Values I	VA	100	-	100	1	0	0	1
2	18PVA\$02	Human Values and Professional Ethics	VA	100	-	100	1	0	0	1
3	18PVA\$03	Yoga for Youth Empowerment	VA	100	-	100	1	0	0	1
4	18PVA\$04	Basics of Civil Engineering	VA	100	-	100	1	0	0	1
5	18PVA\$05	Metallography	VA	100	-	100	1	0	0	1
6	18PVA\$06	Design of Experiments using Taguchi Concept	VA	100	-	100	1	0	0	1
7	18PVA\$07	Entrepreneurship Development	VA	100	-	100	1	0	0	1
8	18PVA\$08	Patents System in Engineering	VA	100	-	100	1	0	0	1
9	18PVA\$09	Industrial case studies	VA	100	-	100	1	0	0	1
10	18PVA\$10	Project Management	VA	100	-	100	1	0	0	1
11	18PVA\$11	Industrial safety	VA	100	-	100	1	0	0	1
12	18PVA\$12	Six Sigma	VA	100	-	100	1	0	0	1
13	18PVA\$13	Professional Skills	VA	100	-	100	1	0	0	1
14	18PVA\$14	Solar Energy Systems	VA	100	-	100	1	0	0	1
15	18PVA\$15	Wind Energy Systems	VA	100	-	100	1	0	0	1
16	18PVA\$16	Refrigeration Systems	VA	100	-	100	1	0	0	1
17	18PVA\$17	Air Conditioning Systems	VA	100	-	100	1	0	0	1

**CURRICULAM DESIGN FOR CBCS 2018 REGULATIONS**

**FULL TIME B.E PRODUCTION ENGINEERING (U.G)**

**SUMMARY**

S.No	Category	Credits Per Semester								Total Credits	% of Credits	AICTE Suggested Credits
		I	II	III	IV	V	VI	VII	VIII			
1	HS		3	3	3	4				13	7.88	12
2	BS	9.5	9.5	4	3					26	15.76	25
3	ES	8.5	7.5	8	3					27	16.36	24
4	PC			9	12	10.5	11.5	10.5		53.5	32.42	48
5	PE					3	3	6	6	18	10.91	18
6	OE					3	6	3		12	7.27	18
7	EEC					2	1.5	4	8	15.5	9.39	15
8	MC	0		0	0	0				0	0	0
<b>Total</b>		18	20	24	21	22.5	22	23.5	14	165	100	160

HS	Humanities and Social Sciences including Management
BS	Basic Science
ES	Engineering Science
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course

  
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**CBCS 2018 REGULATIONS**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18NBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
3	18NBS103	Waves, Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
4	18NES104	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18NBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18NES106	Workshop Practice	ES	50	50	100	1	0	4	3
7	18NES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
2	18NBS202	Linear Algebra, Numerical Methods and Transform Calculus	BS	50	50	100	3	1	0	4
3	18NES203	Electrical Circuits and Networks	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18NBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18NES205	Electrical Circuits and Networks Laboratory	ES	50	50	100	0	0	3	1.5
6	18NES206	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

  
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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NHS301	Business Communication Skills	HS	50	50	100	3	0	0	3
2	18NBS302	Biology for Engineers	BS	50	50	100	3	0	0	3
3	18NES303	Principles of Electrical Machines	ES	50	50	100	3	0	0	3
4	18NPC304	Electronic circuits	PC	50	50	100	3	0	0	3
5	18NPC305	Sensors and Transducers	PC	50	50	100	3	0	0	3
6	18NPC306	Measurements and Instrumentation	PC	50	50	100	3	0	0	3
7	18NMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18NPC308	Sensors and Measurements Laboratory	PC	50	50	100	0	0	3	1.5
9	18NPC309	Electronic Devices and Circuits Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>6</b>	<b>21</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NHS401	Professional Ethics	HS	50	50	100	3	0	0	3
2	18NBS402	Probability and Applied Statistics	BS	50	50	100	3	1	0	4
3	18NES403	Engineering Mechanics	ES	50	50	100	3	1	0	4
4	18NPC404	Electronics for Analog Signal Processing	PC	50	50	100	3	0	0	3
5	18NPC405	Digital Electronics	PC	50	50	100	3	0	0	3
6	18NPC406	Fundamentals of Microprocessors and Microcontrollers	PC	50	50	100	3	0	0	3
7	18NMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18NPC408	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
9	18NPC409	Linear and Digital Circuits Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>2</b>	<b>6</b>	<b>23</b>



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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NHS501	Technology Management	HS	50	50	100	3	0	0	3
2	18NES502	Industrial Hydraulics and Pneumatics	ES	50	50	100	3	0	0	3
3	18NPC503	Control System Design	PC	50	50	100	3	0	0	3
4	18NPC504	Basics of Signals and Systems	PC	50	50	100	3	0	0	3
5	18NPE5XX	Professional Elective - I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective -I	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18NPC507	Control Systems Laboratory	PC	50	50	100	0	0	3	1.5
8	18NEE508	Virtual Instrumentation Laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NPC601	Principles of Communication	PC	50	50	100	3	0	0	3
2	18NPC602	Process Control	PC	50	50	100	3	0	0	3
3	18NPC603	Industrial Instrumentation	PC	50	50	100	3	0	0	3
4	18NPE6XX	Professional Elective II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective -II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective -III	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18NPC607	Process Control Laboratory	PC	50	50	100	0	0	4	2
8	18NEE608	Industrial Instrumentation Laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>7</b>	<b>21.5</b>

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**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NPC701	Soft Computing Techniques	PC	50	50	100	3	0	0	3
2	18NPC702	Analytical Instrumentation	PC	50	50	100	3	0	0	3
3	18NPC703	Industrial Automation Systems	PC	50	50	100	3	0	0	3
4	18NPE7XX	Professional Elective - III	PE	50	50	100	3	0	0	3
5	18NPE7XX	Professional Elective - IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective -IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18NPC707	Industrial Automation Laboratory	PC	50	50	100	0	0	3	1.5
8	18NEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18NPE8XX	Professional Elective - V	PE	50	50	100	3	0	0	3
2	18NPE8XX	Professional Elective - VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18NEE803	Project work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

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**CATEGORY-WISE CREDIT DISTRIBUTION**

**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18NHS301	Business Communication Skills	HS	50	50	100	3	0	0	3
3	18NHS401	Professional Ethics	HS	50	50	100	3	0	0	3
4	18NHS501	Technology Management	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NBS102	Calculus and Differential Equations	BS	50	50	100	3	1	0	4
2	18NBS103	Waves, Optics and Introduction to Quantum Mechanics	BS	50	50	100	3	1	0	4
3	18NBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
4	18NBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
5	18NBS202	Linear Algebra, Numerical Methods and Transform calculus	BS	50	50	100	3	1	0	4
6	18NBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
7	18NBS302	Biology for Engineers	BS	50	50	100	3	0	0	3
8	18NBS402	Probability and Applied Statistics	BS	50	50	100	3	1	0	4

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NES104	Programming in C	ES	50	50	100	3	0	0	3
2	18NES106	Workshop Practice	ES	50	50	100	1	0	4	3
3	18NES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
4	18NES203	Electrical Circuits and Networks	ES	50	50	100	3	0	0	3
5	18NES205	Electrical Circuits and Networks Laboratory	ES	50	50	100	0	0	3	1.5
6	18NES206	Engineering Graphics	ES	50	50	100	2	0	4	4
7	18NES303	Principles of Electrical Machines	ES	50	50	100	3	0	0	3
8	18NES403	Engineering Mechanics	ES	50	50	100	3	1	0	4
9	18NES502	Industrial Hydraulics and Pneumatics	ES	50	50	100	3	0	0	3

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18NPC304	Electronic Circuits	PC	50	50	100	3	0	0	3
2.	18NPC305	Sensors and Transducers	PC	50	50	100	3	0	0	3
3.	18NPC306	Measurements and Instrumentation	PC	50	50	100	3	0	0	3
4.	18NPC308	Sensors and Measurements Laboratory	PC	50	50	100	0	0	3	1.5
5.	18NPC309	Electronic Devices and Circuits Laboratory	PC	50	50	100	0	0	3	1.5
6	18NPC404	Electronics for Analog Signal Processing	PC	50	50	100	3	0	0	3
7	18NPC405	Digital Electronics	PC	50	50	100	3	0	0	3
8	18NPC406	Fundamentals of Microprocessors and Microcontrollers	PC	50	50	100	3	0	0	3
9	18NPC408	Microprocessors and Microcontrollers Laboratory	PC	50	50	100	0	0	3	1.5
10	18NPC409	Linear and Digital Circuits Laboratory	PC	50	50	100	0	0	3	1.5
11	18NPC503	Control System Design	PC	50	50	100	3	0	0	3
12	18NPC504	Basics of Signals Systems	PC	50	50	100	3	0	0	3
13	18NPC507	Control Systems Laboratory	PC	50	50	100	0	0	3	1.5
14	18NPC601	Principles of Communication	PC	50	50	100	3	0	0	3
15	18NPC602	Process Control	PC	50	50	100	3	0	0	3
16	18NPC603	Industrial Instrumentation	PC	50	50	100	3	0	0	3
17	18NPC607	Process Control Laboratory	PC	50	50	100	0	0	4	2
18	18NPC701	Soft Computing Techniques	PC	50	50	100	3	0	0	3
19	18NPC702	Analytical Instrumentation	PC	50	50	100	3	0	0	3
20	18NPC703	Industrial Automation Systems	PC	50	50	100	3	0	0	3
21	18NPC707	Industrial Automation Laboratory	PC	50	50	100	0	0	3	1.5

**PROFESSIONAL ELECTIVES (PE)**

Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NPES01	Advanced Control Theory	PE	50	50	100	3	0	0	3
2	18NPES02	Digital Control System	PE	50	50	100	3	0	0	3
3	18NPES03	Computer Control of Process	PE	50	50	100	3	0	0	3
4	18NPES04	Advanced Process Control	PE	50	50	100	3	0	0	3
5	18NPES05	System Identification and Adaptive Control	PE	50	50	100	3	0	0	3
6	18NPES06	Optimal Control	PE	50	50	100	3	0	0	3
7	18NPES07	Machine Learning Techniques	PE	50	50	100	3	0	0	3
8	18NPES08	Fault Diagnosis and Tolerances	PE	50	50	100	3	0	0	3
9	18NPES09	Instrument Standards	PE	50	50	100	3	0	0	3
10	18NPES10	MEMS and Nano Technology	PE	50	50	100	3	0	0	3
11	18NPES11	Safety Instrument Systems	PE	50	50	100	3	0	0	3
12	18NPES12	Energy Harvesting	PE	50	50	100	3	0	0	3
13	18NPES13	Power Electronics and Drives	PE	50	50	100	3	0	0	3
14	18NPES14	Industrial Data Networks	PE	50	50	100	3	0	0	3
15	18NPES15	Industrial Internet of Things	PE	50	50	100	3	0	0	3
16	18NPES16	Wireless Sensor Network	PE	50	50	100	3	0	0	3
17	18NPES17	Fiber Optics and Laser Instrumentation	PE	50	50	100	3	0	0	3
18	18NPES18	Aircraft Instrumentation	PE	50	50	100	3	0	0	3
19	18NPES19	Smart and Wireless Instrumentation	PE	50	50	100	3	0	0	3
20	18NPES20	Power Plant Instrumentation	PE	50	50	100	3	0	0	3
21	18NPES21	Biomedical Instrumentation	PE	50	50	100	3	0	0	3
22	18NPES22	Instrumentation and Control in Petro Chemical Industries	PE	50	50	100	3	0	0	3
23	18NPES23	Instrumentation and Control in Iron and Steel Industries	PE	50	50	100	3	0	0	3
24	18NPES24	Robotics and its Applications	PE	50	50	100	3	0	0	3
25	18NPES25	Real Time Embedded Systems	PE	50	50	100	3	0	0	3
26	18NPES26	Automotive Instrumentation	PE	50	50	100	3	0	0	3
27	18NPES27	Discrete Time Signal Processing	PE	50	50	100	3	0	0	3
28	18NPES28	Basics of VLSI Technology	PE	50	50	100	3	0	0	3
29	18NPES29	VHDL Based Digital System Design	PE	50	50	100	3	0	0	3
30	18NPES30	Electronic Circuit Design	PE	50	50	100	3	0	0	3
31	18NPES31	Electronic System Design And Productization	PE	50	50	100	3	0	0	3

**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NEE508	Virtual Instrumentation Laboratory	EEC	50	50	100	0	0	3	1.5
2	18NEE608	Industrial Instrumentation Laboratory	EEC	50	50	100	0	0	3	1.5
3	18NEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18NEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSE (MC) (NO - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
2	18NMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (VA) (ONE – CREDIT)**

Sl. No.	Subject Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NVA\$01	MATLAB Programming	VA	50	50	100	1	0	0	1
2	18NVA\$02	PCB Design and Fabrication	VA	50	50	100	1	0	0	1
3	18NVA\$03	Calibration of Instrument	VA	50	50	100	1	0	0	1
4	18NVA\$04	Safety Practices and Management in Process Industries	VA	50	50	100	1	0	0	1

  
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### SUMMARY OF CREDIT DISTRIBUTION

Sl. No.	Course Work Subject Area	Credits Per Semester								Total Credits	% of credits	AICTE
		I	II	III	IV	V	VI	VII	VIII			
1	HS	3	0	3	3	3	-	-	-	12	7.41	12
2	BS	9.5	9.5	3	4	-	-	-	-	26	16.05	25
3	ES	7.5	8.5	3	4	3	-	-	-	26	16.05	24
4	PC	-	-	12	12	7.5	11	10.5	-	53	32.72	48
5	PE	-	-	-	-	3	3	6	6	18	11.11	18
6	OE	-	-	-	-	3	6	3	-	12	7.41	18
7	EEC	-	-	-	-	1.5	1.5	4	8	15	9.26	15
8	MC	0	-	0	0	-	-	-	-	0	0	0
	<b>Total</b>	<b>20</b>	<b>18</b>	<b>21</b>	<b>23</b>	<b>21</b>	<b>21.5</b>	<b>23.5</b>	<b>14</b>	<b>162</b>	<b>100</b>	<b>160</b>

HS	Humanities and Social Science
BS	Basic Science
ES	Engineering Science
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course
VA	Value Added Course

  
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**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18SBS102	Calculus	BS	50	50	100	3	1	0	4
3	18SBS103	Semiconductor Physics	BS	50	50	100	3	1	0	4
4	18SES104	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18SBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18SES106	Workshop Practice	ES	50	50	100	1	0	4	3
7	18SES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
2	18SBS202	Differential Equations and Linear Algebra	BS	50	50	100	3	1	0	4
3	18SES203	Fundamentals of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18SBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18SES205	Fundamentals of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18SES206	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SHS301	Humanities	HS	50	50	100	3	0	0	3
2	18SBS302	Probability Theory and Applied Statistics	BS	50	50	100	3	1	0	4
3	18SBS303	Discrete Structures	BS	50	50	100	3	0	0	3
4	18SES304	Engineering Mechanics	ES	50	50	100	3	1	0	4
5	18SPC305	Digital Systems	PC	50	50	100	3	0	0	3
6	18SPC306	Data Structures	PC	50	50	100	3	0	0	3
7	18SMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18SPC308	Digital Systems Laboratory	PC	50	50	100	0	0	3	1.5
9	18SPC309	Data Structures Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>2</b>	<b>6</b>	<b>23</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SHS401	Technology Management	HS	50	50	100	3	0	0	3
2	18SES402	Analog and Digital Communication	ES	50	50	100	3	0	0	3
3	18SPC403	Computer Architecture	PC	50	50	100	3	0	0	3
4	18SPC404	Database Management Systems	PC	50	50	100	3	0	0	3
5	18SPC405	System Programming and Operating Systems	PC	50	50	100	3	0	0	3
6	18SPC406	Theory of Computation	PC	50	50	100	3	1	0	4
7	18SMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18SPC408	Database Management Systems Laboratory	PC	50	50	100	0	0	3	1.5
9	18SPC409	System Programming and Operating Systems Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>1</b>	<b>6</b>	<b>22</b>

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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SHS501	Professional Communication Skills	HS	50	50	100	2	0	2	3
2	18SES502	Embedded Computing Systems	ES	50	50	100	3	0	0	3
3	18SPC503	Computer Networks	PC	50	50	100	3	0	0	3
4	18SPC504	Design and Analysis of Algorithms	PC	50	50	100	3	1	0	4
5	18SPE5XX	Professional Elective-I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective-I	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18SPC507	Computer Networks Laboratory	PC	50	50	100	0	0	3	1.5
8	18SEE508	Embedded Computing Systems Laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>8</b>	<b>22</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SPC601	Digital Signal Processing and Applications	PC	50	50	100	3	1	0	4
2	18SPC602	Compiler Design	PC	50	50	100	3	0	0	3
3	18SPC603	Software Engineering Methodologies	PC	50	50	100	3	0	0	3
4	18SPE6XX	Professional Elective-II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective-II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective-III	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18SPC607	Compiler Design Laboratory	PC	50	50	100	0	0	3	1.5
8	18SVL608	Software Engineering Methodologies Laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>1</b>	<b>6</b>	<b>22</b>

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**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SPC701	Machine Learning	PC	50	50	100	3	0	0	3
2	18SPC702	Artificial Intelligence	PC	50	50	100	3	0	0	3
3	18SPC703	Computer Graphics and Visualizations	PC	50	50	100	3	0	0	3
4	18SPE7XX	Professional Elective-III	PE	50	50	100	3	0	0	3
5	18SPE7XX	Professional Elective-IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective-IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18SPC707	Machine Learning Laboratory	PC	50	50	100	0	0	4	2
8	18SEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>12</b>	<b>24</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SPE8XX	Professional Elective-V	PE	50	50	100	3	0	0	3
2	18SPE8XX	Professional Elective-VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18SEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

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**CURRICULAM DESIGN FOR CBCS 2018 REGULATIONS**

**FULL TIME B.E COMPUTER SCIENCE AND ENGINEERING (U.G)**

**SUMMARY**

S.No	Category	Credits Per Semester								Total Credits	% of Credits	AICTE Suggested Credits.
		I	II	III	IV	V	VI	VII	VIII			
1	HS	3		3	3	3				12	7.27	12
2	BS	9.5	9.5	7						26	15.76	25
3	ES	7.5	8.5	4	3	3				26	15.76	24
4	PC			9	16	8.5	11.5	11		56	33.94	48
5	PE					3	3	6	6	18	10.91	18
6	OE					3	6	3		12	7.27	18
7	EEC					1.5	1.5	4	8	15	9.09	15
8	MC			0	0					0	0	0
<b>Total</b>		<b>20</b>	<b>18</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>24</b>	<b>14</b>	<b>165</b>	<b>100</b>	<b>160</b>

HS	Humanities and Social Science
BS	Basic Science
ES	Engineering Science
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course

  
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**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18SHS301	Humanities	HS	50	50	100	3	0	0	3
3	18SHS401	Technology Management	HS	50	50	100	3	0	0	3
4	18SHS501	Professional Communication Skills	HS	50	50	100	2	0	2	3

**BASIC SCIENCES (BS)**


Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18SBS102	Calculus	BS	50	50	100	3	1	0	4
2	18SBS103	Semiconductor Physics	BS	50	50	100	3	1	0	4
3	18SBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
4	18SBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
5	18SBS202	Differential Equations and Linear Algebra	BS	50	50	100	3	1	0	4
6	18SBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
7	18SBS302	Probability Theory and Applied Statistics	BS	50	50	100	3	1	0	4
8	18SBS303	Discrete Structures	BS	50	50	100	3	0	0	3

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SES104	Programming in C	ES	50	50	100	3	0	0	3
2	18SES106	Workshop Practice	ES	50	50	100	1	0	4	3
3	18SES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
4	18SES203	Fundamentals of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
5	18SES205	Fundamentals of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18SES206	Engineering Graphics	ES	50	50	100	2	0	4	4
7	18SES304	Engineering Mechanics	ES	50	50	100	3	1	0	4
8	18SES402	Analog and Digital Communication	ES	50	50	100	3	0	0	3
9	18SES502	Embedded Computing Systems	ES	50	50	100	3	0	0	3


**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPC305	Digital Systems	PC	50	50	100	3	0	0	3
2	18SPC306	Data Structures	PC	50	50	100	3	0	0	3
3	18SPC308	Digital Systems Laboratory	PC	50	50	100	0	0	3	1.5
4	18SPC309	Data Structures Laboratory	PC	50	50	100	0	0	3	1.5
5	18SPC403	Computer Architecture	PC	50	50	100	3	0	0	3
6	18SPC404	Database Management Systems	PC	50	50	100	3	0	0	3
7	18SPC405	System Programming and Operating Systems	PC	50	50	100	3	0	0	3
8	18SPC406	Theory of Computation	PC	50	50	100	3	1	0	4
9	18SPC408	Database Management Systems Laboratory	PC	50	50	100	0	0	3	1.5
10	18SPC409	System Programming and Operating Systems Laboratory	PC	50	50	100	0	0	3	1.5
11	18SPC503	Computer Networks	PC	50	50	100	3	0	0	3
12	18SPC504	Design and Analysis of Algorithms	PC	50	50	100	3	1	0	4
13	18SPC507	Computer Networks Laboratory	PC	50	50	100	0	0	3	1.5
14	18SPC601	Digital Signal Processing and Applications	PC	50	50	100	3	1	0	4
15	18SPC602	Compiler Design	PC	50	50	100	3	0	0	3
16	18SPC603	Software Engineering Methodologies	PC	50	50	100	3	0	0	3
17	18SPC607	Compiler Design Laboratory	PC	50	50	100	0	0	3	1.5
18	18SPC701	Machine Learning	PC	50	50	100	3	0	0	3
19	18SPC702	Artificial Intelligence	PC	50	50	100	3	0	0	3
20	18SPC703	Computer Graphics and Visualizations	PC	50	50	100	3	0	0	3
21	18SPC707	Machine Learning Laboratory	PC	50	50	100	0	0	4	2

  
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**PROFESSIONAL ELECTIVES (PE)**

S. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPE\$01	Introduction to Web Technology	PE	50	50	100	3	0	0	3
2	18SPE\$02	Simulation and Modeling	PE	50	50	100	3	0	0	3
3	18SPE\$03	Digital Image Processing	PE	50	50	100	3	0	0	3
4	18SPE\$04	Cryptography	PE	50	50	100	3	0	0	3
5	18SPE\$05	Natural Language Processing	PE	50	50	100	3	0	0	3
6	18SPE\$06	Software Defined Networks	PE	50	50	100	3	0	0	3
7	18SPE\$07	Cloud Engineering	PE	50	50	100	3	0	0	3
8	18SPE\$08	Computer Vision	PE	50	50	100	3	0	0	3
9	18SPE\$09	High Performance Computing	PE	50	50	100	3	0	0	3
10	18SPE\$10	Object Oriented Analysis and Design	PE	50	50	100	3	0	0	3
11	18SPE\$11	Fundamentals of Internet of Things	PE	50	50	100	3	0	0	3
12	18SPE\$12	Big Data Analytics	PE	50	50	100	3	0	0	3
13	18SPE\$13	Information Security	PE	50	50	100	3	0	0	3
14	18SPE\$14	Distributed Computing	PE	50	50	100	3	0	0	3
15	18SPE\$15	Wireless Communication and Networks	PE	50	50	100	3	0	0	3
16	18SPE\$16	Social Networks	PE	50	50	100	3	0	0	3
17	18SPE\$17	Data Warehousing and Data Mining	PE	50	50	100	3	0	0	3
18	18SPE\$18	Multimedia Systems	PE	50	50	100	3	0	0	3

  
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**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

**EMPLOYABILITY ENHANCEMENT COURSES (EEC) – PRACTICAL COURSES AND PROJECT WORK**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SEE508	Embedded Computing Systems Laboratory	EEC	50	50	100	0	0	3	1.5
2	18SVL608	Software Engineering Methodologies Laboratory	EEC	50	50	100	0	0	3	1.5
3	18SEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18SEE803	Project Work	EEC	50	50	100	0	0	16	8

**MANDATORY COURSE (MC) (NO - CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
2	18SMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (ONE CREDIT)**

S. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SVA\$01	Decision Science, Data Analytics & Deep Learning	VA	100	-	100	1	0	0	1

  
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**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18IBS102	Calculus	BS	50	50	100	3	1	0	4
3	18IBS103	Semiconductor Physics	BS	50	50	100	3	1	0	4
4	18IES104	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18IBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18IES106	Workshop Practice	ES	50	50	100	1	0	4	3
7	18IES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		350	350	700	12	3	10	20

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
2	18IBS202	Differential Equations and Linear Algebra	BS	50	50	100	3	1	0	4
3	18IES203	Fundamentals of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18IBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18IES205	Fundamentals of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18IES206	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		300	300	600	11	2	10	18

  
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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IBS301	Probability Theory and Applied Statistics	BS	50	50	100	3	1	0	4
2	18IES302	Digital Logic Design	ES	50	50	100	3	0	0	3
3	18IES303	Elements of Communication Engineering	ES	50	50	100	3	0	0	3
4	18IES304	Basics of Microprocessors and Microcontroller	ES	50	50	100	3	0	2	4
5	18IPC305	Data Structures and Applications	PC	50	50	100	3	0	0	3
6	18IPC306	Object Oriented Programming	PC	50	50	100	3	0	0	3
7	18IMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18IES308	Digital Logic Design Laboratory	ES	50	50	100	0	0	3	1.5
9	18IPC309	Data Structures and Applications Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>1</b>	<b>8</b>	<b>23</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IHS401	Resource Management Techniques	HS	50	50	100	3	0	0	3
2	18IBS402	Elements of Discrete Structures	BS	50	50	100	3	0	0	3
3	18IPC403	Computer Organization and Architecture	PC	50	50	100	3	0	0	3
4	18IPC404	Database Design and Management	PC	50	50	100	3	0	0	3
5	18IPC405	Information Coding Techniques	PC	50	50	100	3	0	0	3
6	18IPC406	Operating Systems	PC	50	50	100	3	0	0	3
7	18IMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8	18IPC408	Database Design and Management Laboratory	PC	50	50	100	0	0	3	1.5
9	18IPC409	Operating Systems Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>	<b>0</b>	<b>6</b>	<b>21</b>

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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IHS501	Technology Management	HS	50	50	100	3	0	0	3
2	18IPC502	Web Technology	PC	50	50	100	3	0	0	3
3	18IPC503	Data Communication and Networking	PC	50	50	100	3	0	0	3
4	18IPC504	Analysis and Design of Algorithms	PC	50	50	100	3	0	0	3
5	18IPE5XX	Professional Elective I	PE	50	50	100	3	0	0	3
6	18#OE5XX	Open Elective I	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18IPC507	Data Communication and Networking Laboratory	PC	50	50	100	0	0	3	1.5
8	18IEE508	Web Technology and Application Development Laboratory	EEC	50	50	100	0	0	4	2
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>7</b>	<b>21.5</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IPC601	Fundamentals of Machine Learning	PC	50	50	100	3	0	0	3
2	18IPC602	Software Engineering	PC	50	50	100	3	0	0	3
3	18IPC603	Fundamentals of Digital Signal Processing	PC	50	50	100	3	0	0	3
4	18IPE6XX	Professional Elective-II	PE	50	50	100	3	0	0	3
5	18#OE6XX	Open Elective-II	OE	50	50	100	3	0	0	3
6	18#OE6XX	Open Elective-III	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18IVL607	Machine Learning Laboratory	PC	50	50	100	0	0	3	1.5
8	18IEE608	Open source and tools laboratory	EEC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>

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**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IHS701	Professional Ethics	HS	50	50	100	3	0	0	3
2	18IPC702	Cryptography and Network Security	PC	50	50	100	3	0	0	3
3	18IPC703	Internet of Things and its Applications	PC	50	50	100	3	0	0	3
4	18IPE7XX	Professional Elective -III	PE	50	50	100	3	0	0	3
5	18IPE7XX	Professional Elective -IV	PE	50	50	100	3	0	0	3
6	18#OE7XX	Open Elective – IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7	18IPC707	Internet of Things Laboratory	PC	50	50	100	0	0	3	1.5
8	18IEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>23.5</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18IPE8XX	Professional Elective-V	PE	50	50	100	3	0	0	3
2	18IPE8XX	Professional Elective-VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18IEE801	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

L- Lecture; T- Tutorial; P- Practical; C- Credits; CAT -Category; CA -Cumulative Assessment BS- Basic Science; HS- Humanities and Social Science; ES- Engineering Sciences; PC- Professional Core; PE- Professional Elective; OE-Open Elective; EEC- Employability Enhancement Course; MC- Mandatory Course

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**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IHS101	Communicative English	HS	50	50	100	2	1	0	3
2	18IHS401	Resource Management Techniques	HS	50	50	100	3	0	0	3
3	18IHS501	Technology Management	HS	50	50	100	3	0	0	3
4	18IHS701	Professional Ethics	HS	50	50	100	3	0	0	3

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IBS102	Calculus	BS	50	50	100	3	1	0	4
2	18IBS103	Semiconductor Physics	BS	50	50	100	3	1	0	4
3	18IBS105	Physics Laboratory	BS	50	50	100	0	0	3	1.5
4	18IBS201	Applied Chemistry	BS	50	50	100	3	1	0	4
5	18IBS202	Differential Equations and Linear Algebra	BS	50	50	100	3	1	0	4
6	18IBS204	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
7	18IBS301	Probability Theory and Applied Statistics	BS	50	50	100	3	1	0	4
8	18IBS402	Elements of Discrete Structures	BS	50	50	100	3	0	0	3

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IES104	Programming in C	ES	50	50	100	3	0	0	3
2	18IES106	Workshop Practice	ES	50	50	100	1	0	4	3
3	18IES107	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
4	18IES203	Fundamentals of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
5	18IES205	Fundamentals of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18IES206	Engineering Graphics	ES	50	50	100	2	0	4	4
7	18IES302	Digital Logic Design	ES	50	50	100	3	0	0	3
8	18IES303	Elements of Communication Engineering	ES	50	50	100	3	0	0	3
9	18IES304	Basics of Microprocessors and Microcontroller	ES	50	50	100	3	0	2	4
10	18IES308	Digital Logic Design Laboratory	ES	50	50	100	0	0	3	1.5

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPC305	Data Structures and Applications	PC	50	50	100	3	0	0	3
2	18IPC306	Object Oriented Programming	PC	50	50	100	3	0	0	3
3	18IPC309	Data Structures and Applications Laboratory	PC	50	50	100	0	0	3	1.5
4	18IPC403	Computer Organization and Architecture	PC	50	50	100	3	0	0	3
5	18IPC404	Database Design and Management	PC	50	50	100	3	0	0	3
6	18IPC405	Information Coding Techniques	PC	50	50	100	3	0	0	3
7	18IPC406	Operating Systems	PC	50	50	100	3	0	0	3
8	18IPC408	Database Design and Management Laboratory	PC	50	50	100	0	0	3	1.5
9	18IPC409	Operating Systems Laboratory	PC	50	50	100	0	0	3	1.5
10	18IPC502	Web Technology	PC	50	50	100	3	0	0	3
11	18IPC503	Data Communication and Networking	PC	50	50	100	3	0	0	3
12	18IPC504	Analysis and Design of Algorithms	PC	50	50	100	3	0	0	3
13	18IPC507	Data Communication and Networking Laboratory	PC	50	50	100	0	0	3	1.5
14	18IPC601	Fundamentals of Machine Learning	PC	50	50	100	3	0	0	3
15	18IPC602	Software Engineering	PC	50	50	100	3	0	0	3
16	18IPC603	Fundamentals of Digital Signal Processing	PC	50	50	100	3	0	0	3
17	18IVL607	Machine Learning Laboratory	PC	50	50	100	0	0	3	1.5
18	18IPC702	Cryptography and Network Security	PC	50	50	100	3	0	0	3
19	18IPC703	Internet of Things and its Applications	PC	50	50	100	3	0	0	3
20	18IPC707	Internet of Things Laboratory	PC	50	50	100	0	0	3	1.5

**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPES01	Data Mining and Data Warehousing	PE	50	50	100	3	0	0	3
2	18IPES02	Wireless Sensor Networks	PE	50	50	100	3	0	0	3
3	18IPES03	Software Testing	PE	50	50	100	3	0	0	3
4	18IPES04	Software Project Management	PE	50	50	100	3	0	0	3
5	18IPES05	Software Quality Assurance	PE	50	50	100	3	0	0	3
6	18IPES06	Enterprise Resource Planning	PE	50	50	100	3	0	0	3
7	18IPES07	Intellectual Property Rights	PE	50	50	100	3	0	0	3
8	18IPES08	Information Retrieval	PE	50	50	100	3	0	0	3
9	18IPES09	Embedded System	PE	50	50	100	3	0	0	3
10	18IPES10	Cloud Computing	PE	50	50	100	3	0	0	3
11	18IPES11	Advanced Data Structures	PE	50	50	100	3	0	0	3
12	18IPES12	Foundations of Information Security	PE	50	50	100	3	0	0	3
13	18IPES13	Distributed Systems	PE	50	50	100	3	0	0	3
14	18IPES14	Soft Computing	PE	50	50	100	3	0	0	3
15	18IPES15	XML and Web Services	PE	50	50	100	3	0	0	3
16	18IPES16	Semantic Web	PE	50	50	100	3	0	0	3
17	18IPES17	Service Oriented Architecture	PE	50	50	100	3	0	0	3
18	18IPES18	Virtualization Techniques	PE	50	50	100	3	0	0	3
19	18IPES19	Fundamentals of Automata Theory	PE	50	50	100	3	0	0	3
20	18IPES20	Virtual and Augmented Reality	PE	50	50	100	3	0	0	3
21	18IPES21	Introduction to Natural Language Processing	PE	50	50	100	3	0	0	3
22	18IPES22	Artificial Intelligence and Applications	PE	50	50	100	3	0	0	3
23	18IPES23	Mobile Computing	PE	50	50	100	3	0	0	3
24	18IPES24	Human Computer Interface	PE	50	50	100	3	0	0	3
25	18IPES25	Social Network Analysis	PE	50	50	100	3	0	0	3
26	18IPES26	Foundations of Image Processing	PE	50	50	100	3	0	0	3
27	18IPES27	Pervasive Computing	PE	50	50	100	3	0	0	3
28	18IPES28	Software Defined Networking	PE	50	50	100	3	0	0	3
29	18IPES29	Computer Graphics	PE	50	50	100	3	0	0	3
30	18IPES30	Data Analytics*	PE	50	50	100	3	0	0	3



**OPEN ELECTIVES (O.E)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

**EMPLOYABILITY ENHANCEMENT COURSES (EEC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IEE508	Web Technology and Application Development Laboratory	EEC	50	50	100	0	0	4	2
2	18IEE608	Open source and tools laboratory	EEC	50	50	100	0	0	3	1.5
3	18IEE708	Mini Project	EEC	50	50	100	0	0	8	4
4	18IEE801	Project Work	EEC	50	50	100	0	0	16	8



**MANDATORY COURSES (MC) (NO CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IMC3Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
2	18IMC4Z7	Constitution of India	MC	50	50	100	3	0	0	0

**VALUE ADDED COURSES (VA) (ONE CREDIT)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IVA\$01	R Programming	VA	100	-	100	1	0	0	1
2	18IVA\$02	Ethical Hacking	VA	100	-	100	0	0	2	1
3	18IVA\$03	.NET Framework	VA	100	-	100	1	0	0	1
4	18IVA\$04	Automated Testing	VA	100	-	100	1	0	0	1
5	18IVA\$05	User Interface Technologies	VA	100	-	100	0	0	2	1
6	18IVA\$06	Unified Modelling Language	VA	100	-	100	0	0	2	1
7	18IVA\$07	Hardware Troubleshooting Techniques	VA	100	-	100	0	0	2	1
8	18IVA\$08	Electronic circuits	VA	100	-	100	1	0	0	1
9	18IVA\$09*	Android Malware Analysis	VA	100	-	100	0	0	2	1
10	18IVA\$10	Aptitude I	VA	100	-	100	1	0	0	1
11	18IVA\$11	Aptitude II	VA	100	-	100	1	0	0	1
12	18IVA\$12	Aptitude III	VA	100	-	100	1	0	0	1

\* - Industry Offered Course

  
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**CURRICULAM DESIGN FOR CBCS 2018 REGULATIONS**

**FULL TIME B.E INFORMATION TECHNOLOGY ENGINEERING( U.G)**

**SUMMARY**

S.No	Category	Credits Per Semester								Total Credits	AICTE Suggested Credits.
		I	II	III	IV	V	VI	VII	VIII		
1	HS	3			3	3		3		12	12
2	BS	9.5	9.5	4	3					26	25
3	ES	7.5	8.5	11.5						27.5	24
4	PC			7.5	15	10.5	10.5	7.5		51	48
5	PE					3	3	6	6	18	18
6	OE					3	6	3		12	18
7	EEC					2	1.5	4	8	15.5	15
8	MC	0		0	0					0	0
<b>Total</b>		<b>20</b>	<b>18</b>	<b>23</b>	<b>21</b>	<b>21.5</b>	<b>21</b>	<b>23.5</b>	<b>14</b>	<b>162</b>	<b>160</b>

HS	Humanities and Social Sciences including Management
BS	Basic Sciences
ES	Engineering Sciences
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course
VA	Value Added Course

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.TECH. INDUSTRIAL BIOTECHNOLOGY**

**CBCS 2018 REGULATIONS**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18BBS101	Chemistry for Biotechnology	BS	50	50	100	3	1	0	4
2	18BBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18BES103	Basics of Electrical and Electronics Engineering	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
4	18BBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
5	18BES105	Basics of Electrical and Electronics Engineering Laboratory	ES	50	50	100	0	0	3	1.5
6	18BES106	Engineering Graphics	ES	50	50	100	2	0	4	4
		<b>TOTAL</b>		<b>300</b>	<b>300</b>	<b>600</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>18</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18BHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18BBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
3	18BBS203	Mechanics and Properties of Solids	BS	50	50	100	3	1	0	4
4	18BES204	Programming in C	ES	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
5	18BBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
6	18BES206	Workshop Practice	ES	50	50	100	1	0	4	3
7	18BES207	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>

**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

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**THIRD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1.	18BBS301	Transform Calculus and Partial Differential Equations	BS	50	50	100	3	1	0	4
2.	18BBS302	Microbiology	BS	50	50	100	3	0	0	3
3.	18BES303	Fluid Mechanics	ES	50	50	100	2	1	0	3
4.	18BPC304	Cell Biology	PC	50	50	100	3	0	0	3
5.	18BPC305	Biochemistry	PC	50	50	100	3	0	0	3
6.	18BMC3Z6	Constitution of India	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
7.	18BPC307	Microbiology Laboratory	PC	50	50	100	0	0	4	2
8.	18BPC308	Biochemistry Laboratory	PC	50	50	100	0	0	4	2
9.	18BPC309	Cell Biology Laboratory	PC	50	50	100	0	0	4	2
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>17</b>	<b>2</b>	<b>12</b>	<b>22</b>

**FOURTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1.	18BES401	Process Calculations and Heat Transfer	ES	50	50	100	3	1	0	4
2.	18BPC402	Basics of Industrial Biotechnology	PC	50	50	100	3	0	0	3
3.	18BPC403	Molecular Biology	PC	50	50	100	3	0	0	3
4.	18BPC404	Biochemical Thermodynamics	PC	50	50	100	2	1	0	3
5.	18BPC405	Analytical Techniques in Biotechnology	PC	50	50	100	3	0	0	3
6.	18BPC406	Enzyme Engineering and Technology	PC	50	50	100	3	0	0	3
7.	18BMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
		<b>PRACTICAL</b>								
8.	18BES408	Chemical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
9.	18BPC409	Analytical Techniques Laboratory	PC	50	50	100	0	0	3	1.5
		<b>TOTAL</b>		<b>450</b>	<b>450</b>	<b>900</b>	<b>20</b>	<b>2</b>	<b>6</b>	<b>22</b>

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**B.TECH. INDUSTRIAL BIOTECHNOLOGY**

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**FIFTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1.	18BHS501	Clinical Trials and Bioethics	HS	50	50	100	3	0	0	3
2.	18BES502	Mass Transfer Operations	ES	50	50	100	2	1	0	3
3.	18BPC503	Bioprocess Principles	PC	50	50	100	2	1	0	3
4.	18BPC504	Genetic Engineering	PC	50	50	100	3	0	0	3
5.	18BPE5XX	Professional Elective I	PE	50	50	100	3	0	0	3
6.	18#OE5XX	Open Elective I	OE	50	50	100	3	0	0	3
<b>PRACTICAL</b>										
7.	18BHS507	Business Communication Skills Laboratory	HS	50	50	100	0	0	2	1
8.	18BPC508	Bioprocess Laboratory I	PC	50	50	100	0	0	3	1.5
9.	18BPC509	Molecular Biology and Genetic Engineering Laboratory	PC	50	50	100	0	0	4	2
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>16</b>	<b>2</b>	<b>9</b>	<b>22.5</b>

**SIXTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1.	18BPC601	Immunology	PC	50	50	100	3	0	0	3
2.	18BPC602	Bioinformatics	PC	50	50	100	3	0	0	3
3.	18BPC603	Bioprocess Engineering	PC	50	50	100	2	1	0	3
4.	18#OE6XX	Open Elective II	OE	50	50	100	3	0	0	3
5.	18#OE6XX	Open Elective III	OE	50	50	100	3	0	0	3
6.	18BEE606	Chemical Reaction Engineering	EEC	50	50	100	2	1	0	3
<b>PRACTICAL</b>										
7.	18BPC607	Bioinformatics Laboratory	PC	50	50	100	0	0	2	1
8.	18BPC608	Bioprocess Engineering Laboratory	PC	50	50	100	0	0	4	2
9.	18BPC609	Immunology Laboratory	PC	50	50	100	0	0	3	1.5
<b>TOTAL</b>				<b>450</b>	<b>450</b>	<b>900</b>	<b>16</b>	<b>2</b>	<b>9</b>	<b>22.5</b>

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**B.TECH. INDUSTRIAL BIOTECHNOLOGY**

**CBCS 2018 REGULATIONS**

**SEVENTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1.	18BHS701	Technology Management	HS	50	50	100	3	0	0	3
2.	18BPC702	Downstream Processing	PC	50	50	100	2	1	0	3
3.	18BPE7XX	Professional Elective II	PE	50	50	100	3	0	0	3
4.	18BPE7XX	Professional Elective III	PE	50	50	100	3	0	0	3
5.	18BPE7XX	Professional Elective IV	PE	50	50	100	3	0	0	3
6.	18#OE7XX	Open Elective IV	OE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
7.	18BPC707	Downstream Processing Laboratory	PC	50	50	100	0	0	4	2
8.	18BEE708	Mini Project	EEC	50	50	100	0	0	8	4
		<b>TOTAL</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>12</b>	<b>24</b>

**EIGHTH SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
		<b>THEORY</b>								
1	18BPE8XX	Professional Elective V	PE	50	50	100	3	0	0	3
2	18BPE8XX	Professional Elective VI	PE	50	50	100	3	0	0	3
		<b>PRACTICAL</b>								
3	18BEE803	Project Work	EEC	50	50	100	0	0	16	8
		<b>TOTAL</b>		<b>150</b>	<b>150</b>	<b>300</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>14</b>

**TOTAL CREDITS IN 2018 CURRICULUM 165**

  
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**CATEGORY-WISE CREDIT DISTRIBUTION**

**HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT (HS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BHS201	Communicative English	HS	50	50	100	2	1	0	3
2	18BHS501	Clinical Trials and Bioethics	HS	50	50	100	3	0	0	3
3	18BHS507	Business Communication Skills Laboratory	HS	50	50	100	0	0	2	1
4	18BHS701	Technology Management	HS	50	50	100	3	0	0	3
<b>TOTAL CREDITS</b>										<b>10</b>

**BASIC SCIENCES (BS)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BBS101	Chemistry for Biotechnology	BS	50	50	100	3	1	0	4
2	18BBS102	Calculus and Linear Algebra	BS	50	50	100	3	1	0	4
3	18BBS104	Chemistry Laboratory	BS	50	50	100	0	0	3	1.5
4	18BBS202	Differential Equations and Complex Variables	BS	50	50	100	3	1	0	4
5	18BBS203	Mechanics and Properties of Solids	BS	50	50	100	3	1	0	4
6	18BBS205	Physics Laboratory	BS	50	50	100	0	0	3	1.5
7	18BBS301	Transform Calculus and Partial Differential Equations	BS	50	50	100	3	1	0	4
8	18BBS302	Microbiology	BS	50	50	100	3	0	0	3
<b>TOTAL CREDITS</b>										<b>26</b>

**ENGINEERING SCIENCES (ES)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BES103	Basics of Electrical and Electronic Engineering	ES	50	50	100	3	0	0	3
2	18BES105	Basics of Electrical and Electronic Engineering Laboratory	ES	50	50	100	0	0	3	1.5
3	18BES106	Engineering Graphics	ES	50	50	100	2	0	4	4
4	18BES204	Programming in C	ES	50	50	100	3	0	0	3
5	18BES206	Workshop Practice	ES	50	50	100	1	0	4	3
6	18BES207	Programming in C Laboratory	ES	50	50	100	0	0	3	1.5
7	18BES303	Fluid Mechanics	ES	50	50	100	2	1	0	3
8	18BES401	Process Calculations and Heat Transfer	ES	50	50	100	3	1	0	4
9	18BES408	Chemical Engineering Laboratory	ES	50	50	100	0	0	3	1.5
10	18BES502	Mass Transfer Operations	ES	50	50	100	2	1	0	3
<b>TOTAL CREDITS</b>										<b>27.5</b>

**PROFESSIONAL CORE (PC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18BPC304	Cell Biology	PC	50	50	100	3	0	0	3
2.	18BPC305	Biochemistry	PC	50	50	100	3	0	0	3
3.	18BPC307	Microbiology Laboratory	PC	50	50	100	0	0	4	2
4.	18BPC308	Biochemistry Laboratory	PC	50	50	100	0	0	4	2
5.	18BPC309	Cell Biology Laboratory	PC	50	50	100	0	0	4	2
6.	18BPC402	Basics of Industrial Biotechnology	PC	50	50	100	3	0	0	3
7.	18BPC403	Molecular Biology	PC	50	50	100	3	0	0	3
8.	18BPC404	Biochemical Thermodynamics	PC	50	50	100	2	1	0	3
9.	18BPC405	Analytical Techniques in Biotechnology	PC	50	50	100	3	0	0	3
10.	18BPC406	Enzyme Engineering and Technology	PC	50	50	100	3	0	0	3
11.	18BPC409	Analytical Techniques Laboratory	PC	50	50	100	0	0	3	1.5
12.	18BPC503	Bioprocess Principles	PC	50	50	100	2	1	0	3
13.	18BPC504	Genetic Engineering		50	50	100	3	0	0	3
14.	18BPC508	Bioprocess Laboratory I	PC	50	50	100	0	0	3	1.5
15.	18BPC509	Molecular Biology and Genetic Engineering Laboratory	PC	50	50	100	0	0	4	2
16.	18BPC601	Immunology	PC	50	50	100	3	0	0	3
17.	18BPC602	Bioinformatics	PC	50	50	100	3	0	0	3
18.	18BPC603	Bioprocess Engineering	PC	50	50	100	2	1	0	3
19.	18BPC607	Bioinformatics Laboratory	PC	50	50	100	0	0	2	1
20.	18BPC608	Bioprocess Engineering Laboratory	PC	50	50	100	0	0	4	2
21.	18BPC609	Immunology Laboratory	PC	50	50	100	0	0	3	1.5
22.	18BPC702	Downstream Processing	PC	50	50	100	2	1	0	3
23.	18BPC708	Downstream Processing Laboratory	PC	50	50	100	0	0	4	2
<b>TOTAL CREDITS</b>							<b>56.5</b>			



**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18BPES01	Biofuels	PE	50	50	100	3	0	0	3
2.	18BPES02	Biopolymer Technology	PE	50	50	100	3	0	0	3
3.	18BPES03	Industrial Hazard Management	PE	50	50	100	3	0	0	3
4.	18BPES04	Food Process Engineering	PE	50	50	100	3	0	0	3
5.	18BPES05	Medical Biotechnology	PE	50	50	100	3	0	0	3
6.	18BPES06	Marine Biotechnology	PE	50	50	100	3	0	0	3
7.	18BPES07	Plant Biotechnology	PE	50	50	100	3	0	0	3
8.	18BPES08	Cancer Biology	PE	50	50	100	3	0	0	3
9.	18BPES09	Environmental Biotechnology	PE	50	50	100	3	0	0	3
10.	18BPES10	Molecular Pathogenesis	PE	50	50	100	3	0	0	3
11.	18BPES11	Nanobiotechnology	PE	50	50	100	3	0	0	3
12.	18BPES12	Animal Biotechnology	PE	50	50	100	3	0	0	3
13.	18BPES13	Genomics and Proteomics	PE	50	50	100	3	0	0	3
14.	18BPES14	Mathematical and Numerical Methods for Biotechnology	PE	50	50	100	3	0	0	3
15.	18BPES15	Bioentrepreneurship	PE	50	50	100	3	0	0	3
16.	18BPES16	Immunotechnology	PE	50	50	100	3	0	0	3
17.	18BPES17	Biopharmaceutical Technology	PE	50	50	100	3	0	0	3
18.	18BPES18	Bioprocess Economics and Plant Design	PE	50	50	100	3	0	0	3
19.	18BPES19	Tissue Engineering	PE	50	50	100	3	0	0	3
20.	18BPES20	Metabolic Engineering	PE	50	50	100	3	0	0	3
21.	18BPES21	Protein Engineering	PE	50	50	100	3	0	0	3
22.	18BPES22	Pharmacogenomics	PE	50	50	100	3	0	0	3
23.	18BPES23	Genetics	PE	50	50	100	3	0	0	3
24.	18BPES24	Biostatistics	PE	50	50	100	3	0	0	3

  
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**OPEN ELECTIVES (OE)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18COE\$01	Climate Change and Adaptation	OE	50	50	100	3	0	0	3
2.	18COE\$02	Disaster Management and Mitigation	OE	50	50	100	3	0	0	3
3.	18COE\$03	Energy Efficient Buildings	OE	50	50	100	3	0	0	3
4.	18MOE\$04	Nanotechnology and Surface Engineering	OE	50	50	100	3	0	0	3
5.	18MOE\$05	Mechatronics	OE	50	50	100	3	0	0	3
6.	18MOE\$06	Renewable Energy Sources	OE	50	50	100	3	0	0	3
7.	18EOE\$07	Renewable Power Generation Systems	OE	50	50	100	3	0	0	3
8.	18EOE\$08	Electric Vehicles	OE	50	50	100	3	0	0	3
9.	18EOE\$09	Smart Grid Systems	OE	50	50	100	3	0	0	3
10.	18LOE\$10	Mobile Communication	OE	50	50	100	3	0	0	3
11.	18LOE\$11	Introduction to VLSI System Design	OE	50	50	100	3	0	0	3
12.	18LOE\$12	Microcontroller and Applications	OE	50	50	100	3	0	0	3
13.	18POE\$13	Rapid Prototyping	OE	50	50	100	3	0	0	3
14.	18POE\$14	Managerial Economics	OE	50	50	100	3	0	0	3
15.	18POE\$15	Hydraulics and Pneumatics	OE	50	50	100	3	0	0	3
16.	18NOE\$16	Measurement and Control	OE	50	50	100	3	0	0	3
17.	18NOE\$17	Industrial Automation	OE	50	50	100	3	0	0	3
18.	18NOE\$18	Virtual Instrumentation	OE	50	50	100	3	0	0	3
19.	18SOE\$19	Programming in Java	OE	50	50	100	3	0	0	3
20.	18SOE\$20	Cyber Security	OE	50	50	100	3	0	0	3
21.	18SOE\$21	Network Essentials	OE	50	50	100	3	0	0	3
22.	18IOE\$22	Programming in Python	OE	50	50	100	3	0	0	3
23.	18IOE\$23	Big Data Science	OE	50	50	100	3	0	0	3
24.	18IOE\$24	Object Oriented Programming Using C++	OE	50	50	100	3	0	0	3
25.	18BOE\$25	Computational Biology	OE	50	50	100	3	0	0	3
26.	18BOE\$26	Fundamental Concepts of Biology for Engineers	OE	50	50	100	3	0	0	3
27.	18BOE\$27	Fundamentals of Bioengineering	OE	50	50	100	3	0	0	3

  
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**EMPLOYABILITY ENHANCEMENT COURSES (EEC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BEE606	Chemical Reaction Engineering	EEC	50	50	100	2	1	0	3
2	18BEE708	Mini Project	EEC	50	50	100	0	0	8	4
3	18BEE801	Project Work	EEC	50	50	100	0	0	16	8
<b>TOTAL CREDITS</b>							<b>2</b>	<b>1</b>	<b>24</b>	<b>15</b>

**MANDATORY COURSES (MC)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BMC3Z6	Constitution of India	MC	50	50	100	3	0	0	0
2	18BMC4Z7	Environmental Sciences and Engineering	MC	50	50	100	3	0	0	0
<b>TOTAL CREDITS</b>										<b>0</b>

**VALUE ADDED COURSES (VA)**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BVA\$01	Introduction to Food Safety and Preservation	VA	100	-	100	1	0	0	1
2	18BVA\$02	Safety Practices and Management in Process Industries	VA	100	-	100	1	0	0	1
<b>TOTAL CREDITS</b>										<b>2</b>

  
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**CURRICULAM DESIGN FOR CBCS 2018 REGULATIONS**

**FULL TIME B.TECH. INDUSTRIAL BIOTECHNOLOGY (U.G)**

**SUMMARY**

Sl.No	Category	Credits Per Semester								Total Credits	% of Credits	AICTE Suggested Credits.
		I	II	III	IV	V	VI	VII	VIII			
1	HS		3			4		3		10	6.1	12
2	BS	9.5	9.5	7						26	15.8	25
3	ES	8.5	7.5	3	5.5	3				27.5	16.7	24
4	PC			12	16.5	9.5	13.5	5		56.5	34.2	48
5	PE					3		9	6	18	10.9	18
6	OE					3	6	3		12	7.3	18
7	EEC						3	4	8	15	9.1	15
8	MC			0	0					0	0	0
<b>Total</b>		<b>18</b>	<b>20</b>	<b>22</b>	<b>22</b>	<b>22.5</b>	<b>22.5</b>	<b>24</b>	<b>14</b>	<b>165</b>	<b>100</b>	<b>160</b>

HS	Humanities and Social Sciences including Management
BS	Basic Sciences
ES	Engineering Sciences
PC	Professional Core
PE	Professional Elective
OE	Open Elective
EEC	Employability Enhancement Courses
MC	Mandatory Course

  
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# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution - Anna University, Chennai )

COIMBATORE - 641 013

## OFFICE OF THE CONTROLLER OF EXAMINATIONS

### 30<sup>th</sup> ACADEMIC COUNCIL

#### ITEM 30.10

Approval of 2018 regulations M.E. Curriculum and syllabi (Course Objective, Course Outcomes, Course content , CO-PO & PSO mapping matrix).

ANNEXURE - F
M.E. STRUCTURAL ENGINEERING
M.E. ENVIRONMENTAL ENGINEERING
M.E. GEOTECHNICAL ENGINEERING
M.E. ENGINEERING DESIGN
M.E. MANUFACTURING ENGINEERING
M.E. THERMAL ENGINEERING
M.E. POWER SYSTEMS ENGINEERING
M.E. POWER ELECTRONICS AND DRIVES
M.E. APPLIED ELECTRONICS
M.E. VLSI DESIGN
M.E. COMPUTER SCIENCE AND ENGINEERING

  
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**M.E. STRUCTURAL ENGINEERING  
CURRICULUM**

(Full Time Candidates admitted during 2018-2019 and onwards)

**FIRST SEMESTER**

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18SEFCZI	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2	18SEPC01	Computer Methods of Structural Analysis	PC	50	50	100	3	3	0	0	3
3	18SEPC02	Design of Advanced Reinforced concrete structures	PC	50	50	100	3	3	0	0	3
4	18SEPC03	Theory of Elasticity and Plasticity	PC	50	50	100	3	3	0	0	3
5	18SEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
6	18SEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
7	18SEACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8	18SEPC04	Experimental Techniques Laboratory	PC	50	50	100	3	0	0	3	1.5
		<b>Total</b>		<b>400</b>	<b>400</b>	<b>800</b>	<b>23</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>19.5</b>

  
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## SEMESTER –II

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18SEPC05	Finite Element Analysis	PC	50	50	100	3	3	0	0	3
2	18SEPC06	Structural Dynamics	PC	50	50	100	3	3	0	0	3
3	18SEPC07	Advanced Steel Structures	PC	50	50	100	3	3	0	0	3
4	18SEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
5	18SEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
6	18SEACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
7	18SEPC08	Finite Element analysis and Applications Laboratory	PC	50	50	100	3	0	0	3	1.5
8	18SEEE01	Design Project	EEC	50	50	100	4	0	0	4	2
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>24</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>

  
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### SEMESTER –III

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18SEPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
2	18\$OEXX	Open Elective I	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3	18SEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### SEMESTER –IV

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18SEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

**TOTAL CREDITS: 70**

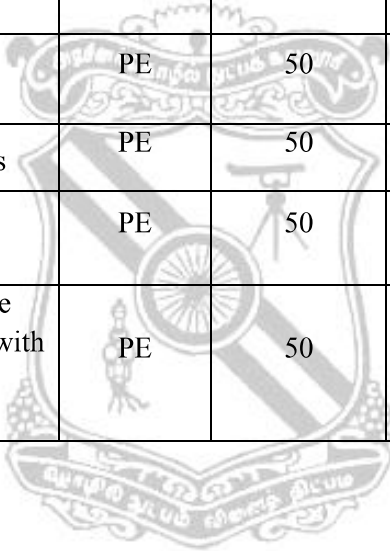
  
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## LIST OF PROFESSIONAL ELECTIVES FOR M.E STRUCTURAL ENGINEERING

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18SEPE01	Analytical and Numerical Methods (Common with ME Geotechnical Engineering)	PE	50	50	100	3	3	0	0	3
2	18SEPE02	Structural Optimization	PE	50	50	100	3	3	0	0	3
3	18SEPE03	Analysis of Laminated Composite Plates	PE	50	50	100	3	3	0	0	3
4	18SEPE04	Soil Structure Interaction (Common with ME Geotechnical Engineering)	PE	50	50	100	3	3	0	0	3
5	18SEPE05	Environmental Engineering Structures (Common with ME Environmental & Geotechnical Engineering)	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
6	18SEPE06	Stability of Structures	PE	50	50	100	3	3	0	0	3
7	18SEPE07	Theory and Applications of Cement Composites	PE	50	50	100	3	3	0	0	3
8	18SEPE08	Advanced Concrete Technology	PE	50	50	100	3	3	0	0	3
9	18SEPE09	Fracture Mechanics	PE	50	50	100	3	3	0	0	3
10	18SEPE10	Substructure Design	PE	50	50	100	3	3	0	0	3
11	18SEPE11	Design of Advanced Industrial Structures	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
12	18SEPE12	Design of Concrete Bridges	PE	50	50	100	3	3	0	0	3
13	18SEPE13	Prestressed Concrete Structures	PE	50	50	100	3	3	0	0	3
14	18SEPE14	Plastic Analysis of Structures	PE	50	50	100	3	3	0	0	3
15	18SEPE15	Plates and Shells	PE	50	50	100	3	3	0	0	3
16	18SEPE16	Maintenance and Rehabilitation of Structures	PE	50	50	100	3	3	0	0	3
17	18SEPE17	Smart Materials and Smart Structures	PE	50	50	100	3	3	0	0	3

PROFESSIONAL ELECTIVE IV											
18	18SEPE18	Structural Health Monitoring	PE	50	50	100	3	3	0	0	3
19	18SEPE19	Design of Formwork	PE	50	50	100	3	3	0	0	3
20	18SEPE20	Experimental Techniques and Instrumentation	PE	50	50	100	3	3	0	0	3
21	18SEPE21	Design of Steel Concrete Composite Structures	PE	50	50	100	3	3	0	0	3
22	18SEPE22	Prefabricated Structures	PE	50	50	100	3	3	0	0	3
23	18SEPE23	Offshore Structures	PE	50	50	100	3	3	0	0	3
PROFESSIONAL ELECTIVE V											
24	18SEPE24	Corrosion Engineering	PE	50	50	100	3	3	0	0	3
25	18SEPE25	Earthquake Resistant Design of Structures	PE	50	50	100	3	3	0	0	3
26	18SEPE26	Design of Structures for Dynamic Loads	PE	50	50	100	3	3	0	0	3
27	18SEPE27	Design of Tall Buildings	PE	50	50	100	3	3	0	0	3
28	18SEPE28	Cold Formed Steel Structures	PE	50	50	100	3	3	0	0	3
29	18SEPE29	Geotechnical Earthquake Engineering (Common with ME Geotechnical Engineering)	PE	50	50	100	3	3	0	0	3



  
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**LIST OF OPEN ELECTIVES FOR M.E STRUCTURAL ENGINEERING**

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3

20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

  
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## LIST OF AUDIT COURSES FOR M.E STRUCTURAL ENGINEERING

S. No.	Subject Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18SEACZ1	English for Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18SEACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18SEACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18SEACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18SEACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18SEACZ6	Stress Management by Yoga	AC	50	50	100	2	2	0	0	0
7	18SEACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18SEACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0

## CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	3	0	0	0	3	4.29 %
2.	Professional Cores	13.5	10.5	0	0	24	34.29 %
3.	Professional Electives	3	6	3	0	12	17.14 %
4.	Employability Enhancement Courses	0	2	10	16	28	40 %
5.	Open Elective Courses	0	0	3	0	03	4.29 %
<b>Total Credits</b>		<b>19.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>70</b>	<b>100%</b>

**CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS**

**TWO YEAR M.E PROGRAMME**

**ENVIRONMENTAL ENGINEERING**

**CHOICE BASED CREDIT SYSTEM-CURRICULUM**

**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1.	18EEFCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2.	18EEPC01	Statistical methods for Environmental Engineers	PC	50	50	100	3	3	0	0	3
3.	18EEPC02	Air Quality Management	PC	50	50	100	3	3	0	0	3
4.	18EEPC03	Transport of water and wastewater	PC	50	50	100	3	3	0	0	3
5.	18EEPC04	Physico –chemical processes for water and wastewater treatment	PC	50	50	100	3	3	0	0	3
6.	18EEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
7.	18EEACXX	Audit course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8.	18EEPC05	Environmental chemistry and Microbiology Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>23</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>19.5</b>

  
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### SECOND SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1.	18EEPC06	Biological processes for wastewater treatment	PC	50	50	100	3	3	0	0	3
2.	18EEPC07	Solid and Hazardous waste management	PC	50	50	100	3	3	0	0	3
3.	18EEPC08	Industrial wastewater management	PC	50	50	100	3	3	0	0	3
4.	18EEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
5.	18EEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
6.	18EEACXX	Audit course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
7.	18EEPC09	Unit operation and processes laboratory	PC	50	50	100	3	0	0	3	1.5
8.	18EEEE01	Mini project	EEC	50	50	100	4	0	0	4	2
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>24</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>

### THIRD SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1.	18EEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
2.	18SOEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3.	18EEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Practical</b>											
1.	18EEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

**TOTAL CREDITS: 70**

**LIST OF PROFESSIONAL ELECTIVES FOR M.E. ENVIRONMENTAL ENGINEERING**

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18EEPE01	Water Quantity Modeling	PE	50	50	100	3	3	0	0	3
2	18EEPE02	Role of environmental legislation in industries	PE	50	50	100	3	3	0	0	3
3	18EEPE03	Environmental Engineering Structures	PE	50	50	100	3	3	0	0	3
4	18EEPE04	Environmental Biotechnology	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
5	18EEPE05	Instrumentation, Selection and Management of Environmental Engineering Equipments	PE	50	50	100	3	3	0	0	3
6	18EEPE06	Operation and Maintenance of Water and Waste Water Treatment Systems	PE	50	50	100	3	3	0	0	3
7	18EEPE07	Computing Techniques in Environmental Engineering	PE	50	50	100	3	3	0	0	3
8	18EEPE08	Ground water contamination and transport modeling	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
9	18EEPE09	Environmental Impact and Risk Assessment	PE	50	50	100	3	3	0	0	3
10	18EEPE10	Membrane separation for water and wastewater Treatment	PE	50	50	100	3	3	0	0	3
11	18EEPE11	Environmental Reaction Engineering	PE	50	50	100	3	3	0	0	3
12	18EEPE12	Environmental System Analysis	PE	50	50	100	3	3	0	0	3



**PROFESSIONAL ELECTIVE IV**

13	18EEPE13	Remote Sensing and GIS Applications in Environmental Engineering	PE	50	50	100	3	3	0	0	3
14	18EEPE14	Air and Noise Quality Modeling	PE	50	50	100	3	3	0	0	3
15	18EEPE15	Environmental Auditing and New Product Management	PE	50	50	100	3	3	0	0	3
16	18EEPE16	Advanced Wastewater Treatment and Reuse	PE	50	50	100	3	3	0	0	3



  
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## LIST OF OPEN ELECTIVES FOR M.E. ENVIRONMENTAL ENGINEERING

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3

20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3


  
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### LIST OF AUDIT COURSES (AC)

S. No.	Subject Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18EEACZ1	English For Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18EEACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18EEACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18EEACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18EEACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18EEACZ6	Stress Management By Yoga	AC	50	50	100	2	2	0	0	0
7	18EEACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18EEACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

S. No	Course Work Subject Area	No of Credits					Total	Percentage
		I	II	III	IV			
1.	Foundation Course	3	0	0	0	3	4.29 %	
2.	Professional Cores	10.5	10.5	0	0	21	30 %	
3.	Professional Electives	6	6	3	0	15	21.43 %	
4.	Employability Enhancement Courses	0	2	10	16	28	40 %	
5.	Open Elective Courses	0	0	3	0	03	4.29 %	
<b>Total Credits</b>		<b>19.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>70</b>	<b>100%</b>	

  
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**CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS**

**TWO YEAR M.E. PROGRAMME  
GEOTECHNICAL ENGINEERING  
CHOICE BASED CREDIT SYSTEM-CURRICULUM**

*(Full Time Candidates admitted during 2018 – 2019 and onwards)*

**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18GEFCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2	18GEPC01	Advanced Foundation Engineering	PC	50	50	100	3	3	0	0	3
3	18GEPC02	Strength and Deformation Characteristics of Soils	PC	50	50	100	3	3	0	0	3
4	18GEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
5	18GEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
6	18GEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
7	18GEACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8	18GEPC03	Soil Mechanics Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>23</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>19.5</b>

**SECOND SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1.	18GEPC04	Soil Dynamics and Machine Foundations	PC	50	50	100	3	3	0	0	3
2.	18GEPC05	Site Exploration and Soil Investigation	PC	50	50	100	3	3	0	0	3
3	18GEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
4	18GEPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
5	18GEACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
6	18GEEE01	Mini Project	EEC	50	50	100	4	0	0	4	2
7	18GEPC06	Subsoil Exploration Laboratory	PC	50	50	100	3	0	0	3	1.5
8	18GEPC07	Finite Element Analysis Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>24</b>	<b>14</b>	<b>0</b>	<b>10</b>	<b>17</b>

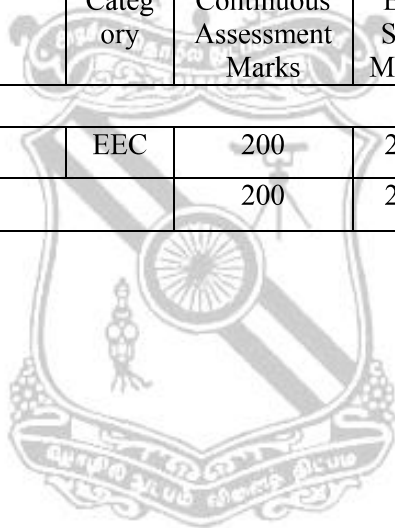
### THIRD SEMESTER


S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18GEPEXX	Professional Elective VI	PE	50	50	100	3	3	0	0	3
2	18\$OEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3	18GEEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18GEEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

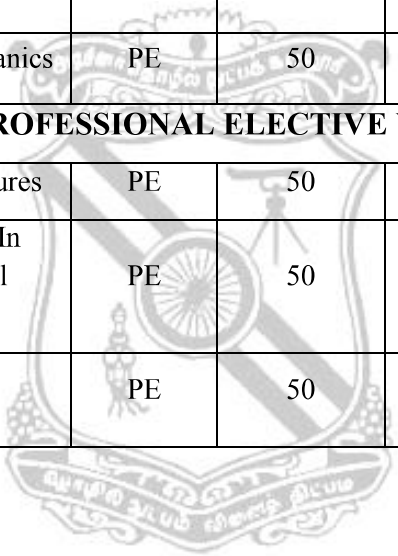
**TOTAL CREDITS: 68.5**



  
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LIST OF PROFESSIONAL ELECTIVES FOR M.E.GEOTECHNICAL ENGINEERING											
S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18GEPE01	Analytical and Numerical Methods (Common with M.E. Structural Engg.)	PE	50	50	100	3	3	0	0	3
2	18GEPE02	Remote Sensing and its Applications In Geotechnical Engineering	PE	50	50	100	3	3	0	0	3
3	18GEPE03	Soil Properties and Behaviour	PE	50	50	100	3	3	0	0	3
4	18GEPE04	Reinforced Soil Structures	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
5	18GEPE05	Finite Element Analysis	PE	50	50	100	3	3	0	0	3
6	18GEPE06	Foundation in Expansive Soils	PE	50	50	100	3	3	0	0	3
7	18GEPE07	Soil Structure Interaction (Common with M.E. Structural Engg.)	PE	50	50	100	3	3	0	0	3
8	18GEPE08	Environmental Engineering Structures (Common with M.E. Structural Engg. and M.E. Environmental Engg.)	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
9	18GEPE09	Rock Mechanics in Engineering Practice	PE	50	50	100	3	3	0	0	3
10	18GEPE10	Geotechnical Earthquake Engineering (Common with M.E. Structural Engg.)	PE	50	50	100	3	3	0	0	3
11	18GEPE11	Design of Underground Excavations	PE	50	50	100	3	3	0	0	3
12	18GEPE12	Computational Geomechanics	PE	50	50	100	3	3	0	0	3

PROFESSIONAL ELECTIVE IV											
13	18GEPE13	Slope Stability and Landslides	PE	50	50	100	3	3	0	0	3
14	18GEPE14	Geology in Geotechnical Engineering	PE	50	50	100	3	3	0	0	3
15	18GEPE15	Structural Design of Foundations and Substructures	PE	50	50	100	3	3	0	0	3
16	18GEPE16	Land Reclamation	PE	50	50	100	3	3	0	0	3
PROFESSIONAL ELECTIVE V											
17	18GEPE17	Environmental Geotechnology	PE	50	50	100	3	3	0	0	3
18	18GEPE18	Pavement Engineering	PE	50	50	100	3	3	0	0	3
19	18GEPE19	Theoretical Soil Mechanics	PE	50	50	100	3	3	0	0	3
PROFESSIONAL ELECTIVE VI											
20	18GEPE20	Earth Retaining Structures	PE	50	50	100	3	3	0	0	3
21	18GEPE21	Professional Practices In Design of Geotechnical Structures	PE	50	50	100	3	3	0	0	3
22	18GEPE22	Ground Improvement Techniques	PE	50	50	100	3	3	0	0	3



  
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## LIST OF OPEN ELECTIVES FOR M.E.GEOTECHNICAL ENGINEERING

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3

18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

### LIST OF AUDIT COURSES

S. No.	Subject Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18GEACZ1	English For Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18GEACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18GEACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18GEACZ4	Constitution Of India	AC	50	50	100	2	2	0	0	0
5	18GEACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18GEACZ6	Stress Management By Yoga	AC	50	50	100	2	2	0	0	0
7	18GEACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18GEACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	3	0	0	0	3	4.38 %
2.	Professional Cores	7.5	9	0	0	16.5	24.09 %
3.	Professional Electives	9	6	3	0	18	26.28 %
4.	Employability Enhancement Courses	0	2	10	16	28	40.88 %
5.	Open Elective Courses	0	0	3	0	03	4.38 %
<b>Total Credits</b>		<b>19.5</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>68.5</b>	<b>100%</b>

  
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## MASTER OF ENGINEERING

CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS

TWO YEAR M.E PROGRAMME

ENGINEERING DESIGN

## CHOICE BASED CREDIT SYSTEM-CURRICULUM

## CURRICULUM

## FIRST SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18EDFCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2	18EDPC01	Mechanics of Materials	PC	50	50	100	3	3	0	0	3
3	18EDPC02	Vibration Analysis and Control	PC	50	50	100	3	3	0	0	3
4	18EDPC03	Design and synthesis of Mechanisms	PC	50	50	100	3	3	0	0	3
5	18EDPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
6	18EDPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
7	18EDACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8	18EDPC04	Vibration Lab	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>23</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>19.5</b>

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## MASTER OF ENGINEERING

## SECOND SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18EDPC05	Finite Element Methods in Mechanical Design	PC	50	50	100	3	3	0	0	3
2	18EDPC06	Computer Applications in Design	PC	50	50	100	3	3	0	0	3
3	18EDPC07	Tribology in Design	PC	50	50	100	3	3	0	0	3
4	18EDPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
5	18EDPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
6	18EDACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
7	18EDPC08	Simulation Lab	PC	50	50	100	3	0	0	3	1.5
8	18EDEE01	MINI PROJECT	EEC	50	50	100	4	0	0	4	2
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>24</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>

## THIRD SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18EDPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
2	18SOEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3	18EDEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

MASTER OF ENGINEERING

FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Practical</b>											
I	18EDEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

TOTAL CREDITS: 70



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## MASTER OF ENGINEERING


## LIST OF PROFESSIONAL ELECTIVES

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18EDPE01	Applied Mathematics for Engineering Design	PE	50	50	100	3	3	0	0	3
2	18EDPE02	Manufacturing Considerations in Design	PE	50	50	100	3	3	0	0	3
3	18EDPE03	Concepts of Engineering Design	PE	50	50	100	3	3	0	0	3
4	18EDPE04	Composite Materials and Mechanics	PE	50	50	100	3	3	0	0	3
5	18EDPE05	Value and Reengineering	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
6	18EDPE06	Mechanical Behaviour of Materials	PE	50	50	100	3	3	0	0	3
7	18EDPE07	Additive Manufacturing	PE	50	50	100	3	3	0	0	3
8	18EDPE08	Quality Concepts in Design	PE	50	50	100	3	3	0	0	3
9	18EDPE09	Creativity in Design	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
10	18EDPE10	Mechanics of fracture	PE	50	50	100	3	3	0	0	3
11	18EDPE11	Sensors for Intelligent Manufacturing	PE	50	50	100	3	3	0	0	3
12	18EDPE12	Vehicular Vibration	PE	50	50	100	3	3	0	0	3
13	18EDPE13	Life Cycle Design	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE IV</b>											
14	18EDPE14	Condition Monitoring and Vibration Control	PE	50	50	100	3	3	0	0	3
15	18EDPE15	Optimization in Design	PE	50	50	100	3	3	0	0	3

## MASTER OF ENGINEERING

16	18EDPE16	Advanced Machine Tool Design	PE	50	50	100	3	3	0	0	3
17	18EDPE17	Systematic Design Approach	PE	50	50	100	3	3	0	0	3
18	18EDPE18	Principles of Product Design	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE V</b>											
19	18EDPE19	Wear analysis and control	PE	50	50	100	3	3	0	0	3
20	18EDPE20	Computational Fluid Dynamics for Design	PE	50	50	100	3	3	0	0	3
21	18EDPE21	Design of Material Handling equipments	PE	50	50	100	3	3	0	0	3
22	18EDPE22	Experimental Stress analysis	PE	50	50	100	3	3	0	0	3
23	18EDPE23	Fluid Power control and Automation	PE	50	50	100	3	3	0	0	3



  
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## MASTER OF ENGINEERING

LIST OF OPEN ELECTIVES											
SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3

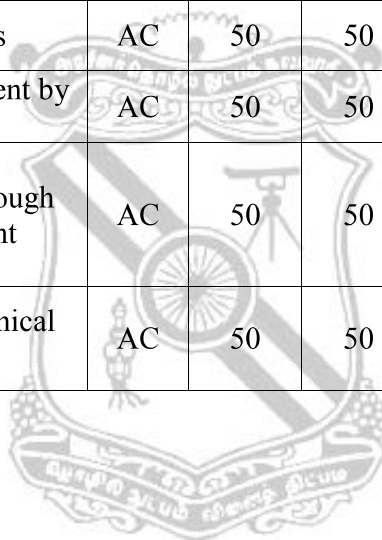
## MASTER OF ENGINEERING

15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

## MASTER OF ENGINEERING

## LIST OF AUDIT COURSES (AC)

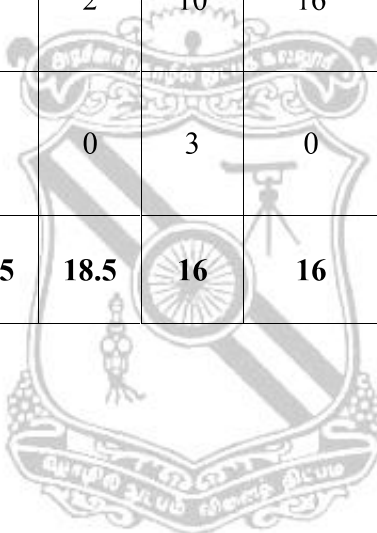
S. No.	Subject Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18EDACZ1	English for research paper writing	AC	50	50	100	2	2	0	0	0
2	18EDACZ2	Disaster management	AC	50	50	100	2	2	0	0	0
3	18EDACZ3	Value education	AC	50	50	100	2	2	0	0	0
4	18EDACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18EDACZ5	Pedagogy studies	AC	50	50	100	2	2	0	0	0
6	18EDACZ6	Stress management by yoga	AC	50	50	100	2	2	0	0	0
7	18EDACZ7	Personality development through life enlightenment skills	AC	50	50	100	2	2	0	0	0
8	18EDACZ8	Sanskrit for technical knowledge	AC	50	50	100	2	2	0	0	0



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## CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	3	0	0	0	3	4.29 %
2.	Professional Cores	10.5	10.5	0	0	21	30 %
3.	Professional Electives	6	6	3	0	15	21.43 %
4.	Employability Enhancement Courses	0	2	10	16	28	40 %
5.	Open Elective Courses	0	0	3	0	3	4.29 %
<b>Total Credits</b>		<b>19.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>70</b>	<b>100 %</b>



  
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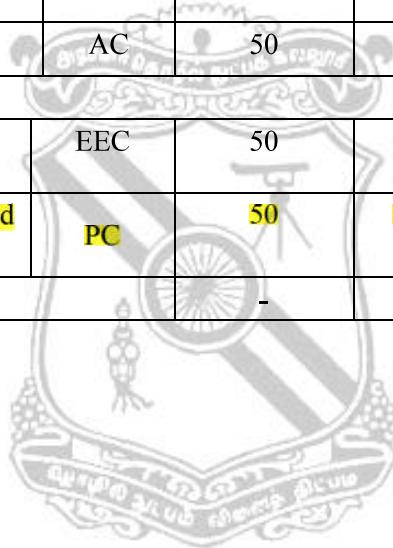
**CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND  
ONWARDS  
TWO YEAR M.E PROGRAMME  
DEPARTMENT OF MANUFACTURING ENGINEERING  
CHOICE BASED CREDIT SYSTEM-CURRICULUM  
FIRST SEMESTER**

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18MFPCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2	18MFPC01	Advanced Machining Processes and Automation	PC	50	50	100	3	3	0	0	3
3	18MFPC02	Automated Computer Integrated Manufacturing Systems	PC	50	50	100	3	3	0	0	3
4	18MFPC03	Additive Manufacturing	PC	50	50	100	3	3	0	0	3
5	18MFPEXX	Professional Elective - I	PE	50	50	100	3	3	0	0	3
6	18MFPEXX	Professional Elective - II	PE	50	50	100	3	3	0	0	3
7	18MFACXX	Audit Course 1	AC	50	50	100	2	2	0	0	0
<b>Practical</b>											
8	18MFPC04	Additive Manufacturing and Automation Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				-	-	<b>800</b>	<b>23</b>	<b>20</b>	-	<b>3</b>	<b>19.5</b>

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## SECOND SEMESTER

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18MFPC05	Materials Testing and Characterization Techniques	PC	50	50	100	3	3	0	0	3
2	18MFPC06	Theory of Metal Cutting	PC	50	50	100	3	3	0	0	3
3	18MFPC07	Advances in Casting and Welding Processes	PC	50	50	100	3	3	0	0	3
4	18MFPEXX	Professional Elective - III	PE	50	50	100	3	3	0	0	3
5	18MFPEXX	Professional Elective - IV	PE	50	50	100	3	3	0	0	3
6	18MFACXX	Audit Course 2	AC	50	50	100	2	2	0	0	0
<b>Practical</b>											
7	18MFEE01	Mini Project	EEC	50	50	100	3	0	0	4	2
8	18MFPC08	Material Processing and Testing Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				-	-	<b>800</b>	<b>23</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>



  
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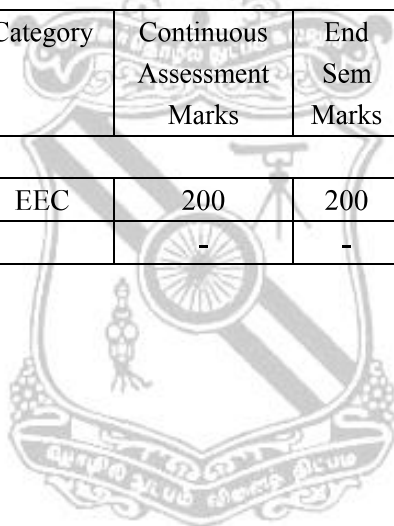
### THIRD SEMESTER

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18MFPEXX	Professional Elective – V	PE	50	50	100	3	3	0	0	3
2	18\$OEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
5	18MFEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				-	-	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

S.No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Practical</b>											
1	18MFEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				-	-	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

**TOTAL CREDITS: 70**



  
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**CURRICULUM DESIGN  
MANUFACTURING ENGINEERING**

<b>LIST OF PROFESSIONAL ELECTIVES</b>											
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18MFPE01	Applied Probability and Statistics	PE	50	50	100	3	3	0	0	3
2	18MFPE02	Design For Manufacture, Assembly and Environment	PE	50	50	100	3	3	0	0	3
3	18MFPE03	Advanced Finite Element Methods	PE	50	50	100	3	0	0	3	1.5
4	18MFPE04	<b>Wear Analysis and Control</b>	<b>PE</b>	<b>50</b>	<b>50</b>	<b>100</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
5	18MFPE05	Manufacturing Metrology and Quality	PE	50	50	100	3	3	0	0	3
6	18MFPE06	Corrosion and Surface Engineering	PE	50	50	100	3	3	0	0	3
7	18MFPE07	Advanced Engineering Materials and Metallurgy	PE	50	50	100	3	3	0	0	3
8	18MFPE08	Lean Manufacturing Systems and Implementation	PE	50	50	100	3	3	0	0	3
9	18MFPE09	MEMS and Nanotechnology	PE	50	50	100	3	3	0	0	3
10	18MFPE10	Supply Chain Management	PE	50	50	100	3	3	0	0	3
11	18MFPE11	Fluid Power Control and Automation	PE	50	50	100	3	3	0	0	3
12	18MFPE12	<b>Industrial Automation and Mechatronics</b>	<b>PE</b>	<b>50</b>	<b>50</b>	<b>100</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
13	18MFPE13	Vibration Control and Condition Monitoring	PE	50	50	100	3	3	0	0	3
14	18MFPE14	Green Manufacturing	PE	50	50	100	3	3	0	0	3
15	18MFPE15	Diagnostic Techniques	PE	50	50	100	3	3	0	0	3
16	18MFPE16	Industrial Robotics and Robot Applications	PE	50	50	100	3	3	0	0	3
17	18MFPE17	Reliability and Quality Engineering	PE	50	50	100	3	3	0	0	3



18	18MFPE18	Optimization Techniques in Engineering	PE	50	50	100	3	3	0	0	3
19	18MFPE19	Advanced Tool Design	PE	50	50	100	3	3	0	0	3
20	18MFPE20	Industrial Ergonomics	PE	50	50	100	3	3	0	0	3
21	18MFPE21	Manufacturing of Non Metallic Products	PE	50	50	100	3	3	0	0	3
22	18MFPE22	Artificial Intelligence and Expert Systems	PE	50	50	100	3	3	0	0	3
23	18MFPE23	Advanced Metal Joining Techniques	PE	50	50	100	3	3	0	0	3
24	18MFPE24	Non Destructive Evaluation	PE	50	50	100	3	3	0	0	3
25	18MFPE25	Sensors For Intelligent Manufacturing	PE	50	50	100	3	3	0	0	3
							<b>TOTAL CREDITS: 75</b>				



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LIST OF OPEN ELECTIVES											
SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3

16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network	OE	50	50	100	3	3	0	0	3


		Engineering									
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

LIST OF AUDIT COURSES											
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18MFACZ1	English For Research Paper Writing	AC	0	0	0	2	2	0	0	0
2	18MFACZ2	Disaster Management	AC	0	0	0	2	2	0	0	0
3	18MFACZ3	Value Education	AC	0	0	0	2	2	0	0	0
4	18MFACZ4	Constitution of India	AC	0	0	0	2	2	0	0	0
5	18MFACZ5	Pedagogy Studies	AC	0	0	0	2	2	0	0	0
6	18MFACZ6	Stress Management by Yoga	AC	0	0	0	2	2	0	0	0
7	18MFACZ7	Personality Development Through Life Enlightenment Skills	AC	0	0	0	2	2	0	0	0
8	18MFACZ8	Sanskrit For Technical Knowledge	AC	0	0	0	2	2	0	0	0

  
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## CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	3	0	0	0	03	4.29 %
2.	Professional Cores	10.5	10.5	0	0	21	30 %
3.	Professional Electives	6	6	3	0	15	21.42 %
4.	Employability Enhancement Courses	0	2	10	16	28	40 %
5.	Open Elective Courses	0	0	3	0	03	4.29 %
<b>Total Credits</b>		<b>19.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>70</b>	<b>100%</b>

  
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CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS  
TWO YEAR M.E PROGRAMME  
THERMAL ENGINEERING  
**CHOICE BASED CREDIT SYSTEM-CURRICULUM**  
**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18TEFCZ1	Research Methodology And IPR	FC	50	50	100	3	3	0	0	3
2	18TEPC01	Thermodynamics And Combustion	PC	50	50	100	3	3	0	0	3
3	18TEPC02	Advanced Fluid Dynamics	PC	50	50	100	3	3	0	0	3
4	18TEPC03	Gas Turbines	PC	50	50	100	3	3	0	0	3
5	18TEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
6	18TEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
7	18TEACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8	18TEPC04	Advanced IC Engines Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>23</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>19.5</b>

**SECOND SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18TEPC05	Advanced Heat And Mass Transfer	PC	50	50	100	3	3	0	0	3
2	18TEPC06	Steam Engineering	PC	50	50	100	3	3	0	0	3
3	18TEPC07	Computational Fluid Dynamics	PC	50	50	100	3	3	0	0	3
4	18TEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
5	18TEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
6	18TEACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
7	18TEPC08	Advanced Combustion Laboratory	PC	50	50	100	3	0	0	3	1.5
8	18TEEE01	Mini Project	EEC	50	50	100	4	0	0	4	2
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>24</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>

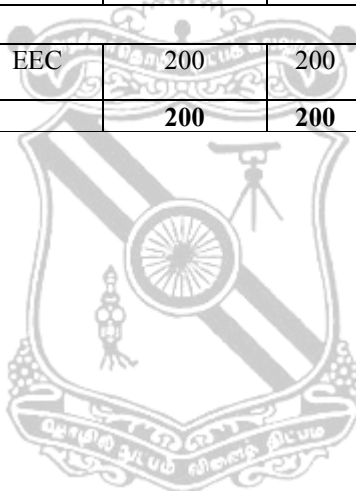
### THIRD SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18TEPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
2	18\$OEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3	18TEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18TEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

**TOTAL CREDITS: 70**



  
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**CURRICULUM DESIGN**  
**M.E THERMAL ENGINEERING**

<b>LIST OF PROFESSIONAL ELECTIVES</b>											
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18TEPE01	Numerical Methods In Thermal Engineering	PE	50	50	100	3	3	0	0	3
2	18TEPE02	Energy Auditing And Management	PE	50	50	100	3	3	0	0	3
3	18TEPE03	Advanced Thermodynamics	PE	50	50	100	3	3	0	0	3
4	18TEPE04	Design Of Condensers, Evaporators And Cooling Towers	PE	50	50	100	3	3	0	0	3
5	18TEPE05	Instrumentation In Thermal Engineering	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
6	18TEPE06	Finite Element Methods In Thermal Engineering	PE	50	50	100	3	3	0	0	3
7	18TEPE07	Supercharging And Scavenging	PE	50	50	100	3	3	0	0	3
8	18TEPE08	Engine Electronics	PE	50	50	100	3	3	0	0	3
9	18TEPE09	Manufacturing And Testing Of IC Engines And Components	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
10	18TEPE10	Refrigeration And Cryogenics	PE	50	50	100	3	3	0	0	3
11	18TEPE11	Advanced Gas Dynamics And Space Propulsion	PE	50	50	100	3	3	0	0	3
12	18TEPE12	Fuels And Combustion	PE	50	50	100	3	3	0	0	3
13	18TEPE13	Fans, Blowers And Compressors	PE	50	50	100	3	3	0	0	3
14	18TEPE14	Thermal Energy Systems	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE IV</b>											
15	18TEPE15	Modeling of CI Engine Processes	PE	50	50	100	3	3	0	0	3
16	18TEPE16	Air Conditioning System Design	PE	50	50	100	3	3	0	0	3
17	18TEPE17	Engine Pollution And Control	PE	50	50	100	3	3	0	0	3
18	18TEPE18	Alternative Fuels For Ic Engines	PE	50	50	100	3	3	0	0	3



**PROFESSIONAL ELECTIVE V**

19	18TEPE19	Nuclear Engineering	PE	50	50	100	3	3	0	0	3
20	18TEPE20	Solar Energy And Wind Energy	PE	50	50	100	3	3	0	0	3
21	18TEPE21	Diesel Emission Characteristics	PE	50	50	100	3	3	0	0	3
22	18TEPE22	Environmental Engineering And Pollution Control	PE	50	50	100	3	3	0	0	3
23	18TEPE23	Bio-Energy Conversion Techniques	PE	50	50	100	3	3	0	0	3

  
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### LIST OF OPEN ELECTIVES

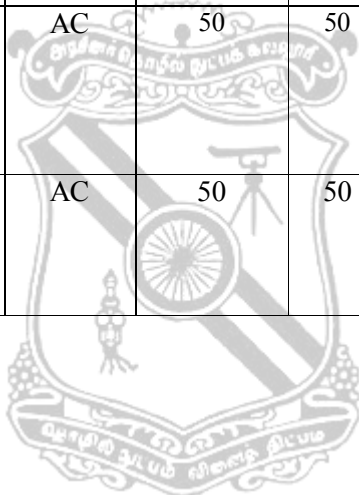
SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation	OE	50	50	100	3	3	0	0	3

		System									
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

  
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### LIST OF AUDIT COURSES

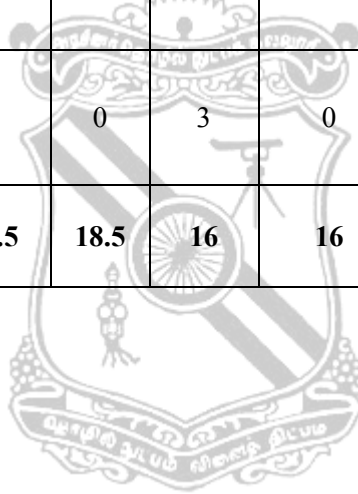
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18TEACZ1	English for Research Paper Writing	AC	50	50	100	2	2*	0	0	0
2	18TEACZ2	Disaster Management	AC	50	50	100	2	2*	0	0	0
3	18TEACZ3	Value Education	AC	50	50	100	2	2*	0	0	0
4	18TEACZ4	Constitution of India	AC	50	50	100	2	2*	0	0	0
5	18TEACZ5	Pedagogy Studies	AC	50	50	100	2	2*	0	0	0
6	18TEACZ6	Stress Management by Yoga	AC	50	50	100	2	2*	0	0	0
7	18TEACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2*	0	0	0
8	18TEACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0



  
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### CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	3	0	0	0	03	4.29 %
2.	Professional Cores	10.5	10.5	0	0	21	30.00 %
3.	Professional Electives	6	6	3	0	15	21.43 %
4.	Employability Enhancement Courses	0	2	10	16	28	40.00 %
5.	Open Elective Courses	0	0	3	0	03	4.29 %
<b>Total Credits</b>		<b>19.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>70</b>	<b>100.01%</b>



  
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**CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS**  
**TWO YEAR M.E PROGRAMME**  
**POWER SYSTEMS ENGINEERING**  
**CHOICE BASED CREDIT SYSTEM-CURRICULUM**  
**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PSFCZ1	Research Methodology And IPR	FC	50	50	100	3	3	0	0	3
2	18PSFC02	Optimization Techniques	FC	50	50	100	5	3	1	0	4
3	18PSPC01	System Theory	PC	50	50	100	3	3	0	0	3
4	18PSPC02	Digital Power System Protection	PC	50	50	100	3	3	0	0	3
5	18PSPC03	Computer Aided Power System Analysis	PC	50	50	100	3	3	0	0	3
6	18PSPC04	Power System Operation And Control	PC	50	50	100	3	3	0	0	3
7	18PSACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>PRACTICALS</b>											
8	18PSPC05	Power System Simulation Laboratory	PC	50	50	100	3	0	0	3	1.5
TOTAL				400	400	800	25	20	1	3	20.5

**SECOND SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PSPC06	Smart Grid Technology And Applications	PC	50	50	100	3	3	0	0	3
2	18PSPC07	Power System Dynamics And Control	PC	50	50	100	3	3	0	0	3
3	18PSPC08	Restructured Power System And Deregulation	PC	50	50	100	3	3	0	0	3
4	18PSPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
5	18PSPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
6	18PSACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>PRACTICALS</b>											
7	18PSPC09	Advanced Power System Simulation Laboratory	PC	50	50	100	3	0	0	3	1.5
8	18PSEE01	Mini Project with Seminar	EEC	100	-	100	4	0	0	4	2
TOTAL				450	350	800	24	17	0	7	18.5

### THIRD SEMESTER

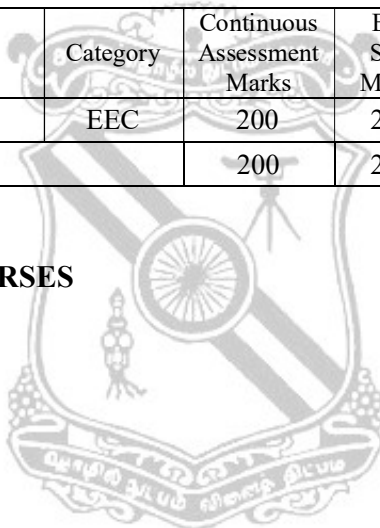
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PSPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
2	18PSPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
3	18SOEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>PRACTICALS</b>											
4	18PSEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
TOTAL				250	250	500	29	9	0	20	19

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18PSEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
TOTAL				200	200	400	32	0	0	32	16

**TOTAL CREDITS: 74**

**NOTE : \* - NO CREDIT COURSES**



  
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**LIST OF PROFESSIONAL ELECTIVE SUBJECTS**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18PSPE01	Power System Transients and Surge Protection	PE	50	50	100	3	3	0	0	3
2	18PSPE02	Power System Economics	PE	50	50	100	3	3	0	0	3
3	18PSPE03	Power System Planning and Reliability	PE	50	50	100	3	3	0	0	3
4	18PSPE04	Power System Security	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
5	18PSPE05	High Voltage DC Transmission Systems	PE	50	50	100	3	3	0	0	3
6	18PSPE06	Flexible AC Transmission Systems	PE	50	50	100	3	3	0	0	3
7	18PSPE07	Fem Modeling of High Voltage Apparatus and Systems	PE	50	50	100	3	3	0	0	3
8	18PSPE08	EHVAC Transmission Systems	PE	50	50	100	3	3	0	0	3
9	18PSPE09	High Voltage and Insulation Systems	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
10	18PSPE10	Power Electronic Applications to Power System	PE	50	50	100	3	3	0	0	3
11	18PSPE11	Advanced Electric Drives and Controls	PE	50	50	100	3	3	0	0	3
12	18PSPE12	Power Electronics for Renewable Energy	PE	50	50	100	3	3	0	0	3
13	18PSPE13	Distributed Generations and Microgrid	PE	50	50	100	3	3	0	0	3
14	18PSPE14	Insulation Materials and Testing for Industrial Applications	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE IV</b>											
15	18PSPE15	Electromagnetic Interference and Compatibility in System Design	PE	50	50	100	3	3	0	0	3
16	18PSPE16	Fuzzy and Neural Systems	PE	50	50	100	3	3	0	0	3
17	18PSPE17	Intelligent Systems Application to Power Systems	PE	50	50	100	3	3	0	0	3
18	18PSPE18	Computer Relaying and Wide Area Measurement System	PE	50	50	100	3	3	0	0	3
19	18PSPE19	Modern Power Electronics for Traction Applications	PE	50	50	100	3	3	0	0	3
							<b>TOTAL CREDITS: 12</b>				



**LIST OF OPEN ELECTIVES**

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science for Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its Environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural Hazards and Mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

### LIST OF AUDIT COURSES

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18PSACZ1	English for Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18PSACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18PSACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18PSACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18PSACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18PSACZ6	Stress Management by Yoga	AC	50	50	100	2	2	0	0	0
7	18PSACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18PSACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	7	0	0	0	07	9.46 %
2.	Professional Cores	13.5	10.5	0	0	24	32.43 %
3.	Professional Electives	0	6	6	0	12	16.22 %
4.	Employability Enhancement Courses	0	2	10	16	28	37.84 %
5.	Open Elective Courses	0	0	3	0	03	4.05 %
<b>Total Credits</b>		<b>20.5</b>	<b>18.5</b>	<b>19</b>	<b>16</b>	<b>74</b>	<b>100%</b>

CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS  
TWO YEAR M.E PROGRAMME  
**POWER ELECTRONICS AND DRIVES**  
**CHOICE BASED CREDIT SYSTEM-CURRICULUM**  
**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PEFCZ1	Research Methodology And IPR	FC	50	50	100	3	3	0	0	3
2	18PEFC02	Applied Mathematics For Electrical Engineering	FC	50	50	100	4	3	1	0	4
3	18PEPC01	Modelling And Analysis Of Electrical Machines	PC	50	50	100	3	3	0	0	3
4	18PEPC02	Power Semiconductor Devices And Components	PC	50	50	100	3	3	0	0	3
5	18PEPC03	Analysis Of Power Converters	PC	50	50	100	3	3	0	0	3
6	18PEACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>PRACTICALS</b>											
7	18PEPC04	Power Electronic Circuits And Power Quality Laboratory	PC	50	50	100	3	0	0	3	1.5
TOTAL				350	350	700	21	17	1	3	17.5

**SECOND SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PEPC05	Solid State Drives	PC	50	50	100	3	3	0	0	3
2	18PEPC06	Switched Mode Power Converters	PC	50	50	100	3	3	0	0	3
3	18PEPC07	Digital Control For Power Electronic Applications	PC	50	50	100	3	3	0	0	3
4	18PEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
5	18PEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
6	18PEACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>PRACTICALS</b>											
7	18PEPC08	Electric Drives Lab	PC	50	50	100	3	0	0	3	1.5
8	18PEEE01	Mini Project With Seminar	EEC	100	--	100	4	0	0	4	2
TOTAL				450	350	800	24	17	0	7	18.5

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### THIRD SEMESTER

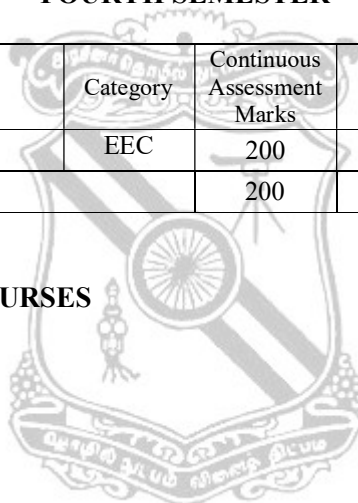
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>THEORY</b>											
1	18PEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
2	18PEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
3	18\$OEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>PRACTICALS</b>											
4	18PEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
TOTAL				250	250	500	29	9	0	20	19

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18PEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
TOTAL				200	200	400	32	0	0	32	16

**TOTAL CREDITS : 71**

**NOTE : \* - NO CREDIT COURSES**



  
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### LIST OF PROFESSIONAL ELECTIVE SUBJECTS


S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>PROFESSIONAL ELECTIVE I</b>											
1	18PEPE01	Modelling of Power Converters	PE	50	50	100	3	3	0	0	3
2	18PEPE02	Advanced Electric Drives and Controls	PE	50	50	100	3	3	0	0	3
3	18PEPE03	Modern Converters and Control Techniques	PE	50	50	100	3	3	0	0	3
4	18PEPE04	Computer Aided Design of Electrical Machines	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE II</b>											
5	18PEPE05	Pulse Width Modulation for Power Converters	PE	50	50	100	3	3	0	0	3
6	18PEPE06	Special Machines and Controllers	PE	50	50	100	3	3	0	0	3
7	18PEPE07	Microcontroller Based System Design	PE	50	50	100	3	3	0	0	3
8	18PEPE08	Digital Signal Processing and Control	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE III</b>											
9	18PEPE09	High Voltage DC Transmission Systems	PE	50	50	100	3	3	0	0	3
10	18PEPE10	Flexible AC Transmission Systems	PE	50	50	100	3	3	0	0	3
11	18PEPE11	Power Electronic Applications to Power System	PE	50	50	100	3	3	0	0	3
12	18PEPE12	Evolutionary Computation	PE	50	50	100	3	3	0	0	3
13	18PEPE13	Insulation Materials and Testing for Industrial Applications	PE	50	50	100	3	3	0	0	3
<b>PROFESSIONAL ELECTIVE IV</b>											
14	18PEPE14	Power Electronics in Wind and Solar Power Conversion	PE	50	50	100	3	3	0	0	3
15	18PEPE15	Distributed Generations and Microgrid	PE	50	50	100	3	3	0	0	3
16	18PEPE16	Electromagnetic Interference and Compatibility in System Design	PE	50	50	100	3	3	0	0	3
17	18PEPE17	Fuzzy and Neural Systems	PE	50	50	100	3	3	0	0	3
18	18PEPE18	Modern Power Electronics for Traction Applications	PE	50	50	100	3	3	0	0	3
							<b>TOTAL CREDITS: 12</b>				

### LIST OF OPEN ELECTIVES

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science for Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its Environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural Hazards and Mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3



SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

  
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### LIST OF AUDIT COURSES

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18PEACZ1	English for Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18PEACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18PEACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18PEACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18PEACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18PEACZ6	Stress Management by Yoga	AC	50	50	100	2	2	0	0	0
7	18PEACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18PEACZ8	Sanskrit For Technical Knowledge	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	7	0	0	0	07	9.86 %
2.	Professional Cores	10.5	10.5	0	0	21	29.58 %
3.	Professional Electives	0	6	6	0	12	16.90 %
4.	Employability Enhancement Courses	0	2	10	16	28	39.44 %
5.	Open Elective Courses	0	0	3	0	03	4.23 %
<b>Total Credits</b>		<b>17.5</b>	<b>18.5</b>	<b>19</b>	<b>16</b>	<b>71</b>	<b>100%</b>

**CHOICE BASED CREDIT SYSTEM  
CURRICULUM FOR CANDIDATES ADMITTED  
DURING 2018 ONWARDS**

**BRANCH: M.E. (APPLIED ELECTRONICS) - FULL TIME**

M.E. APPLIED ELECTRONICS

2018 REGULATIONS

**FIRST SEMESTER**

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1.	18AEFCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2.	18AEPC01	Advanced Digital System Design	PC	50	50	100	3	3	0	0	3
3.	18AEPC02	Statistical Signal Processing	PC	50	50	100	4	3	1	0	4
4.	18AEPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
5.	18AEPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
6.	18AEACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>PRACTICAL</b>											
7.	18AEPC03	Advanced Digital System Design Laboratory	PC	50	50	100	3	0	0	3	1.5
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>21</b>	<b>17</b>	<b>1</b>	<b>3</b>	<b>17.5</b>

**SECOND SEMESTER**

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1	18AEPC04	Embedded System Design	PC	50	50	100	3	3	0	0	3
2	18AEPC05	Image Processing and Computer Vision	PC	50	50	100	5	3	0	2	4
3	18AEPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
4	18AEPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
5	18AEACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>PRACTICAL</b>											
6	18AEPC06	Embedded System Design Laboratory	PC	50	50	100	3	0	0	3	1.5
7	18AEEE01	Mini Project	EEC	50	50	100	4	0	0	4	2
		<b>TOTAL</b>		<b>350</b>	<b>350</b>	<b>700</b>	<b>23</b>	<b>14</b>	<b>0</b>	<b>9</b>	<b>16.5</b>

### THIRD SEMESTER


SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1	18AEPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
2	18SOEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>PRACTICAL</b>											
3	18AEEEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
		<b>TOTAL</b>		<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total marks	Contact periods	CREDITS			
								L	T	P	C
<b>PRACTICAL</b>											
1	18AEEEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
		<b>TOTAL</b>		<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

Note: \* - No credit courses

**Total Credits: 66**

  
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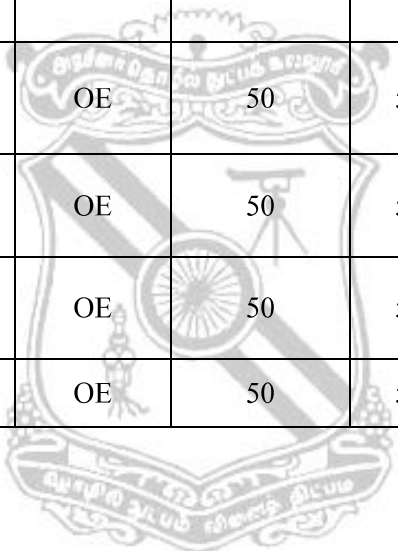
## LIST OF PROFESSIONAL ELECTIVES FOR M.E. APPLIED ELECTRONICS

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
Semester I Professional Elective I											
1	18AEPE01	Applied Mathematics	PE	50	100	100	3	3	0	0	3
2	18AEPE02	Digital CMOS VLSI Design	PE	50	100	100	3	3	0	0	3
3	18AEPE03	VLSI Digital Signal Processing	PE	50	100	100	3	3	0	0	3
4	18AEPE04	Solid State devices modeling and simulation	PE	50	100	100	3	3	0	0	3
Semester I Professional Elective II											
5	18AEPE05	Mixed Signal Circuits and Interfacing	PE	50	100	100	3	3	0	0	3
6	18AEPE06	DSP Integrated Circuits	PE	50	100	100	3	3	0	0	3
7	18AEPE07	Reconfigurable architectures	PE	50	100	100	3	3	0	0	3
8	18AEPE08	Nonlinear Signal Processing	PE	50	100	100	3	3	0	0	3
Semester II Professional Elective III											
9	18AEPE09	Analog Integrated Circuits	PE	50	100	100	3	3	0	0	3
10	18AEPE10	ASIC Design	PE	50	100	100	3	3	0	0	3
11	18AEPE11	MIMO Wireless Communication	PE	50	100	100	3	3	0	0	3
12	18AEPE12	Satellite Image Analysis	PE	50	100	100	3	3	0	0	3
Semester II Professional Elective IV											
13	18AEPE13	Bio telemetry and Telemedicine	PE	50	100	100	3	3	0	0	3
14	18AEPE14	Machine Learning	PE	50	100	100	3	3	0	0	3
15	18AEPE15	Microsensors and MEMS	PE	50	100	100	3	3	0	0	3
16	18AEPE16	Multicore Architectures	PE	50	100	100	3	3	0	0	3
Semester III Professional Elective V											
17	18AEPE17	Synthesis and Optimization of Digital Systems	PE	50	100	100	3	3	0	0	3
18	18AEPE18	Analysis and Design of Analog Integrated Circuits	PE	50	100	100	3	3	0	0	3
19	18AEPE19	RF IC Design	PE	50	100	100	3	3	0	0	3
20	18AEPE20	Real Time Operating System	PE	50	100	100	3	3	0	0	3

## LIST OF OPEN ELECTIVES FOR M.E. APPLIED ELECTRONICS

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3

21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3



  
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### LIST OF AUDIT COURSES FOR M.E. APPLIED ELECTRONICS

S. No.	Course code	Course Name	Category	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18AEACZ1	ENGLISH FOR RESEARCH PAPER WRITING	AC	50	50	100	2	2	0	0	0
2	18AEACZ2	DISASTER MANAGEMENT	AC	50	50	100	2	2	0	0	0
3	18AEACZ3	VALUE EDUCATION	AC	50	50	100	2	2	0	0	0
4	18AEACZ4	CONSTITUTION OF INDIA	AC	50	50	100	2	2	0	0	0
5	18AEACZ5	PEDAGOGY STUDIES	AC	50	50	100	2	2	0	0	0
6	18AEACZ6	STRESS MANAGEMENT BY YOGA	AC	50	50	100	2	2	0	0	0
7	18AEACZ7	PERSONALITY DEVELOPMENT THROUGH LIFE ENLIGHTENMENT SKILLS	AC	50	50	100	2	2	0	0	0
8	18AEACZ8	SANSKRIT FOR TECHNICAL KNOWLEDGE	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

SL.NO.	SUBJECT AREA	CREDITS TOTAL	% OF TOTAL CREDITS
1.	Professional Core (PC)	17	25.75
2.	Program Elective (PE)	15	22.72
3.	Fundamental Core (FC)	3	4.54
4.	Open Elective (OE)	3	4.54
5.	Employment Enhancement Course (EEC)	28	42.42
	TOTAL	66	100

  
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**CHOICE BASED CREDIT SYSTEM  
CURRICULUM FOR CANDIDATES ADMITTED  
DURING 2018 ONWARDS**

**BRANCH: M.E. (VLSI DESIGN) - FULL TIME**

M.E. VLSI DESIGN

2018 REGULATIONS

**FIRST SEMESTER**

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1.	18VLFCZ1	Research methodology and IPR	FC	50	50	100	3	3	0	0	3
2.	18VLPC01	Digital CMOS VLSI design	PC	50	50	100	3	3	0	0	3
3.	18VLPC02	VLSI Signal Processing	PC	50	50	100	5	3	0	2	4
4.	18VLPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
5.	18VLPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
6.	18VLACXX	Audit course I	AC	50	50	100	2	2*	0	0	0
<b>PRACTICAL</b>											
7.	18VLPC03	Digital CMOS Design VLSI Laboratory	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>350</b>	<b>350</b>	<b>700</b>	<b>22</b>	<b>17</b>	<b>0</b>	<b>5</b>	<b>17.5</b>

**SECOND SEMESTER**

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1	18VLPC04	Analog VLSI Design	PC	50	50	100	3	3	0	0	3
2	18VLPC05	VLSI Design Verification and Testing	PC	50	50	100	5	3	0	2	4
3	18VLPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
4	18VLPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
5	18VLACXX	Audit course II	AC	50	50	100	2	2*	0	0	0
<b>PRACTICAL</b>											
6	18VLPC06	Analog VLSI Design Laboratory	PC	50	50	100	3	0	0	3	1.5
7	18VLEE01	Mini project	EEC	50	50	100	4	0	0	4	2
<b>Total</b>				<b>350</b>	<b>350</b>	<b>700</b>	<b>23</b>	<b>14</b>	<b>0</b>	<b>9</b>	<b>16.5</b>



### THIRD SEMESTER

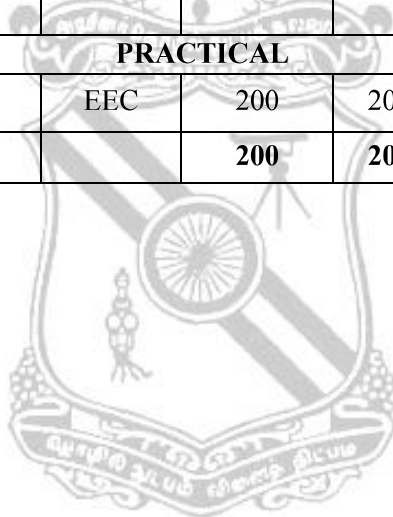
SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
<b>THEORY</b>											
1	18VLPEXX	Professional Elective V	PE	50	50	100	3	3	0	0	3
2	18\$OEEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>PRACTICAL</b>											
3	18VLEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
		<b>Total</b>		<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total marks	Contact periods	CREDITS			
								L	T	P	C
<b>PRACTICAL</b>											
1	18VLEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
		<b>Total</b>		<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

Note: \* - No credit courses

**Total Credits: 66**



  
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## LIST OF PROFESSIONAL ELECTIVES FOR M.E. VLSI DESIGN

SL. No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	CREDITS			
								L	T	P	C
Semester I Professional Elective I											
1	18VLPE01	Applied Mathematics	PE	50	50	100	3	3	0	0	3
2	18VLPE02	Advanced Digital System Design	PE	50	50	100	3	3	0	0	3
3	18VLPE03	VLSI Design Automation	PE	50	50	100	3	3	0	0	3
4	18VLPE04	Programming FPGA using HDLs	PE	50	50	100	3	3	0	0	3
Semester I Professional Elective II											
5	18VLPE05	RTL Simulation and Synthesis	PE	50	50	100	3	3	0	0	3
6	18VLPE06	Image and Video processing	PE	50	50	100	3	3	0	0	3
7	18VLPE07	Design of Semiconductor Memories	PE	50	50	100	3	3	0	0	3
8	18VLPE08	Microsensors and MEMS	PE	50	50	100	3	3	0	0	3
Semester II Professional Elective III											
9	18VLPE09	Low Power VLSI Design	PE	50	50	100	3	3	0	0	3
10	18VLPE10	VLSI Interconnects and Design Techniques	PE	50	50	100	3	3	0	0	3
11	18VLPE11	DSP Integrated Circuits	PE	50	50	100	3	3	0	0	3
12	18VLPE12	Electronic Packaging Technologies	PE	50	50	100	3	3	0	0	3
Semester II Professional Elective IV											
13	18VLPE13	ASIC Design	PE	50	50	100	3	3	0	0	3
14	18VLPE14	Analysis and Design of Analog Integrated Circuits	PE	50	50	100	3	3	0	0	3
15	18VLPE15	Mixed Signal Circuits and Interfacing	PE	50	50	100	3	3	0	0	3
16	18VLPE16	RF IC Design	PE	50	50	100	3	3	0	0	3
Semester III Professional Elective V											
17	18VLPE17	Reconfigurable Architecture for VLSI	PE	50	50	100	3	3	0	0	3
18	18VLPE18	VLSI Technology	PE	50	50	100	3	3	0	0	3
19	18VLPE19	System on Chip	PE	50	50	100	3	3	0	0	3
20	18VLPE20	VLSI for Wireless Communication System	PE	50	50	100	3	3	0	0	3

### LIST OF OPEN ELECTIVES

SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3
18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3

20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

  
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### LIST OF AUDIT COURSES (AC)

S. No.	Course code	Course Name	Category	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18VLACZ1	ENGLISH FOR RESEARCH PAPER WRITING	AC	50	50	100	2	2	0	0	0
2	18VLACZ2	DISASTER MANAGEMENT	AC	50	50	100	2	2	0	0	0
3	18VLACZ3	VALUE EDUCATION	AC	50	50	100	2	2	0	0	0
4	18VLACZ4	CONSTITUTION OF INDIA	AC	50	50	100	2	2	0	0	0
5	18VLACZ5	PEDAGOGY STUDIES	AC	50	50	100	2	2	0	0	0
6	18VLACZ6	STRESS MANAGEMENT BY YOGA	AC	50	50	100	2	2	0	0	0
7	18VLACZ7	PERSONALITY DEVELOPMENT THROUGH LIFE ENLIGHTENMENT SKILLS	AC	50	50	100	2	2	0	0	0
8	18VLACZ8	SANSKRIT FOR TECHNICAL KNOWLEDGE	AC	50	50	100	2	2	0	0	0

### CURRICULUM DESIGN

SL.NO.	SUBJECT AREA	CREDITS TOTAL	% OF TOTAL CREDITS
1.	Professional Core (PC)	17	25.75
2.	Program Elective (PE)	15	22.72
3.	Fundamental Core (FC)	3	4.54
4.	Open Elective (OE)	3	4.54
5.	Employment Enhancement Course (EEC)	28	42.42
	TOTAL	66	100

  
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CURRICULUM FOR CANDIDATES ADMITTED DURING 2018-2019 AND ONWARDS  
TWO YEAR M.E PROGRAMME  
COMPUTER SCIENCE AND ENGINEERING  
**CHOICE BASED CREDIT SYSTEM-CURRICULUM**

**FIRST SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18CSFCZ1	Research Methodology and IPR	FC	50	50	100	3	3	0	0	3
2	18CSFC02	Mathematical Foundations of Computer Science	FC	50	50	100	4	3	1	0	4
3	18CSPC01	Formal Languages, Machines and Computations	PC	50	50	100	4	3	1	0	4
4	18CSPC02	High Performance Computer Architecture	PC	50	50	100	4	2	0	2	3
5	18CSPC03	Algorithms and Complexity Analysis	PC	50	50	100	3	3	0	0	3
6	18CSPEXX	Professional Elective I	PE	50	50	100	3	3	0	0	3
7	18CSACXX	Audit Course I	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
8	18CSPC04	Advanced Algorithms and Elective Lab	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>400</b>	<b>400</b>	<b>800</b>	<b>26</b>	<b>19</b>	<b>2</b>	<b>5</b>	<b>21.5</b>

**SECOND SEMESTER**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18CSPC05	Advanced Database Systems	PC	50	50	100	4	2	0	2	3
2	18CSPC06	Network Science	PC	50	50	100	3	3	0	0	3
3	18CSPC07	Advances in Operating Systems	PC	50	50	100	4	2	0	2	3
4	18CSPEXX	Professional Elective II	PE	50	50	100	3	3	0	0	3
5	18CSPEXX	Professional Elective III	PE	50	50	100	3	3	0	0	3
6	18CSACXX	Audit Course II	AC	50	50	100	2	2*	0	0	0
<b>Practical</b>											
7	18CSEE01	Mini Project with Seminar	EEC	100	-	100	3	1	0	2	2
8	18CSPC08	Advanced Computer Networks and Electives Lab	PC	50	50	100	3	0	0	3	1.5
<b>Total</b>				<b>450</b>	<b>350</b>	<b>800</b>	<b>25</b>	<b>16</b>	<b>0</b>	<b>9</b>	<b>18.5</b>

### THIRD SEMESTER

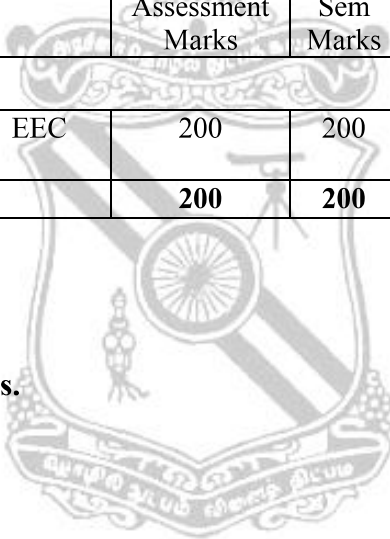
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Theory</b>											
1	18CSPEXX	Professional Elective IV	PE	50	50	100	3	3	0	0	3
2	18\$OEXX	Open Elective	OE	50	50	100	3	3	0	0	3
<b>Practical</b>											
3	18CSEE02	Project Phase I	EEC	100	100	200	20	0	0	20	10
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### FOURTH SEMESTER

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
<b>Practical</b>											
1	18CSEE03	Project Phase II	EEC	200	200	400	32	0	0	32	16
<b>Total</b>				<b>200</b>	<b>200</b>	<b>400</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

**TOTAL CREDITS: 72**

**NOTE : \* - No Credit Courses.**



  
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### LIST OF PROFESSIONAL ELECTIVES

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
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#### LIST OF PROFESSIONAL ELECTIVES - I

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
1	18CSPE01	Computer Vision Engineering	PE	50	50	100	3	3	0	0	3
2	18CSPE02	Pattern Recognition	PE	50	50	100	3	3	0	0	3
3	18CSPE03	Digital Image Processing	PE	50	50	100	3	3	0	0	3
4	18CSPE04	Embedded Systems	PE	50	50	100	3	3	0	0	3
5	18CSPE05	Virtual Reality	PE	50	50	100	3	3	0	0	3
6	18CSPE06	Advanced Microcontrollers and Applications in Embedded systems	PE	50	50	100	3	3	0	0	3
7	18CSPE07	Virtualization Techniques	PE	50	50	100	3	3	0	0	3

#### LIST OF PROFESSIONAL ELECTIVES - II

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
8	18CSPE08	Soft Computing	PE	50	50	100	3	3	0	0	3
9	18CSPE09	Machine Learning	PE	50	50	100	3	3	0	0	3
10	18CSPE10	Parallel Algorithms	PE	50	50	100	3	3	0	0	3
11	18CSPE11	Fuzzy Logic and Neural Networks	PE	50	50	100	3	3	0	0	3
12	18CSPE12	Network Optimization Techniques	PE	50	50	100	3	3	0	0	3
13	18CSPE13	Theory of Modern Compilers	PE	50	50	100	3	3	0	0	3
14	18CSPE14	Distributed Network Algorithms	PE	50	50	100	3	3	0	0	3

#### LIST OF PROFESSIONAL ELECTIVES - III

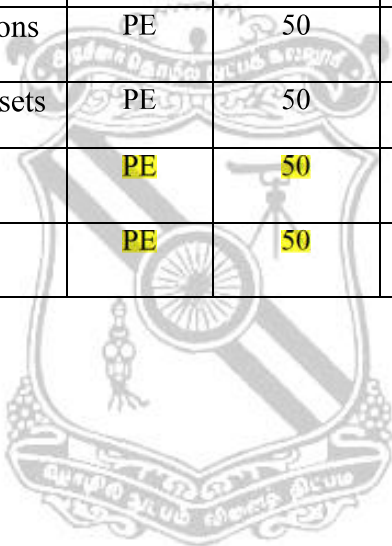
S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
15	18CSPE15	Internet of Things	PE	50	50	100	3	3	0	0	3



16	18CSPE16	Wireless Sensor Networks	PE	50	50	100	3	3	0	0	3
17	18CSPE17	Pervasive Computing	PE	50	50	100	3	3	0	0	3
18	18CSPE18	Software Defined Networking	PE	50	50	100	3	3	0	0	3
19	18CSPE19	Information Retrieval	PE	50	50	100	3	3	0	0	3
20	18CSPE20	Social Networks	PE	50	50	100	3	3	0	0	3

**LIST OF PROFESSIONAL ELECTIVES - IV**

S. No	Course Code	Course Title	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contact Periods	L	T	P	C
21	18CSPE21	Cyber Forensics	PE	50	50	100	3	3	0	0	3
22	18CSPE22	Cloud Computing	PE	50	50	100	3	3	0	0	3
23	18CSPE23	Cryptography and Network Security	PE	50	50	100	3	3	0	0	3
24	18CSPE24	Theory and Applications of Ontology	PE	50	50	100	3	3	0	0	3
25	18CSPE25	Mining Massive Datasets	PE	50	50	100	3	3	0	0	3
26	18CSPE26	Advanced Software Engineering	PE	50	50	100	3	3	0	0	3
27	18CSPE27	Robotics process automation	PE	50	50	100	3	3	0	0	3



  
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## LIST OF OPEN ELECTIVES

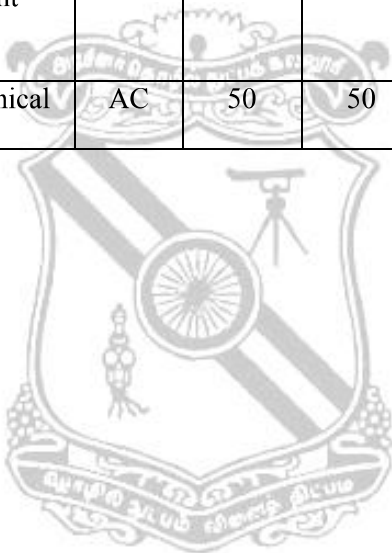
SL.No	Course code	Course name	Category	Continuous Assessment Marks	End Sem Marks	Total Marks	Contacts Periods	CREDITS			
								L	T	P	C
1	18SEOE01	Vastu Science For Building Construction	OE	50	50	100	3	3	0	0	3
2	18SEOE02	Planning of Smart Cities	OE	50	50	100	3	3	0	0	3
3	18SEOE03	Green Building	OE	50	50	100	3	3	0	0	3
4	18EEOE04	Environment, Health and Safety in Industries	OE	50	50	100	3	3	0	0	3
5	18EEOE05	Climate Change and Adaptation	OE	50	50	100	3	3	0	0	3
6	18EEOE06	Waste to Energy	OE	50	50	100	3	3	0	0	3
7	18GEOE07	Energy in built Environment	OE	50	50	100	3	3	0	0	3
8	18GEOE08	Earth and its environment	OE	50	50	100	3	3	0	0	3
9	18GEOE09	Natural hazards and mitigation	OE	50	50	100	3	3	0	0	3
10	18EDOE10	Business Analytics	OE	50	50	100	3	3	0	0	3
11	18EDOE11	Cost Management of Engineering Projects	OE	50	50	100	3	3	0	0	3
12	18EDOE12	Introduction to Industrial Engineering	OE	50	50	100	3	3	0	0	3
13	18MFOE13	Industrial Safety	OE	50	50	100	3	3	0	0	3
14	18MFOE14	Operations Research	OE	50	50	100	3	3	0	0	3
15	18MFOE15	Composite Materials	OE	50	50	100	3	3	0	0	3
16	18TEOE16	Global Warming Science	OE	50	50	100	3	3	0	0	3
17	18TEOE17	Introduction to Nano Electronics	OE	50	50	100	3	3	0	0	3

18	18TEOE18	Green Supply Chain Management	OE	50	50	100	3	3	0	0	3
19	18PSOE19	Distribution Automation System	OE	50	50	100	3	3	0	0	3
20	18PSOE20	Power Quality Assessment And Mitigation	OE	50	50	100	3	3	0	0	3
21	18PSOE21	Modern Automotive Systems	OE	50	50	100	3	3	0	0	3
22	18PEOE22	Virtual Instrumentation	OE	50	50	100	3	3	0	0	3
23	18PEOE23	Energy Auditing	OE	50	50	100	3	3	0	0	3
24	18PEOE24	Advanced Energy Storage Technology	OE	50	50	100	3	3	0	0	3
25	18AEOE25	Design of Digital Systems	OE	50	50	100	3	3	0	0	3
26	18AEOE26	Advanced Processors	OE	50	50	100	3	3	0	0	3
27	18AEOE27	Pattern Recognition	OE	50	50	100	3	3	0	0	3
28	18VLOE28	VLSI Design	OE	50	50	100	3	3	0	0	3
29	18VLOE29	Analog & Mixed Mode VLSI Circuits	OE	50	50	100	3	3	0	0	3
30	18VLOE30	Hardware Description Languages	OE	50	50	100	3	3	0	0	3
31	18CSOE31	Artificial Intelligence and Machine Learning	OE	50	50	100	3	3	0	0	3
32	18CSOE32	Computer Network Engineering	OE	50	50	100	3	3	0	0	3
33	18CSOE33	Big Data Analytics	OE	50	50	100	3	3	0	0	3

  
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**LIST OF AUDIT COURSES (AC)**

S. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Contact Periods	Hours/Week			
								L	T	P	C
1	18CSACZ1	English for Research Paper Writing	AC	50	50	100	2	2	0	0	0
2	18CSACZ2	Disaster Management	AC	50	50	100	2	2	0	0	0
3	18CSACZ3	Value Education	AC	50	50	100	2	2	0	0	0
4	18CSACZ4	Constitution of India	AC	50	50	100	2	2	0	0	0
5	18CSACZ5	Pedagogy Studies	AC	50	50	100	2	2	0	0	0
6	18CSACZ6	Stress Management by Yoga	AC	50	50	100	2	2	0	0	0
7	18CSACZ7	Personality Development Through Life Enlightenment Skills	AC	50	50	100	2	2	0	0	0
8	18CSACZ8	Sanskrit for Technical Knowledge	AC	50	50	100	2	2	0	0	0



  
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## CURRICULUM DESIGN

S.No	Course Work Subject Area	No of Credits					Percentage
		I	II	III	IV	Total	
1.	Foundation Course	7	0	0	0	07	9.72 %
2.	Professional Cores	11.5	10.5	0	0	22	30.56 %
3.	Professional Electives	3	6	3	0	12	16.67 %
4.	Employability Enhancement Courses	0	2	10	16	28	38.88 %
5.	Open Elective Courses	0	0	3	0	03	4.17 %
<b>Total Credits</b>		<b>21.5</b>	<b>18.5</b>	<b>16</b>	<b>16</b>	<b>72</b>	<b>100%</b>

  
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# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution - Anna University, Chennai )

COIMBATORE - 641 013

## OFFICE OF THE CONTROLLER OF EXAMINATIONS

### 34<sup>th</sup> ACADEMIC COUNCIL

#### ITEM 34.12

**To discuss and approve the First year curricula and syllabi of UG 2022 Regulations.**

B.E. CIVIL ENGINEERING
B.E. MECHANICAL ENGINEERING
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
B.E. ELECTRONICS AND COMMUNICATION ENGINEERING
B.E. PRODUCTION ENGINEERING
B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING
B.E. COMPUTER SCIENCE AND ENGINEERING
B.Tech. INFORMATION TECHNOLOGY
B.Tech. INDUSTRIAL BIOTECHNOLOGY

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E. CIVIL ENGINEERING (FULL TIME)**

**FIRST SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22CMC1Z0	Induction Programme	MC	--	--	--	--	--	--	0
1	22CHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22CHS1Z2	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22CBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22CBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22CBS103	Engineering Chemistry	BS	40	60	100	3	0	0	3
6	22CES101	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
<b>PRACTICAL</b>										
7	22CHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22CBS1Z4	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
9	22CES1Z2	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>17</b>	<b>1</b>	<b>9</b>	<b>22.5</b>

**SECOND SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22CHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22CHS2Z5	Professional English	HS	40	60	100	2	1	0	3
3	22CBS205	Differential Equations and Numerical methods	BS	40	60	100	3	1	0	4
4	22CES203	Engineering Mechanics	ES	40	60	100	3	0	0	3
5	22CES204	Programming in C	ES	40	60	100	3	0	0	3
6	22CMC2Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22CBS2Z6	Physics Laboratory	BS	60	40	100	0	0	3	1.5
8	22CES2Z5	Workshop Practice	ES	60	40	100	0	0	3	1.5
9	22CES206	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>18.5</b>

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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E. MECHANICAL ENGINEERING (FULL TIME)**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22MMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22MHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22MHS1Z2	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22MBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22MBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22MBS103	Engineering Chemistry	BS	40	60	100	3	0	0	3
6	22MES101	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
<b>PRACTICAL</b>										
7	22MHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22MBS1Z4	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
9	22MES1Z2	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>17</b>	<b>1</b>	<b>9</b>	<b>22.5</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22MHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22MHS2Z5	Professional English	HSMC	40	60	100	2	1	0	3
3	22MBS205	Differential Equations and Numerical Methods	BS	40	60	100	3	1	0	4
4	22MBS206	Materials Science	BS	40	60	100	3	0	0	3
5	22MES203	Python Programming	ES	40	60	100	3	0	0	3
6	22MMC2Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22MBS2Z7	Physics Laboratory	BS	60	40	100	0	0	3	1.5
8	22MES2Z4	Workshop Practice	ES	60	40	100	0	0	3	1.5
9	22MES205	Python Programming Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>18.5</b>



**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E.ELECTRICAL AND ELECTRONICS ENGINEERING (FULL TIME)**

**FIRST SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22EMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22EHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22EHS1Z2	Professional English	HSMC	40	60	100	2	1	0	3
3	22EBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22EBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22EES101	Programming in C	ES	40	60	100	3	0	0	3
6	22EMC1Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
<b>PRACTICAL</b>										
7	22EHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22EBS1Z3	Physics Laboratory	BS	60	40	100	0	0	3	1.5
9	22EES1Z2	Workshop Practice	ES	60	40	100	0	0	3	1.5
10	22EES103	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>480</b>	<b>520</b>	<b>1000</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>19.5</b>

**SECOND SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22EHS2Z4	தமிழரும் தொழில்நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22EHS2Z5	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22EBS204	Differential Equations and Numerical Methods	BS	40	60	100	3	1	0	4
4	22EBS205	Applied Chemistry	BS	40	60	100	3	0	0	3
5	22EES204	Engineering Mechanics	ES	40	60	100	3	0	0	3
6	22EES205	Basics of Civil and Mechanical Engineering	ES	40	60	100	3	0	0	3
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22EBS2Z6	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
8	22EES2Z6	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>360</b>	<b>440</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>21.5</b>

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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E.ELECTRONICS AND COMMUNICATION ENGINEERING (FULL TIME)**

**FIRST SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22LMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22LHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22LHS1Z2	Professional English	HSMC	40	60	100	2	1	0	3
3	22LBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22LBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22LES101	Programming in C	ES	40	60	100	3	0	0	3
6	22LMC1Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
<b>PRACTICAL</b>										
7	22LHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22LBS1Z3	Physics Laboratory	BS	60	40	100	0	0	3	1.5
9	22LES1Z2	Workshop Practice	ES	60	40	100	0	0	3	1.5
10	22LES103	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>480</b>	<b>520</b>	<b>1000</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>19.5</b>

**SECOND SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22LHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22LHS2Z5	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22LBS204	Differential Equations and Numerical methods	BS	40	60	100	3	1	0	4
4	22LBS205	Semiconductor Physics	BS	40	60	100	3	0	0	3
5	22LBS206	Applied Chemistry	BS	40	60	100	3	0	0	3
6	22LES204	Basics of Electrical Engineering	ES	40	60	100	3	0	0	3
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22LBS2Z7	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
8	22LES2Z5	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>360</b>	<b>440</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>21.5</b>

  
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FIRST SEMESTER

Sl. No.	Course Code	Course Title	Category	CA Mark	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22PMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22PHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22PHS1Z2	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22PBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22PBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22PBS103	Engineering Chemistry	BS	40	60	100	3	0	0	3
6	22PES101	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
<b>PRACTICAL</b>										
7	22PHS1Z3	Cambridge English	HSMC	60	401	100	0	0	2	1
8	22PBS1Z4	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
9	22PES1Z2	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>17</b>	<b>1</b>	<b>9</b>	<b>22.5</b>

SECOND SEMESTER

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22PHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22PHS2Z5	Professional English	HSMC	40	60	100	2	1	0	3
3	22PBS205	Differential Equations and Numerical Methods	BS	40	60	100	3	1	0	4
4	22PBS206	Materials Science	BS	40	60	100	3	0	0	3
5	22PES203	Python Programming	ES	40	60	100	3	0	0	3
6	22PMC2Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
		NCC Credit Course(Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22PBS2Z7	Physics Laboratory	BS	60	40	100	0	0	3	1.5
8	22PES2Z4	Workshop Practice	ES	60	40	100	0	0	3	1.5
9	22PES205	Python Programming Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>420</b>	<b>480</b>	<b>900</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>18.5</b>

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013.**  
**B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING (FULL TIME)**  
**FIRST SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22NMC1Z0	Induction Programme	MC	--	--	--	--	--	--	0
1	22NHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22NHS1Z2	Professional English	HS	40	60	100	2	1	0	3
3	22NBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22NBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22NES101	Programming in C	ES	40	60	100	3	0	0	3
6	22NMC1Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
<b>PRACTICAL</b>										
7	22NHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22NBS1Z3	Physics Laboratory	BS	60	40	100	0	0	3	1.5
9	22NES1Z2	Workshop Practice	ES	60	40	100	0	0	3	1.5
10	22NES103	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>480</b>	<b>520</b>	<b>1000</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>19.5</b>

**SECOND SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22NHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22NHS2Z5	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22NBS204	Differential Equations and Numerical Methods	BS	40	60	100	3	1	0	4
4	22NBS205	Physics of Materials	BS	40	60	100	3	0	0	3
5	22NBS206	Applied Chemistry	BS	40	60	100	3	0	0	3
6	22NES204	Basics of Civil and Mechanical Engineering	ES	40	60	100	3	0	0	3
		NCC Credit Course (optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22NBS2Z7	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
8	22NES2Z5	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>360</b>	<b>440</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>21.5</b>

**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.E. COMPUTER SCIENCE AND ENGINEERING**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22SMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22SHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22SHS1Z2	Professional English	HSMC	40	60	100	2	1	0	3
3	22SBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22SBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22SES101	Programming in C	ES	40	60	100	3	0	0	3
6	22SMC1Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
<b>PRACTICAL</b>										
7	22SHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22SBS1Z3	Physics Laboratory	BS	60	40	100	0	0	3	1.5
9	22SES1Z2	Workshop Practice	ES	60	40	100	0	0	3	1.5
10	22SES103	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
		<b>TOTAL</b>		<b>480</b>	<b>520</b>	<b>1000</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>19.5</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22SHS2Z4	தமிழரும் தொழில்நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22SHS2Z5	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22SBS204	Vector Spaces and Differential Equations with MATLAB	BS	40	60	100	3	1	0	4
4	22SBS205	Physics for Information Science	BS	40	60	100	3	0	0	3
5	22SBS206	Applied Chemistry	BS	40	60	100	3	0	0	3
6	22SES204	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22SBS2Z7	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
8	22SES2Z5	Engineering Graphics	ES	60	40	100	1	0	4	3
		<b>TOTAL</b>		<b>360</b>	<b>440</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>21.5</b>

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE - 641013**  
**B.Tech. INFORMATION TECHNOLOGY**

**FIRST SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22IMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22IHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22IHS1Z2	Professional English	HSMC	40	60	100	2	1	0	3
3	22IBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22IBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22IES101	Programming in C	ES	40	60	100	3	0	0	3
6	22IMC1Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
<b>PRACTICAL</b>										
7	22IHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22IBS1Z3	Physics Laboratory	BS	60	40	100	0	0	3	1.5
9	22IES1Z2	Workshop Practice	ES	60	40	100	0	0	3	1.5
10	22IES103	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
<b>TOTAL</b>				<b>480</b>	<b>520</b>	<b>1000</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>19.5</b>

**SECOND SEMESTER**

Sl. No	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22IHS2Z4	தமிழரும் தொழில்நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22IHS2Z5	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22IBS204	Vector Spaces and Differential Equations with MATLAB	BS	40	60	100	3	1	0	4
4	22IBS205	Physics for Information Science	BS	40	60	100	3	0	0	3
5	22IBS206	Applied Chemistry	BS	40	60	100	3	0	0	3
6	22IES204	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22IBS2Z7	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
8	22IES2Z5	Engineering Graphics	ES	60	40	100	1	0	4	3
<b>TOTAL</b>				<b>360</b>	<b>440</b>	<b>800</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>21.5</b>

**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.Tech. INDUSTRIAL BIOTECHNOLOGY (FULL TIME)**

**FIRST SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
	22BMC1Z0	Induction Programme	MC	-	-	-	-	-	-	0
1	22BHS1Z1	தமிழர் மரபு Heritage of Tamils	HSMC	40	60	100	1	0	0	1
2	22BHS1Z2	Values and Ethics	HSMC	40	60	100	3	0	0	3
3	22BBS1Z1	Linear Algebra and Calculus	BS	40	60	100	3	1	0	4
4	22BBS1Z2	Engineering Physics	BS	40	60	100	3	0	0	3
5	22BBS103	Chemistry for Biotechnology	BS	40	60	100	3	0	0	3
6	22BES101	Basics of Electrical and Electronics Engineering	ES	40	60	100	3	0	0	3
<b>PRACTICAL</b>										
7	22BHS1Z3	Cambridge English	HSMC	60	40	100	0	0	2	1
8	22BBS1Z4	Chemistry Laboratory	BS	60	40	100	0	0	3	1.5
9	22BES1Z2	Engineering Graphics	ES	60	40	100	1	0	4	3
		<b>TOTAL</b>		<b>420</b>	<b>480</b>	<b>900</b>	<b>17</b>	<b>1</b>	<b>9</b>	<b>22.5</b>

**SECOND SEMESTER**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
<b>THEORY</b>										
1	22BHS2Z4	தமிழரும் தொழில் நுட்பமும் Tamils and Technology	HSMC	40	60	100	1	0	0	1
2	22BHS2Z5	Professional English	HSMC	40	60	100	2	1	0	3
3	22BBS205	Differential Equations and Numerical Methods	BS	40	60	100	3	1	0	4
4	22BES203	Programming in C	ES	40	60	100	3	0	0	3
5	22BPC201	Biochemistry-I	PC	40	60	100	3	0	0	3
6	22BMC2Z1	Environmental Science and Engineering	MC	40	60	100	3	0	0	0
		NCC Credit Course (Optional)					2	0	0	0
<b>PRACTICAL</b>										
7	22BBS2Z6	Physics Laboratory	BS	60	40	100	0	0	3	1.5
8	22BES2Z4	Workshop Practice	ES	60	40	100	0	0	3	1.5
9	22BES205	Programming in C Laboratory	ES	60	40	100	0	0	3	1.5
		<b>TOTAL</b>		<b>420</b>	<b>480</b>	<b>900</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>18.5</b>



# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution - Anna University, Chennai )

COIMBATORE - 641 013

## OFFICE OF THE CONTROLLER OF EXAMINATIONS

### 35<sup>th</sup> ACADEMIC COUNCIL

#### ITEM 35.4

#### Full Time B.E./B.Tech : 2018A Regulations

#### Verticals : Curricula and Syllabi.

B.E. CIVIL ENGINEERING
B.E. MECHANICAL ENGINEERING
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
B.E. ELECTRONICS AND COMMUNICATION ENGINEERING
B.E. PRODUCTION ENGINEERING
B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING
B.E. COMPUTER SCIENCE AND ENGINEERING
B.Tech. INFORMATION TECHNOLOGY
B.Tech. INDUSTRIAL BIOTECHNOLOGY

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E. CIVIL ENGINEERING**  
**2021 Batch admitted students (2018A Regulation)**  
**PROFESSIONAL ELECTIVE COURSES: VERTICALS**

Vertical I	Vertical II	Vertical III	Vertical IV	Vertical V
<b>Structural Engineering</b>	<b>Environmental Engineering</b>	<b>Geotechnical Engineering</b>	<b>Infrastructure Engineering</b>	<b>Sustainability in civil engineering</b>
18CPE\$01 Steel Structures	18CPE\$11 Design and Drawing (Irrigation and Environmental Engineering)	18CPE\$15 Ground Improvement Techniques	18CPE\$09 Safety in Civil Engineering Practices	18CPE\$37 IoT in construction
18CPE\$02 Concrete Technology	18CPE\$12 Environmental Legislations in India	18CPE\$29 Slope Stability and Landslides	18CPE\$10 Valuation	18CPE\$39 GIS implementation in smart city development
18CPE\$03 Finite Element Method	18CPE\$13 Industrial Wastewater Management	18CPE\$30 Earth Retaining Structures	18CPE\$16 Pavement Engineering	18CPE\$40 Sustainable infrastructure development
18CPE\$04 Advanced Concrete Design	18CPE\$14 Sustainable Engineering and Technology	18CPE\$31 Foundations in Expansive Soil	18CPE\$17 Airport, Docks and Harbour Engineering	18CPE\$41 Sustainable Environmental Management
18CPE\$05 Basics of Dynamics and Aseismic Design Structures	18CPE\$20 Fundamentals of Remote Sensing and GIS Applications	18CPE\$32 Land Reclamation	18CPE\$18 Highways – State of Art	18CPE\$42 Materials for energy Sustainability
18CPE\$06 Concrete Structures	18CPE\$22 Irrigation Engineering and Hydraulic Structures	18CPE\$33 Environmental Geotechnology	18CPE\$19 Traffic Engineering and Management	18CPE\$43 Green technology
18CPE\$07 Bridge Engineering	18CPE\$23 Hydrology	18CPE\$34 Reinforced Soil Structures	18CPE\$21 Highway and Railway Engineering	18CPE\$44 Building information modeling systems
18CPE\$08 Earthquake Engineering	18CPE\$26 Environmental Management	18CPE\$35 Design of Underground Excavations	18CPE\$37 IoT in Construction	18CPE\$45 Modern construction equipments
18CPE\$24 Maintenance and Rehabilitation of Structures	18CPE\$27 Air Pollution Management	18CPE\$36 Geotechniques for infrastructure	18CPE\$38 Intelligent Building Techniques	–
18CPE\$25 Prefabricated Structures	18CPE\$28 Integrated Urban Water Management	–	18CPE\$39 GIS implementation in smart city development	–

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### Vertical I: Structural Engineering

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CPE\$01	Steel Structures	PE	40	60	100	3	0	0	3
2.	18CPE\$02	Concrete Technology	PE	40	60	100	3	0	0	3
3.	18CPE\$03	Finite Element Method	PE	40	60	100	3	0	0	3
4.	18CPE\$04	Advanced Concrete Design	PE	40	60	100	3	0	0	3
5.	18CPE\$05	Basics of Dynamics and Aseismic Design of Structures	PE	40	60	100	3	0	0	3
6.	18CPE\$06	Concrete Structures	PE	40	60	100	3	0	0	3
7.	18CPE\$07	Bridge Engineering	PE	40	60	100	3	0	0	3
8.	18CPE\$08	Earthquake Engineering	PE	40	60	100	3	0	0	3
9.	18CPE\$24	Maintenance and Rehabilitation of Structures	PE	40	60	100	3	0	0	3
10.	18CPE\$25	Prefabricated Structures	PE	40	60	100	3	0	0	3

### Vertical II: Environmental Engineering

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CPE\$11	Design and Drawing (Irrigation and Environmental Engineering)	PE	40	60	100	2	0	2	3
2.	18CPE\$12	Environmental Legislations in India	PE	40	60	100	3	0	0	3
3.	18CPE\$13	Industrial Wastewater Management	PE	40	60	100	3	0	0	3
4.	18CPE\$14	Sustainable Engineering and Technology	PE	40	60	100	3	0	0	3
5.	18CPE\$20	Fundamentals of Remote Sensing and GIS Applications	PE	40	60	100	3	0	0	3
6.	18CPE\$22	Irrigation Engineering and Hydraulic Structures	PE	40	60	100	3	0	0	3
7.	18CPE\$23	Hydrology	PE	40	60	100	3	0	0	3
8.	18CPE\$26	Environmental Management	PE	40	60	100	3	0	0	3
9.	18CPE\$27	Air Pollution Management	PE	40	60	100	3	0	0	3
10.	18CPE\$28	Integrated Urban Water Management	PE	40	60	100	3	0	0	3

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### Vertical III: Geotechnical Engineering

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CPE\$15	Ground Improvement Techniques	PE	40	60	100	3	0	0	3
2.	18CPE\$29	Slope Stability and Landslides	PE	40	60	100	3	0	0	3
3.	18CPE\$30	Earth Retaining Structures	PE	40	60	100	3	0	0	3
4.	18CPE\$31	Foundations in Expensive Soil	PE	40	60	100	3	0	0	3
5.	18CPE\$32	Land Reclamation	PE	40	60	100	3	0	0	3
6.	18CPE\$33	Environmental Geotechnology	PE	40	60	100	3	0	0	3
7.	18CPE\$34	Reinforced Soil Structures	PE	40	60	100	3	0	0	3
8.	18CPE\$35	Design of Underground Excavations	PE	40	60	100	3	0	0	3
9.	18CPE\$36	Geotechniques for infrastructure	PE	40	60	100	3	0	0	3

### Vertical IV: Infrastructure Engineering

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CPE\$09	Safety in Civil Engineering Practices	PE	40	60	100	3	0	0	3
2.	18CPE\$10	Valuation	PE	40	60	100	3	0	0	3
3.	18CPE\$16	Pavement Engineering	PE	40	60	100	3	0	0	3
4.	18CPE\$17	Airport, Docks and Harbour Engineering	PE	40	60	100	3	0	0	3
5.	18CPE\$18	Highways – State of Art	PE	40	60	100	3	0	0	3
6.	18CPE\$19	Traffic Engineering and Management	PE	40	60	100	3	0	0	3
7.	18CPE\$21	Highway and Railway Engineering	PE	40	60	100	3	0	0	3
8.	18CPE\$37	IoT in Construction	PE	40	60	100	3	0	0	3
9.	18CPE\$38	Intelligent Building Techniques	PE	40	60	100	3	0	0	3
10.	18CPE\$39	GIS implementation in smart city development	PE	40	60	100	3	0	0	3

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### Vertical V: Sustainability in Civil Engineering

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CPE\$37	IoT in Construction	PE	40	60	100	3	0	0	3
2.	18CPE\$39	GIS implementation in smart city development	PE	40	60	100	3	0	0	3
3.	18CPE\$40	Sustainable Infrastructure Development	PE	40	60	100	3	0	0	3
4.	18CPE\$41	Sustainable Environmental Management	PE	40	60	100	3	0	0	3
5.	18CPE\$42	Materials for energy Sustainability	PE	40	60	100	3	0	0	3
6.	18CPE\$43	Green Technology	PE	40	60	100	3	0	0	3
7.	18CPE\$44	Building information Modeling Systems	PE	40	60	100	3	0	0	3
8.	18CPE\$45	Modern Construction Equipments	PE	40	60	100	3	0	0	3

  
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Modern Mobility Systems	Product and Process Development	Robotics and Automation	Digital and Green Manufacturing	Processes Equipment and Piping Design	Computational Engineering
Vertical I	Vertical II	Vertical III	Vertical IV	Vertical V	Vertical VI
18MPES\$27 Automotive materials, components, design and testing	18MPES\$33 Value Engineering	18MPES\$36 Principles of Robotics	18MPES\$26 Automation in Manufacturing	18MPES\$46 Design of Pressure Vessels	18MPES\$51 Computational Solid Mechanics
18MPES\$28 Conventional and futuristic vehicle technology	18MPES\$17 Additive Manufacturing (Common to Mech & Prod)	18MPES\$37 Robotic Drives and Control techniques	18MPES\$14 Lean Manufacturing (Common to Mech & Prod)	18MPES\$47 Failure Analysis and NDT Techniques	18MPES\$23 Computational Fluid Dynamics
18MPES\$29 Renewable powered off High Way Vehicles and Emission Control Technologies	18MPES\$34 Computer Integrated Manufacturing	18MPES\$38 Kinematics and Dynamics of Robotics	18MPES\$42 Green manufacturing design and Practices	18MPES\$48 Material processing and Solid processing equipment	18MPES\$52 Theory on Computational and Visualisation
18MPES\$30 Vehicle Health monitoring, Maintenance and Safety	18MPES\$24 Design for Manufacture	18MPES\$39 Robot Programmin g and Simulation	18MPES\$43 Environment Sustainability and Impact assessment	18MPES\$49 Rotating Machinery design	18MPES\$53 Computational Bio-Mechanics
18MPES\$31 CAE and CFD approach in future Mobility	18MPES\$35 Ergonomics in design	18MPES\$40 Robots Applications and Maintenance	18MPES\$44 Energy saving Machinery and Components	18MPES\$50 Thermal and Fired equipment design	18MPES\$54 CAD and CAE
18MPES\$32 Hybrid and Electric Vehicle Technology	18MPES\$13 Process Planning and Cost Estimation (Common to Mech & Prod)	18MPES\$41 Drone Technology	18MPES\$45 Green Supply Chain Management	18MPES\$05 Industrial Engineering	18MPES\$55 Machine Learning (Common to Mech & CSE)

  
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**Vertical I: MODERN MOBILITY SYSTEMS**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES27	Automotive materials, components, design and testing	PE	40	60	100	3	0	0	3
2.	18MPES28	Conventional and futuristic vehicle Technology	PE	40	60	100	3	0	0	3
3.	18MPES29	Renewable powered off high way vehicles and emission control technologies	PE	40	60	100	3	0	0	3
4.	18MPES30	Vehicle Health monitoring, Maintenance and Safety	PE	40	60	100	3	0	0	3
5.	18MPES31	CAE and CFD approach in future Mobility	PE	40	60	100	3	0	0	3
6.	18MPES32	Hybrid and Electric Vehicle Technology	PE	40	60	100	3	0	0	3

**Vertical II: PRODUCT AND PROCESS DEVELOPMENT**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES33	Value Engineering	PE	40	60	100	3	0	0	3
2.	18MPES17	Additive Manufacturing (Common to Mech & Prod)	PE	40	60	100	3	0	0	3
3.	18MPES34	Computer Integrated Manufacturing	PE	40	60	100	3	0	0	3
4.	18MPES24	Design for Manufacture	PE	40	60	100	3	0	0	3
5.	18MPES35	Ergonomics in design	PE	40	60	100	3	0	0	3
6.	18MPES13	Process Planning and Cost Estimation (Common to Mech & Prod)	PE	40	60	100	3	0	0	3

  
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### Vertical III: ROBOTICS AND AUTOMATION

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES36	Principles of Robotics	PE	40	60	100	3	0	0	3
2.	18MPES37	Robotic Drives and Control techniques	PE	40	60	100	3	0	0	3
3.	18MPES38	Kinematics and Dynamics of Robotics	PE	40	60	100	3	0	0	3
4.	18MPES39	Robot Programming and Simulation	PE	40	60	100	3	0	0	3
5.	18MPES40	Robots Applications and Maintenance	PE	40	60	100	3	0	0	3
6.	18MPES41	Drone Technology	PE	40	60	100	3	0	0	3

### Vertical IV: DIGITAL AND GREEN MANUFACTURING

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES26	Automation in Manufacturing	PE	40	60	100	3	0	0	3
2.	18MPES14	Lean Manufacturing (Common to Mech & Prod)	PE	40	60	100	3	0	0	3
3.	18MPES42	Green manufacturing Design and Practices	PE	40	60	100	3	0	0	3
4.	18MPES43	Environment Sustainability and Impact assessment	PE	40	60	100	3	0	0	3
5.	18MPES44	Energy Saving Machinery and Components	PE	40	60	100	3	0	0	3
6.	18MPES45	Green Supply Chain Management	PE	40	60	100	3	0	0	3

  
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**Vertical V: PROCESSES EQUIPMENT AND PIPING DESIGN**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES46	Design of Pressure Vessels	PE	40	60	100	3	0	0	3
2.	18MPES47	Failure Analysis and NDT Techniques	PE	40	60	100	3	0	0	3
3.	18MPES48	Material processing and Solid processing equipment	PE	40	60	100	3	0	0	3
4.	18MPES49	Rotating Machinery design	PE	40	60	100	3	0	0	3
5.	18MPES50	Thermal and Fired equipment design	PE	40	60	100	3	0	0	3
6.	18MPES05	Industrial Engineering	PE	40	60	100	3	0	0	3

**Vertical VI: COMPUTATIONAL ENGINEERING**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MPES51	Computational Solid Mechanics	PE	40	60	100	3	0	0	3
2.	18MPES23	Computational Fluid Dynamics	PE	40	60	100	3	0	0	3
3.	18MPES52	Theory on Computational and Visualisation	PE	40	60	100	3	0	0	3
4.	18MPES53	Computational Bio-Mechanics	PE	40	60	100	3	0	0	3
5.	18MPES54	CAD and CAE	PE	40	60	100	3	0	0	3
6.	18MPES55	Machine Learning (Common to Mech & CSE)	PE	40	60	100	3	0	0	3

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING (FULL TIME)**

**2018A REGULATIONS: VERTICALS CURRICULA AND SYLLABI**

**PROFESSIONAL ELECTIVE COURSES: VERTICALS**

S.NO	VERTICAL I POWER ENGINEERING	VERTICAL II DRIVES AND ENERGY TECHNOLOGIES	VERTICAL III INSTRUMENTATION AND CONTROL	VERTICAL IV DIVERSIFIED COURSES	VERTICAL V ELECTRIC VEHICLE TECHNOLOGY
1	18EPES\$03 POWER SYSTEM ECONOMICS	18EPES\$14 SPECIAL MACHINES AND CONTROLLERS	18EPES\$10 POWER PLANT INSTRUMENTATION (Common to EEE & EIE Branches)	18EPES\$22 OPTIMIZATION TECHNIQUES	<b>18EPES30 ELECTRIC VEHICLE ARCHITECTURE</b>
2	18EPES\$09 POWER SYSTEM STABILITY	18EPES\$23 ELECTRICAL MACHINE DESIGN	18EPES\$19 BIOMEDICAL INSTRUMENTATION (Common to EEE & EIE Branches)	18EPES\$02 NEURAL AND FUZZY SYSTEMS	<b>18EPES31 DESIGN OF MOTOR AND POWER CONVERTERS FOR ELECTRIC VEHICLES</b>
3	18EPES\$05 HVDC TRANSMISSION SYSTEMS	18EPES\$20 INDUSTRIAL DRIVES AND CONTROL	18EPES\$01 PRINCIPLES OF VIRTUAL INSTRUMENTATION	18EPES\$08 AUTOMOTIVE ELECTRONICS FOR ELECTRICAL ENGINEERING	<b>18EPES32 HYBRID ELECTRIC AND FUEL CELL VEHICLES</b>
4	18EPES\$06 FACTS CONTROLLERS	18EPES\$04 POWER QUALITY ENGINEERING	18EPES\$18 MEMS AND APPLICATIONS	18EPES\$11 DIGITAL SIGNAL PROCESSING AND PROCESSORS	<b>18EPES33 DESIGN OF ELECTRIC VEHICLE CHARGING SYSTEM</b>
5	18EPES\$07 ENERGY AUDITING AND MANAGEMENT	18EPES\$21 ENERGY STORAGE TECHNOLOGY	18EPES\$15 LOGIC AND DISTRIBUTED CONTROL SYSTEMS	18EPES\$12 COMPUTER SYSTEM ARCHITECTURE	<b>18EPES34 TESTING OF ELECTRIC VEHICLES</b>
6	18EPES\$17 SOLID STATE RELAYS	18EPES\$26 DISTRIBUTED GENERATION AND MICROGRID	18EPES\$25 MODERN CONTROL THEORY	18EPES\$13 PRINCIPLES OF EMBEDDED SYSTEMS	<b>18EPES35 GRID INTEGRATION OF ELECTRIC VEHICLES</b>
7	18EPES\$24 SMART GRID TECHNOLOGY	18EPES\$29 RENEWABLE ENERGY TECHNOLOGY	18EPES\$27 ELECTRONIC CIRCUIT DESIGN (Common to EEE & EIE Branches)	18EPES\$28 ELECTRONIC SYSTEM DESIGN AND PRODUCTIZATION (Common to EEE & EIE Branches)	<b>18EPES36 INTELLIGENT CONTROL OF ELECTRIC VEHICLES.</b>
8	18EPES\$16 RESTRUCTURED POWER SYSTEMS				

  
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**PROFESSIONAL ELECTIVE COURSES : VERTICALS****VERTICAL I****POWER ENGINEERING**

S. NO.	COURSE CODE	COURSE TITLE	CAT	CA MARKS	END SEM MARKS	TOTAL MARKS	CREDITS			
							L	T	P	C
1	18EPES03	POWER SYSTEM ECONOMICS	PE	40	60	100	3	0	0	3
2	18EPES05	HVDC TRANSMISSION SYSTEMS	PE	40	60	100	3	0	0	3
3	18EPES06	FACTS CONTROLLERS	PE	40	60	100	3	0	0	3
4	18EPES07	ENERGY AUDITING AND MANAGEMENT	PE	40	60	100	3	0	0	3
5	18EPES09	POWER SYSTEM STABILITY	PE	40	60	100	3	0	0	3
6	18EPES16	RESTRUCTURED POWER SYSTEMS	PE	40	60	100	3	0	0	3
7	18EPES17	SOLID STATE RELAYS	PE	40	60	100	3	0	0	3
8	18EPES24	SMART GRID TECHNOLOGY	PE	40	60	100	3	0	0	3

**VERTICAL II****DRIVES AND ENERGY TECHNOLOGIES**

S. NO.	COURSE CODE	COURSE TITLE	CAT	CA MARKS	END SEM MARKS	TOTAL MARKS	CREDITS			
							L	T	P	C
1	18EPES14	SPECIAL MACHINES AND CONTROLLERS	PE	40	60	100	3	0	0	3
2	18EPES20	INDUSTRIAL DRIVES AND CONTROL	PE	40	60	100	3	0	0	3
3	18EPES23	ELECTRICAL MACHINE DESIGN	PE	40	60	100	3	0	0	3
4	18EPES04	POWER QUALITY ENGINEERING	PE	40	60	100	3	0	0	3
5	18EPES21	ENERGY STORAGE TECHNOLOGY	PE	40	60	100	3	0	0	3
6	18EPES26	DISTRIBUTED GENERATION AND MICROGRID	PE	40	60	100	3	0	0	3
7	18EPES29	RENEWABLE ENERGY TECHNOLOGY	PE	40	60	100	3	0	0	3

  
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### VERTICAL III


#### INSTRUMENTATION AND CONTROL

S. NO.	COURSE CODE	COURSE TITLE	CAT	CA MARKS	END SEM MARKS	TOTAL MARKS	CREDITS			
							L	T	P	C
1	18EPES01	PRINCIPLES OF VIRTUAL INSTRUMENTATION	PE	40	60	100	3	0	0	3
2	18EPES10	POWER PLANT INSTRUMENTATION (Common to EEE & EIE Branches)	PE	40	60	100	3	0	0	3
3	18EPES18	MEMS AND APPLICATIONS	PE	40	60	100	3	0	0	3
4	18EPES19	BIOMEDICAL INSTRUMENTATION (Common to EEE & EIE Branches)	PE	40	60	100	3	0	0	3
5	18EPES15	LOGIC AND DISTRIBUTED CONTROL SYSTEMS	PE	40	60	100	3	0	0	3
6	18EPES25	MODERN CONTROL THEORY	PE	40	60	100	3	0	0	3
7	18EPES27	ELECTRONIC CIRCUIT DESIGN (Common to EEE & EIE Branches)	PE	40	60	100	3	0	0	3

### VERTICAL IV

#### DIVERSIFIED COURSES

S. NO.	COURSE CODE	COURSE TITLE	CAT	CA MARKS	END SEM MARKS	TOTAL MARKS	CREDITS			
							L	T	P	C
1	18EPES02	NEURAL AND FUZZY SYSTEMS	PE	40	60	100	3	0	0	3
2	18EPES11	DIGITAL SIGNAL PROCESSING AND PROCESSORS	PE	40	60	100	3	0	0	3
3	18EPES12	COMPUTER SYSTEM ARCHITECTURE	PE	40	60	100	3	0	0	3
4	18EPES13	PRINCIPLES OF EMBEDDED SYSTEMS	PE	40	60	100	3	0	0	3
5	18EPES08	AUTOMOTIVE ELECTRONICS FOR ELECTRICAL ENGINEERING	PE	40	60	100	3	0	0	3
6	18EPES22	OPTIMIZATION TECHNIQUES	PE	40	60	100	3	0	0	3
7	18EPES28	ELECTRONIC SYSTEM DESIGN AND PRODUCTIZATION (Common to EEE & EIE Branches)	PE	40	60	100	3	0	0	3

  
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**VERTICAL V**  
**ELECTRIC VEHICLE TECHNOLOGY**

S. NO.	COURSE CODE	COURSE TITLE	CAT	CA MARKS	END SEM MARKS	TOTAL MARKS	CREDITS			
							L	T	P	C
1	18EPES30	ELECTRIC VEHICLE ARCHITECTURE	PE	40	60	100	3	0	0	3
2	18EPES31	DESIGN OF MOTOR AND POWER CONVERTERS FOR ELECTRIC VEHICLES	PE	40	60	100	3	0	0	3
3	18EPES32	HYBRID ELECTRIC AND FUEL CELL VEHICLES	PE	40	60	100	3	0	0	3
4	18EPES33	DESIGN OF ELECTRIC VEHICLE CHARGING SYSTEM	PE	50	50	100	2	0	2	3
5	18EPES34	TESTING OF ELECTRIC VEHICLES	PE	50	50	100	2	0	2	3
6	18EPES35	GRID INTEGRATION OF ELECTRIC VEHICLES	PE	40	60	100	3	0	0	3
7	18EPES36	INTELLIGENT CONTROL OF ELECTRIC VEHICLES.	PE	50	50	100	2	0	2	3

  
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# GOVERNMENT COLLEGE OF TECHNOLOGY

## ELECTRONICS AND COMMUNICATION ENGINEERING

### VERTICALS

Vertical I- High speed Communications	Vertical II-RF Technologies	Vertical III-Signal and Image processing	Vertical IV-VLSI Design	Vertical V - BioMedical Technologies	Vertical VI- Embedded Systems and IOT
18LPE\$17-AdHoc and Wireless Sensor networks	18LPE\$18-Satellite Communication	18LPE\$02-Speech Signal Processing	18LPE\$13- Low Power VLSI	18LPE\$51-Biosensors	18LPE\$03-Introduction to MEMS
18LPE\$27-Wireless Communication Techniques	18LPE\$26 - Microwave Integrated Circuits	18LPE\$12 - Advanced Digital Signal Processing	18LPE\$45- Analog IC Design	18LPE\$52-Medical Instrumentation	18LPE\$07-Automotive Electronics
18LPE\$28-High Speed Networks	18LPE\$34-Advanced Radiation Systems	18LPE\$15-Digital Image and Video Processing	18LPE\$46- Programming FPGA using HDLs	18LPE\$53-Medical imaging systems	18LPE\$09-Embedded Systems
18LPE\$29-Coding Theory and Secured Communication	18LPE\$35-Electromagnetic Interference and Compatibility	18LPE\$40-VLSI Signal Processing	18LPE\$47- ASIC Design	18LPE\$54-BioInformatics for BioMedical Engineers	18LPE\$16-Control Systems
18LPE\$30-Software Defined Networks (common to ECE& CSE)	18LPE\$36-RF Transceivers	18LPE\$41- Non linear Signal Processing	18LPE\$48-System on Chip Design	18LPE\$55-Biotelemetry and Telemedicine	18LPE\$25-Internet of Things
18LPE\$31-Massive MIMO and Millimeter wave systems	18LPE\$37-RF System Design	18LPE\$42-Radar Signal Processing	18LPE\$49-VLSI Testing and Design for Testability	18LPE\$56-Embedded systems in BioMedical Engineering	18LPE\$59-Smart Sensors
18LPE\$32-Optical Communication and Networks	18LPE\$38-Smart Antennas	18LPE\$43-Computer Vision Algorithms and Applications	18LPE\$50-Design for Verification using UVM	18LPE\$57-Wearable Technologies	18LPE\$60-Industrial Internet of Things (Common To ECE & EIE)
18LPE\$33-Evolution of 4G/5G Technologies	18LPE\$39-Modern Antennas	18LPE\$44-Digital Signal Processors		18LPE\$58-Hospital safety and management	18LPE\$61-Embedded Operating Systems

  
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### Vertical I: HIGH SPEED COMMUNICATIONS

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$17	AdHoc and Wireless Sensor networks	PE	40	60	100	3	0	0	3
2.	18LPE\$27	Wireless Communication Techniques	PE	40	60	100	3	0	0	3
3.	18LPE\$28	High Speed Networks	PE	40	60	100	3	0	0	3
4.	18LPE\$29	Coding Theory and Secured Communication	PE	40	60	100	3	0	0	3
5.	18LPE\$30	Software Defined Networks (common to ECE& CSE)	PE	40	60	100	3	0	0	3
6.	18LPE\$31	Massive MIMO and Millimeter wave systems	PE	40	60	100	3	0	0	3
7.	18LPE\$32	Optical Communication and Networks	PE	40	60	100	3	0	0	3
8.	18LPE\$33	Evolution of 4G/5G Technologies	PE	40	60	100	3	0	0	3

### Vertical II: RF TECHNOLOGIES

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$18	Satellite Communication	PE	40	60	100	3	0	0	3
2.	18LPE\$26	Microwave Integrated Circuits	PE	40	60	100	3	0	0	3
3.	18LPE\$34	Advanced Radiation Systems	PE	40	60	100	3	0	0	3
4.	18LPE\$35	Electromagnetic Interference and Compatibility	PE	40	60	100	3	0	0	3
5.	18LPE\$36	RF Transceivers	PE	40	60	100	3	0	0	3
6.	18LPE\$37	RF System Design	PE	40	60	100	3	0	0	3
7.	18LPE\$38	Smart Antennas	PE	40	60	100	3	0	0	3
8.	18LPE\$39	Modern Antennas	PE	40	60	100	3	0	0	3

  
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**Vertical III: SIGNAL AND IMAGE PROCESSING**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$02	Speech Signal Processing	PE	40	60	100	3	0	0	3
2.	18LPE\$12	Advanced Digital Signal Processing	PE	40	60	100	3	0	0	3
3.	18LPE\$15	Digital Image and Video Processing	PE	40	60	100	3	0	0	3
4.	18LPE\$40	VLSI Signal Processing	PE	40	60	100	3	0	0	3
5.	18LPE\$41	Non linear Signal Processing	PE	40	60	100	3	0	0	3
6.	18LPE\$42	Radar Signal Processing	PE	40	60	100	3	0	0	3
7.	18LPE\$43	Computer Vision Algorithms and Applications	PE	40	60	100	3	0	0	3
8.	18LPE\$44	Digital Signal Processors	PE	40	60	100	3	0	0	3

**Vertical IV: VLSI DESIGN**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$13	Low Power VLSI	PE	40	60	100	3	0	0	3
2.	18LPE\$45	Analog IC Design	PE	40	60	100	3	0	0	3
3.	18LPE\$46	Programming FPGA using HDLs	PE	40	60	100	3	0	0	3
4.	18LPE\$47	ASIC Design	PE	40	60	100	3	0	0	3
5.	18LPE\$48	System on Chip Design	PE	40	60	100	3	0	0	3
6.	18LPE\$49	VLSI Testing and Design for Testability	PE	40	60	100	3	0	0	3
7.	18LPE\$50	Design for Verification using UVM	PE	40	60	100	3	0	0	3

  
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### Vertical V: BIOMEDICAL TECHNOLOGIES

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$51	Biosensors	PE	40	60	100	3	0	0	3
2.	18LPE\$52	Medical Instrumentation	PE	40	60	100	3	0	0	3
3.	18LPE\$53	Medical imaging systems	PE	40	60	100	3	0	0	3
4.	18LPE\$54	BioInformatics for BioMedical Engineers	PE	40	60	100	3	0	0	3
5.	18LPE\$55	Biotelemetry and Telemedicine	PE	40	60	100	3	0	0	3
6.	18LPE\$56	Embedded systems in BioMedical Engineering	PE	40	60	100	3	0	0	3
7.	18LPE\$57	Wearable Technologies	PE	40	60	100	3	0	0	3
8.	18LPE\$58	Hospital safety and management	PE	40	60	100	3	0	0	3

### Vertical VI: EMBEDDED SYSTEMS AND IOT

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18LPE\$03	Introduction to MEMS	PE	40	60	100	3	0	0	3
2.	18LPE\$07	Automotive Electronics	PE	40	60	100	3	0	0	3
3.	18LPE\$09	Embedded Systems	PE	40	60	100	3	0	0	3
4.	18LPE\$16	Control Systems	PE	40	60	100	3	0	0	3
5.	18LPE\$25	Internet of Things	PE	40	60	100	3	0	0	3
6.	18LPE\$59	Smart Sensors	PE	40	60	100	3	0	0	3
7.	18LPE\$60	Industrial Internet of Things (Common To ECE & EIE)	PE	40	60	100	3	0	0	3
8.	18LPE\$61	Embedded Operating Systems	PE	40	60	100	3	0	0	3

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, Coimbatore - 641 013**

**DEPARTMENT OF PRODUCTION ENGINEERING (FULL TIME)**

**2018A REGULATIONS : VERTICALS CURRICULA AND SYLLABI**

<b>PROFESSIONAL ELECTIVE COURSES: VERTICALS</b>			
<b>VERTICAL I</b>	<b>VERTICAL II</b>	<b>VERTICAL III</b>	<b>VERTICAL IV</b>
<b>AUTOMATION</b>	<b>PRODUCT DESIGN AND DEVELOPMENT</b>	<b>MANUFACTURING PROCESSES AND CONCEPTS</b>	<b>INDUSTRIAL ENGINEERING AND QUALITY CONTROL</b>
18PPE\$01 Mechatronic Systems	18PPE\$02 Finite Element Techniques	18PPE\$03 Unconventional Manufacturing Processes	18PPE\$07 Statistical Quality Control and Reliability Engineering
18PPE\$04 CNC Technology	18PPE\$06 Robust Design	18PPE\$08 Advanced Welding Technology	18PPE\$12 Plant Layout and Material Handling
18PPE\$23 Robotics and Machine Vision System	18PPE\$09 Product Design and Process Engineering	18PPE\$16 Lean Manufacturing (common to MECH & PRODN)	18PPE\$13 Non Destructive Testing Techniques
18PPE\$25 Electronics Manufacturing Technology	18PPE\$10 Design for Manufacture and Assembly	18PPE\$17 Micro manufacturing Processes	18PPE\$14 Supply Chain Management
18PPE\$26 Smart Manufacturing	18PPE\$22 Computer Aided Design (common to MECH & PRODN)	18PPE\$19 Advanced Casting Technology	18PPE\$15 Production Management
<b>18PPE\$27 Modern Control Technology</b>	18PPE\$18 Theory of Metal Cutting (common to MECH & PRODN)	18PPE\$21 Green Manufacturing	18PPE\$20 Total Productive Maintenance
<b>18PPE\$28 Image Processing in Manufacturing</b>	<b>18PPE\$29 Introduction to Composite Materials</b>	18PPE\$24 Investment Casting	18PPE\$05 Power Plant Engineering (common to MECH & PRODN)
-	<b>18PPE\$30 Industrial Ergonomics</b>	<b>18PPE\$31 Surface Engineering and Tribology</b>	18PPE\$11 Human Values and professional Ethics II
-	-	-	<b>18PPE\$32 Industrial Safety Engineering</b>

  
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**PROFESSIONAL ELECTIVE COURSES: VERTICALS**

**VERTICAL I - AUTOMATION**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18PPE\$01	Mechatronic Systems	PE	40	60	100	3	0	0	3
2	18PPE\$04	CNC Technology	PE	40	60	100	3	0	0	3
3	18PPE\$23	Robotics and Machine Vision System	PE	40	60	100	3	0	0	3
4	18PPE\$25	Electronics Manufacturing Technology	PE	40	60	100	3	0	0	3
5	18PPE\$26	Smart Manufacturing	PE	40	60	100	3	0	0	3
6	18PPE\$27	Modern Control Technology	PE	40	60	100	3	0	0	3
7	18PPE\$28	Image Processing in Manufacturing	PE	40	60	100	3	0	0	3

**VERTICAL II - PRODUCT DESIGN AND DEVELOPMENT**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18PPE\$02	Finite Element Techniques	PE	40	60	100	3	0	0	3
2	18PPE\$06	Robust Design	PE	40	60	100	3	0	0	3
3	18PPE\$09	Product Design and Process Engineering	PE	40	60	100	3	0	0	3
4	18PPE\$10	Design for Manufacture and Assembly	PE	40	60	100	3	0	0	3
5	18PPE\$22	Computer Aided Design	PE	40	60	100	3	0	0	3
6	18PPE\$18	Theory of Metal Cutting	PE	40	60	100	3	0	0	3
7	18PPE\$29	Introduction to Composite Materials	PE	40	60	100	3	0	0	3
8	18PPE\$30	Industrial Ergonomics	PE	40	60	100	3	0	0	3

  
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**VERTICAL III - MANUFACTURING PROCESSES AND CONCEPTS**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18PPE\$03	Unconventional Manufacturing Processes	PE	40	60	100	3	0	0	3
2	18PPE\$08	Advanced Welding Technology	PE	40	60	100	3	0	0	3
3	18PPE\$16	Lean Manufacturing	PE	40	60	100	3	0	0	3
4	18PPE\$17	Micro manufacturing Processes	PE	40	60	100	3	0	0	3
5	18PPE\$19	Advanced Casting Technology	PE	40	60	100	3	0	0	3
6	18PPE\$21	Green Manufacturing	PE	40	60	100	3	0	0	3
7	18PPE\$24	Investment Casting	PE	40	60	100	3	0	0	3
8	18PPE\$31	Surface Engineering and Tribology	PE	40	60	100	3	0	0	3

**VERTICAL IV - INDUSTRIAL ENGINEERING AND QUALITY CONTROL**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18PPE\$07	Statistical Quality Control and Reliability Engineering	PE	40	60	100	3	0	0	3
2	18PPE\$12	Plant Layout and Material Handling	PE	40	60	100	3	0	0	3
3	18PPE\$13	Non Destructive Testing Techniques	PE	40	60	100	3	0	0	3
4	18PPE\$14	Supply Chain Management	PE	40	60	100	3	0	0	3
5	18PPE\$15	Production Management	PE	40	60	100	3	0	0	3
6	18PPE\$20	Total Productive Maintenance	PE	40	60	100	3	0	0	3
7	18PPE\$05	Power Plant Engineering	PE	40	60	100	3	0	0	3
8	18PPE\$11	Human Values and professional Ethics II	PE	40	60	100	3	0	0	3
9	18PPE\$32	Industrial Safety Engineering	PE	40	60	100	3	0	0	3

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, Coimbatore - 641 013**  
**DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING (FULL TIME)**  
**2018A REGULATIONS : VERTICALS CURRICULA AND SYLLABI**

VERTICAL I	VERTICAL II	VERTICAL III	VERTICAL IV
<b>ADVANCED CONTROL</b>	<b>APPLIED INSTRUMENTATION</b>	<b>HEALTH CARE INSTRUMENTATION</b>	<b>INDUSTRIAL AUTOMATION</b>
<b>18NPE\$32 - Process Modeling and Simulation</b>	18NPE\$17 – Fiber Optics and Laser Instrumentation	18NPE\$21 - Biomedical Instrumentation (Common To EEE & EIE)	<b>18NPE\$45 – PLC Programming</b>
18NPE\$03 – Computer Control of Processes	18NPE\$20 – Power Plant Instrumentation (Common To EEE & EIE)	<b>18NPE\$39 – Bio Signal Processing</b>	18NPE\$24 - Robotics and its Applications
<b>18NPE\$33 - System Identification</b>	18NPE\$22 – Instrumentation and Control in Petro Chemical Industries	<b>18NPE\$40 – Medical Imaging</b>	18NPE\$15 - Industrial Internet of Things (Common To ECE & EIE)
<b>18NPE\$34 - Non - Linear Control</b>	18NPE\$18 – Aircraft Instrumentation	<b>18NPE\$41 – Medical Image Processing</b>	<b>18NPE\$46 – Data Analytics for IoT</b>
<b>18NPE\$35 - Adaptive Control</b>	18NPE\$26 - Automotive Instrumentation	<b>18NPE\$42 – Medical Robotics</b>	<b>18NPE\$47 – IoT for Smart Cities</b>
<b>18NPE\$36 - Model Based Control</b>	18NPE\$11 - Safety Instrument Systems	<b>18NPE\$43 – Diagnosis and Therapeutic Equipment</b>	<b>18NPE\$48 – Building Automation</b>
<b>18NPE\$37 - Machine Monitoring System</b>	<b>18NPE\$38 – Electrical Vehicle Technology</b>	<b>18NPE\$44 – Physiological Control Systems</b>	<b>18NPE\$49 – Smart Farming</b>

  
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**PROFESSIONAL ELECTIVE COURSES: VERTICALS**

**VERTICAL I - ADVANCED CONTROL**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NPE\$32	Process Modeling and Simulation	PE	40	60	100	3	0	0	3
2	18NPE\$03	Computer Control of Processes	PE	40	60	100	3	0	0	3
3	18NPE\$33	System Identification	PE	40	60	100	3	0	0	3
4	18NPE\$34	Non -Linear Control	PE	40	60	100	3	0	0	3
5	18NPE\$35	Adaptive Control	PE	40	60	100	3	0	0	3
6	18NPE\$36	Model Based Control	PE	40	60	100	3	0	0	3
7	18NPE\$37	Machine Monitoring System	PE	40	60	100	3	0	0	3

**VERTICAL II - APPLIED INSTRUMENTATION**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NPE\$17	Fiber Optics and Laser Instrumentation	PE	40	60	100	3	0	0	3
2	18NPE\$20	Power Plant Instrumentation (Common To EEE & EIE)	PE	40	60	100	3	0	0	3
3	18NPE\$22	Instrumentation and Control in Petro Chemical Industries	PE	40	60	100	3	0	0	3
4	18NPE\$18	Aircraft Instrumentation	PE	40	60	100	3	0	0	3
5	18NPE\$26	Automotive Instrumentation	PE	40	60	100	3	0	0	3
6	18NPE\$11	Safety Instrument Systems	PE	40	60	100	3	0	0	3
7	18NPE\$38	Electrical Vehicle Technology	PE	40	60	100	3	0	0	3

  
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**VERTICAL III - HEALTH CARE INSTRUMENTATION**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NPE\$21	Biomedical Instrumentation (Common To EEE & EIE)	PE	40	60	100	3	0	0	3
2	18NPE\$39	Bio Signal Processing	PE	40	60	100	3	0	0	3
3	18NPE\$40	Medical Imaging	PE	40	60	100	3	0	0	3
4	18NPE\$41	Medical Image Processing	PE	40	60	100	3	0	0	3
5	18NPE\$42	Medical Robotics	PE	40	60	100	3	0	0	3
6	18NPE\$43	Diagnosis and Therapeutic Equipment	PE	40	60	100	3	0	0	3
7	18NPE\$44	Physiological Control Systems	PE	40	60	100	3	0	0	3

**VERTICAL IV - INDUSTRIAL AUTOMATION**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18NPE\$45	PLC Programming	PE	40	60	100	3	0	0	3
2	18NPE\$24	Robotics and its Applications	PE	40	60	100	3	0	0	3
3	18NPE\$15	Industrial Internet of Things (Common To ECE & EIE)	PE	40	60	100	3	0	0	3
4	18NPE\$46	Data Analytics for IoT	PE	40	60	100	3	0	0	3
5	18NPE\$47	IoT for Smart Cities	PE	40	60	100	3	0	0	3
6	18NPE\$48	Building Automation	PE	40	60	100	3	0	0	3
7	18NPE\$49	Smart Farming	PE	40	60	100	3	0	0	3

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E.COMPUTER SCIENCE AND ENGINEERING**

**2018 A REGULATIONS : VERTICALS CURRICULA AND SYLLABI**

Vertical I Artificial Intelligence	Vertical II Full Stack Development	Vertical III Data Science and Analytics	Vertical IV Cyber Security
18SPE\$19 - Knowledge Representation	18SPE\$25 - Web Application Security (Common to CSE & IT)	18SPE\$12 - Big Data Analytics	18SPE\$33 - Modern Cryptography (Common to CSE & IT)
18SPE\$20 - Ethics and AI (Common to CSE & IT)	18SPE\$26 - Dev-ops (Common to CSE & IT)	18SPE\$17 - Data Warehousing and Data Mining	18SPE\$34 - Network Security
18SPE\$21 - Deep Learning	18SPE\$01- Introduction to Web Technology	18SPE\$08 - Computer Vision	18SPE\$35 - Security and Privacy in cloud (Common to CSE & IT)
18SPE\$05 - Natural Language Processing	18SPE\$07 - Cloud Engineering	18SPE\$21 - Deep Learning	18SPE\$36 - Crypto-currency and Blockchain Technologies (Common to CSE & IT)
18SPE\$22 - Game Theory (Common to CSE & IT)	18SPE\$27 - Principles of Programming Languages (Common to CSE & IT)	18SPE\$30 - Recommender Systems (Common to CSE & IT)	18SPE\$37 - Ethical Hacking (Common to CSE & IT)
18SPE\$23 - Soft Computing	18SPE\$28 - UI & UX design (Common to CSE & IT)	18SPE\$31 - Exploratory Data Analytics (Common to CSE & IT)	18SPE\$38 - Digital and Mobile Forensics (Common to CSE & IT)
18SPE\$24 - Cognitive Science (Common to CSE & IT)	18SPE\$29 - App Development (Common to CSE & IT)	18SPE\$32 - Video Analytics (Common to CSE & IT)	18SPE\$39 - Social Network Security (Common to CSE & IT)

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E.COMPUTER SCIENCE AND ENGINEERING**  
**CBCS 2018 A REGULATIONS**

**Verticals – I**

**ARTIFICIAL INTELLIGENCE**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPE\$19	Knowledge Representation	PE	40	60	100	3	0	0	3
2	18SPE\$20	Ethics and AI (Common to CSE & IT)	PE	40	60	100	3	0	0	3
3	18SPE\$21	Deep Learning	PE	40	60	100	3	0	0	3
4	18SPE\$05	Natural Language Processing	PE	40	60	100	3	0	0	3
5	18SPE\$22	Game Theory (Common to CSE & IT)	PE	40	60	100	3	0	0	3
6	18SPE\$23	Soft Computing	PE	40	60	100	3	0	0	3
7	18SPE\$24	Cognitive Science (Common to CSE & IT)	PE	40	60	100	3	0	0	3

**Verticals – II**

**FULL STACK DEVELOPMENT**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPE\$25	Web Application Security (Common to CSE & IT)	PE	40	60	100	3	0	0	3
2	18SPE\$26	Dev-ops (Common to CSE & IT)	PE	40	60	100	3	0	0	3
3	18SPE\$01	Introduction to Web Technology	PE	40	60	100	3	0	0	3
4	18SPE\$07	Cloud Engineering	PE	40	60	100	3	0	0	3
5	18SPE\$27	Principles of Programming Languages (Common to CSE & IT)	PE	40	60	100	3	0	0	3
6	18SPE\$28	UI & UX design (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18SPE\$29	App Development (Common to CSE & IT)	PE	40	60	100	3	0	0	3

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### Verticals – III

## DATA SCIENCE AND ANALYTICS

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPE\$12	Big Data Analytics	PE	40	60	100	3	0	0	3
2	18SPE\$17	Data Warehousing and Data Mining	PE	40	60	100	3	0	0	3
3	18SPE\$08	Computer Vision	PE	40	60	100	3	0	0	3
4	18SPE\$21	Deep Learning	PE	40	60	100	3	0	0	3
5	18SPE\$30	Recommender Systems (Common to CSE & IT)	PE	40	60	100	3	0	0	3
6	18SPE\$31	Exploratory Data Analytics (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18SPE\$32	Video Analytics (Common to CSE & IT)	PE	40	60	100	3	0	0	3

### Verticals – IV

## CYBER SECURITY

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SPE\$33	Modern Cryptography (Common to CSE & IT)	PE	40	60	100	3	0	0	3
2	18SPE\$34	Network Security	PE	40	60	100	3	0	0	3
3	18SPE\$35	Security and Privacy in cloud (Common to CSE & IT)	PE	40	60	100	3	0	0	3
4	18SPE\$36	Crypto-currency and Blockchain Technologies (Common to CSE & IT)	PE	40	60	100	3	0	0	3
5	18SPE\$37	Ethical Hacking (Common to CSE & IT)	PE	40	60	100	3	0	0	3
6	18SPE\$38	Digital and Mobile Forensics (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18SPE\$39	Social Network Security (Common to CSE & IT)	PE	40	60	100	3	0	0	3

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.Tech. INFORMATION TECHNOLOGY**

**2018 A REGULATIONS : VERTICALS CURRICULA AND SYLLABI**

<b>Vertical I Data Science</b>	<b>Vertical II Full Stack Development for IT</b>	<b>Vertical III Cloud Computing and Data Centre Technologies</b>	<b>Vertical IV Cyber Security and Data Privacy</b>	<b>Vertical V Creative Media</b>	<b>Vertical VI Artificial Intelligence and Machine Learning</b>
18IPE\$31 - Exploratory Data Analysis (Common to CSE & IT)	18IPE\$10 - Cloud Computing	18IPE\$10 - Cloud Computing	18IPE\$49 -Ethical Hacking (Common to CSE & IT)	18IPE\$20 - Virtual and Augmented Reality	<b>18IPE\$61 - Knowledge Engineering</b>
18IPE\$32 - Recommender Systems (Common to CSE & IT)	18IPE\$39 -App Development (Common to CSE & IT)	18IPE\$18 - Virtualization Techniques	18IPE\$50 -Digital and Mobile Forensics (Common to CSE & IT)	<b>18IPE\$55 - Multimedia and Animation</b>	18IPE\$14 -Soft Computing and its Applications
<b>18IPE\$33 - Neural Networks and Deep Learning</b>	<b>18IPE\$40 - Cloud Services Management</b>	18IPE\$40 - Cloud Services Management	18IPE\$51 - Social Network Security (Common to CSE & IT)	<b>18IPE\$56 - Video Creation and Editing</b>	18IPE\$33 - Neural Networks and Deep Learning
<b>18IPE\$34 - Text and Speech Analysis</b>	18IPE\$41 - UI and UX Design (Common to CSE & IT)	18IPE\$45 - Data Warehousing	18IPE\$52 -Modern Cryptography (Common to CSE & IT)	18IPE\$41 - UI and UX Design (Common to CSE & IT)	18IPE\$34 - Text and Speech Analysis
<b>18IPE\$35 -Business Analytics</b>	18IPE\$03 - Software Testing	<b>18IPE\$46 -Storage Technologies</b>	<b>18IPE\$53 - Engineering Secure software systems</b>	<b>18IPE\$57 - Digital marketing</b>	<b>18IPE\$62 - Optimization Techniques and Applications</b>
<b>18IPE\$36 - Image and video analytics</b>	18IPE\$42 - Web Application Security (Common to CSE & IT)	18IPE\$28 - Software Defined Networking	18IPE\$54 - Cryptocurrency and Blockchain Technologies (Common to CSE & IT)	<b>18IPE\$58 - Visual Effects</b>	18IPE\$63 - Game Theory (Common to CSE & IT)
<b>18IPE\$37 - Computer Vision and Applications</b>	18IPE\$43 - Dev-ops (Common to CSE & IT)	<b>18IPE\$47 - Stream Processing</b>	18IPE\$12 - Information Security (Common to CSE & IT)	<b>18IPE\$59 - Game Development</b>	18IPE\$64 - Cognitive Science (Common to CSE & IT)
<b>18IPE\$38 - Big Data Science and Analytics</b>	18IPE\$44 - Principles of Programming Languages (Common to CSE & IT)	18IPE\$48 - Security and Privacy in Cloud (Common to CSE & IT)	18IPE\$48 - Security and Privacy in Cloud (Common to CSE & IT)	<b>18IPE\$60 - Multimedia Data Compression and Storage</b>	18IPE\$65 - Ethics And AI (Common to CSE & IT)

**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.Tech. INFORMATION TECHNOLOGY**  
**CBCS 2018 REGULATIONS**

**Verticals – I**

**DATA SCIENCE**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$31	Exploratory Data Analysis (Common to CSE & IT)	PE	40	60	100	3	0	0	3
2	18IPE\$32	Recommender Systems (Common to CSE & IT)	PE	40	60	100	3	0	0	3
3	18IPE\$33	Neural Networks and Deep Learning	PE	40	60	100	3	0	0	3
4	18IPE\$34	Text and Speech Analysis	PE	40	60	100	3	0	0	3
5	18IPE\$35	Business Analytics	PE	40	60	100	3	0	0	3
6	18IPE\$36	Image and video analytics	PE	40	60	100	3	0	0	3
7	18IPE\$37	Computer Vision and Applications	PE	40	60	100	3	0	0	3
8	18IPE\$38	Big Data Science and Analytics	PE	40	60	100	3	0	0	3

**Verticals – II**

**FULL STACK DEVELOPMENT FOR IT**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$10	Cloud Computing	PE	40	60	100	3	0	0	3
2	18IPE\$39	App Development (Common to CSE & IT)	PE	40	60	100	3	0	0	3
3	18IPE\$40	Cloud Services Management	PE	40	60	100	3	0	0	3
4	18IPE\$41	UI and UX Design (Common to CSE & IT)	PE	40	60	100	3	0	0	3
5	18IPE\$03	Software Testing	PE	40	60	100	3	0	0	3
6	18IPE\$42	Web Application Security (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18IPE\$43	Dev-ops (Common to CSE & IT)	PE	40	60	100	3	0	0	3
8	18IPE\$44	Principles of Programming Languages (Common to CSE & IT)	PE	40	60	100	3	0	0	3

### Verticals – III

#### CLOUD COMPUTING AND DATA CENTRE TECHNOLOGIES

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$10	Cloud Computing	PE	40	60	100	3	0	0	3
2	18IPE\$18	Virtualization Techniques	PE	40	60	100	3	0	0	3
3	18IPE\$40	Cloud Services Management	PE	40	60	100	3	0	0	3
4	18IPE\$45	Data Warehousing	PE	40	60	100	3	0	0	3
5	18IPE\$46	Storage Technologies	PE	40	60	100	3	0	0	3
6	18IPE\$28	Software Defined Networking	PE	40	60	100	3	0	0	3
7	18IPE\$47	Stream Processing	PE	40	60	100	3	0	0	3
8	18IPE\$48	Security and Privacy in Cloud (Common to CSE & IT)	PE	40	60	100	3	0	0	3

### Verticals – IV

#### CYBER SECURITY AND DATA PRIVACY

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$49	Ethical Hacking (Common to CSE & IT)	PE	40	60	100	3	0	0	3
2	18IPE\$50	Digital and Mobile Forensics (Common to CSE & IT)	PE	40	60	100	3	0	0	3
3	18IPE\$51	Social Network Security (Common to CSE & IT)	PE	40	60	100	3	0	0	3
4	18IPE\$52	Modern Cryptography (Common to CSE & IT)	PE	40	60	100	3	0	0	3
5	18IPE\$53	Engineering Secure software systems	PE	40	60	100	3	0	0	3
6	18IPE\$54	Cryptocurrency and Blockchain Technologies (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18IPE\$12	Information Security	PE	40	60	100	3	0	0	3
8	18IPE\$48	Security and Privacy in Cloud	PE	40	60	100	3	0	0	3

## Verticals – V

### CREATIVE MEDIA

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$20	Virtual and Augmented Reality	PE	40	60	100	3	0	0	3
2	18IPE\$55	Multimedia and Animation	PE	40	60	100	3	0	0	3
3	18IPE\$56	Video Creation and Editing	PE	40	60	100	3	0	0	3
4	18IPE\$41	UI and UX Design	PE	40	60	100	3	0	0	3
5	18IPE\$57	Digital marketing	PE	40	60	100	3	0	0	3
6	18IPE\$58	Visual Effects	PE	40	60	100	3	0	0	3
7	18IPE\$59	Game Development	PE	40	60	100	3	0	0	3
8	18IPE\$60	Multimedia Data Compression and Storage	PE	40	60	100	3	0	0	3

## Verticals – VI

### ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18IPE\$61	Knowledge Engineering	PE	40	60	100	3	0	0	3
2	18IPE\$14	Soft Computing and its Applications	PE	40	60	100	3	0	0	3
3	18IPE\$33	Neural Networks and Deep Learning	PE	40	60	100	3	0	0	3
4	18IPE\$34	Text and Speech Analysis	PE	40	60	100	3	0	0	3
5	18IPE\$62	Optimization Techniques and Applications	PE	40	60	100	3	0	0	3
6	18IPE\$63	Game Theory (Common to CSE & IT)	PE	40	60	100	3	0	0	3
7	18IPE\$64	Cognitive Science (Common to CSE & IT)	PE	40	60	100	3	0	0	3
8	18IPE\$65	Ethics And AI (Common to CSE & IT)	PE	40	60	100	3	0	0	3

  
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B.Tech. INDUSTRIAL BIOTECHNOLOGY (FULL TIME)

2018A REGULATIONS : VERTICALS CURRICULA AND SYLLABI

S. No.	Vertical I Medical Biotechnology	Vertical II rDNA Technology	Vertical III Bioprocess Technology	Vertical IV Quality and Regulatory Affairs	Vertical V Biosciences
1.	18BPES\$16 Immunotechnology	18BPES\$13 Genomics and Proteomics	18BPES\$28 Aspects of Biochemical Engineering	18BPES\$34 Clinical trials and health care policies in Biotechnology	18BPES\$42 Human Anatomy and Physiology
2.	18BPES\$25 Neurobiology and cognitive sciences	18BPES\$20 Metabolic Engineering	18BPES\$29 Fermentation Technology	18BPES\$35 Biotechnological products and its validation	18BPES\$43 Bioethics
3.	18BPES\$10 Molecular Pathogenesis	18BPES\$07 Plant Biotechnology	18BPES\$04 Food Process Engineering	18BPES\$36 Quality assurance and quality control in Biotechnology	18BPES\$44 Biomass and Bioenergy (NPTEL)
4.	18BPES\$08 Cancer Biology	18BPES\$12 Animal Biotechnology	18BPES\$30 Bioreactor design and scale up process	18BPES\$37 Entrepreneurship and patent design	18BPES\$09 Environmental Biotechnology
5.	18BPES\$17 Biopharmaceutical Technology	18BPES\$21 Protein Engineering	18BPES\$31 Solid State Bioprocessing	18BPES\$38 Intellectual property rights in Biotechnology	18BPES\$02 Biopolymer technology
6.	18BPES\$19 Tissue Engineering	18BPES\$06 Marine Biotechnology	18BPES\$32 Bio process control and instrumentation	18BPES\$39 Biosafety and Hazard management	18BPES\$11 Nanobiotechnology
7.	18BPES\$26 Molecular forensics	18BPES\$22 Pharmacogenomics	18BPES\$33 Bioprocess modelling and simulation	18BPES\$40 Conservation economics (NPTEL)	18BPES\$45 Biomass conversion and Biorefinery (NPTEL)
8.	18BPES\$27 Medicinal chemistry (NPTEL)	18BPES\$23 Genetics	18BPES\$18 Bioprocess economics and plant design	18BPES\$41 Chemical Process safety (NPTEL)	18BPES\$46 Introduction to Biostatistics

  
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**B.Tech. INDUSTRIAL BIOTECHNOLOGY (FULL TIME)**

**VERTICAL-I: MEDICAL BIOTECHNOLOGY**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BPE\$16	Immunotechnology	PE	40	60	100	3	0	0	3
2	18BPE\$25	Neurobiology and cognitive sciences	PE	40	60	100	3	0	0	3
3	18BPE\$10	Molecular Pathogenesis	PE	40	60	100	3	0	0	3
4	18BPE\$08	Cancer Biology	PE	40	60	100	3	0	0	3
5	18BPE\$17	Biopharmaceutical Technology	PE	40	60	100	3	0	0	3
6	18BPE\$19	Tissue Engineering	PE	40	60	100	3	0	0	3
7	18BPE\$26	Molecular forensics	PE	40	60	100	3	0	0	3
8	18BPE\$27	Medicinal chemistry (NPTEL)	PE	40	60	100	3	0	0	3

**VERTICAL-II : rDNA TECHNOLOGY**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BPE\$13	Genomics and Proteomics	PE	40	60	100	3	0	0	3
2	18BPE\$20	Metabolic Engineering	PE	40	60	100	3	0	0	3
3	18BPE\$07	Plant Biotechnology	PE	40	60	100	3	0	0	3
4	18BPE\$12	Animal Biotechnology	PE	40	60	100	3	0	0	3
5	18BPE\$21	Protein Engineering	PE	40	60	100	3	0	0	3
6	18BPE\$06	Marine Biotechnology	PE	40	60	100	3	0	0	3
7	18BPE\$22	Pharmacogenomics	PE	40	60	100	3	0	0	3
8	18BPE\$23	Genetics	PE	40	60	100	3	0	0	3

  
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**VERTICAL-III :BIOPROCESS TECHNOLOGY**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BPE\$28	Aspects of Biochemical Engineering	PE	40	60	100	3	0	0	3
2	18BPE\$29	Fermentation Technology	PE	40	60	100	3	0	0	3
3	18BPE\$04	Food Process Engineering	PE	40	60	100	3	0	0	3
4	18BPE\$30	Bioreactor design and scale up process	PE	40	60	100	3	0	0	3
5	18BPE\$31	Solid State Bioprocessing	PE	40	60	100	3	0	0	3
6	18BPE\$32	Bio process control and instrumentation	PE	40	60	100	3	0	0	3
7	18BPE\$33	Bioprocess modelling and simulation	PE	40	60	100	3	0	0	3
8	18BPE\$18	Bioprocess economics and plant design	PE	40	60	100	3	0	0	3

**VERTICAL-IV :QUALITY AND REGULATORY AFFAIRS**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BPE\$34	Clinical trials and health care policies in Biotechnology	PE	40	60	100	3	0	0	3
2	18BPE\$35	Biotechnological products and its validation	PE	40	60	100	3	0	0	3
3	18BPE\$36	Quality assurance and quality control in Biotechnology	PE	40	60	100	3	0	0	3
4	18BPE\$37	Entrepreneurship and patent design	PE	40	60	100	3	0	0	3
5	18BPE\$38	Intellectual property rights in Biotechnology	PE	40	60	100	3	0	0	3
6	18BPE\$39	Biosafety and Hazard management	PE	40	60	100	3	0	0	3
7	18BPE\$40	Conservation economics (NPTEL)	PE	40	60	100	3	0	0	3
8	18BPE\$41	Chemical Process safety (NPTEL)	PE	40	60	100	3	0	0	3

  
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**VERTICAL-V :BIOSCIENCES**

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BPE\$42	Human Anatomy and Physiology	PE	40	60	100	3	0	0	3
2	18BPE\$43	Bioethics	PE	40	60	100	3	0	0	3
3	18BPE\$44	Biomass and Bioenergy (NPTEL)	PE	40	60	100	3	0	0	3
4	18BPE\$09	Environmental Biotechnology	PE	40	60	100	3	0	0	3
5	18BPE\$02	Biopolymer technology	PE	40	60	100	3	0	0	3
6	18BPE\$11	Nanobiotechnology	PE	40	60	100	3	0	0	3
7	18BPE\$45	Biomass conversion and Biorefinery (NPTEL)	PE	40	60	100	3	0	0	3
8	18BPE\$46	Introduction to Biostatistics	PE	40	60	100	3	0	0	3

  
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# GOVERNMENT COLLEGE OF TECHNOLOGY

( An Autonomous Institution - Anna University, Chennai )

COIMBATORE - 641 013

## OFFICE OF THE CONTROLLER OF EXAMINATIONS

### 35<sup>th</sup> ACADEMIC COUNCIL

#### ITEM 35.8

**Approval of course content for courses offered under Naan Mudhalvan Scheme during Odd / Even Semester of the Academic year 2022-2023**

B.E. CIVIL ENGINEERING
B.E. MECHANICAL ENGINEERING
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
B.E. ELECTRONICS AND COMMUNICATION ENGINEERING
B.E. PRODUCTION ENGINEERING
B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING
B.E. COMPUTER SCIENCE AND ENGINEERING
B.Tech. INFORMATION TECHNOLOGY
B.Tech. INDUSTRIAL BIOTECHNOLOGY

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E. CIVIL ENGINEERING**  
**CBCS 2018 & 2018A REGULATIONS**

**NAAN MUDHALVAN COURSES-(2022-2023) ODD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18CVA\$04	MICROSOFT OFFICE FUNDAMENTALS (Common to all Branches)	VA	100	-	100	1	0	2	2
2.	18CVA\$05	BUILDING INFORMATION MODELING	VA	100	-	100	1	0	2	2
3.	18CVA\$06	TRANSPORTATION INFRASTRUCTURE – AIRPORTS, METROS & SEAPORTS	VA	100	-	100	1	0	2	2
4.	18CVA\$07	HIGH RISE BUILDING DESIGN	VA	100	-	100	1	0	2	2
5.	18CVA\$08	DESIGN AND CONSTRUCTION OF STEEL BUILDINGS	VA	100	-	100	1	0	2	2

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**CBCS 2018 & 2018A REGULATIONS**  
**NAAN MUDHALVAN COURSES-(2022-2023) EVEN SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours / Week			
							L	T	P	C
1.	18CVA\$09	SUSTAINABLE BUILDING DESIGN	VA	100	-	100	1	0	2	2
2.	18CVA\$10	DIGITAL MARKETING (Common to all Branches Except IBT)	VA	100	-	100	1	0	2	2
3.	18CVA\$11	BLOCKCHAIN (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
4.	18CVA\$12	ROBOTIC PROCESS AUTOMATION (Common to Civil and EEE Branches)	VA	100	-	100	1	0	2	2

  
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**B.E. MECHANICAL ENGINEERING**

**CBCS - 2018 & 2018A REGULATIONS**

**NAAN MUDHALVAN COURSES - (2022 - 2023) ODD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1.	18MVA\$11	Microsoft Office Fundamentals (Common to all Branches)	VA	100	-	100	1	0	2	2
2.	18MVA\$12	Powering IoT using Arduino/Raspberry PI (Common to MECH,EEE,ECE,PRODN & EIE branches)	VA	100	-	100	1	0	2	2
3.	18MVA\$13	Robotics Simulation for Manufacturing (Common to MECH & PRODN)	VA	100	-	100	1	0	2	2
4.	18MVA\$14	Machine Learning (Common to MECH,EEE,ECE,PRODN & IBT branches)	VA	100	-	100	1	0	2	2
5.	18MVA\$15	Electric Systems for E-Mobility	VA	100	-	100	1	0	2	2
6.	18MVA\$16	Industry 4.0 (Common to MECH,EEE & PRODN branches)	VA	100	-	100	1	0	2	2

  
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**B.E. MECHANICAL ENGINEERING**  
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**NAAN MUTHALVAN COURSES-(2022-2023)-EVEN SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours / Week			
							L	T	P	C
1.	18MVA\$17	BLOCKCHAIN (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
2.	18MVA\$18	ROBOTIC PROCESS AUTOMATION DEVELOPMENT (Common to MECH, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2
3.	18MVA\$19	DIGITAL MARKETING (Common to all Branches Except IBT)	VA	100	-	100	1	0	2	2
4.	18MVA\$20	PRODUCT DESIGN AND MANUFACTURING - 3D SURFACE MODELLING (Common to MECH & PRODN Branches)	VA	100	-	100	1	0	2	2
5.	18MVA\$21	SMART AND ADVANCED MANUFACTURING - DESIGN & SIMULATION (Common to MECH & PRODN Branches)	VA	100	-	100	1	0	2	2
6.	18MVA\$22	ELECTRIC VEHICLE DESIGN	VA	100	-	100	1	0	2	2

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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**  
**B.E. ELECTRICAL AND ELECTRONICS ENGINEERING**  
**CBCS 2018 & 2018A REGULATIONS**

**NAAN MUTHALVAN COURSES-(2022-2023)-ODD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18EVA\$11	<b>AUGMENTED REALITY AND VIRTUAL REALITY DEVELOPMENT</b> (Common to EEE, ECE, EIE, CSE & IT Branches)	VA	100	-	100	1	0	2	2
2	18EVA\$12	POWERING IOT USING ARDUINO/RASPBERRY PI (Common to MECH, EEE, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2
3	18EVA\$13	<b>ELECTRIC VEHICLE CHARGING SYSTEM</b> (Common to EEE & PRODN Branches)	VA	100	-	100	1	0	2	2
4	18EVA\$14	<b>SMART ENERGY GRID</b>	VA	100	-	100	2	0	0	2
5	18EVA\$15	MACHINE LEARNING (Common to MECH, EEE, ECE, PRODN & IBT Branches)	VA	100	-	100	1	0	2	2
6	18EVA\$16	INDUSTRY 4.0 (Common to MECH, EEE & PRODN Branches)	VA	100	-	100	1	0	2	2
7	18EVA\$17	MICROSOFT OFFICE FUNDAMENTALS (Common to all Branches)	VA	100	-	100	1	0	2	2

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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.E. ELECTRONICS AND COMMUNICATION ENGINEERING**

**CBCS 2018 & 2018A REGULATIONS**

**NAAN MUDHALVAN COURSES – (2022-2023) ODD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18LVA\$21	POWERING IOT USING ARDUINO/RASPBERRY PI (Common to MECH, EEE, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2
2	18LVA\$22	AUGMENTED REALITY AND VIRTUAL REALITY DEVELOPMENT (Common to EEE,ECE,EIE,CSE & IT Branches)	VA	100	-	100	1	0	2	2
3	18LVA\$23	<b>CLOUD ESSENTIALS</b> (Common to ECE, EIE,CSE & IT Branches)	VA	100	-	100	1	0	2	2
4	18LVA\$24	<b>CYBER SECURITY</b> (Common to ECE & EIE Branches)	VA	100	-	100	1	0	2	2
5	18LVA\$25	<b>BIG DATA ANALYTICS</b> (Common to ECE,EIE,CSE & IT Branches)	VA	100	-	100	1	0	2	2
6	18LVA\$26	MICROSOFT OFFICE FUNDAMENTALS (Common to all Branches)	VA	100	-	100	1	0	2	2
7	18LVA\$27	MACHINE LEARNING (Common to MECH, EEE, ECE, PRODN & IBT Branches)	VA	100	-	100	1	0	2	2

  
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**B.E. ELECTRONICS AND COMMUNICATION ENGINEERING  
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**NAAN MUTHALVAN COURSES-(2022-2023)-EVEN SEMESTER**


Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours / Week			
							L	T	P	C
1.	18LVA\$28	DIGITAL MARKETING (Common to all Branches Except IBT)	VA	100	-	100	1	0	2	2
2.	18LVA\$29	BLOCKCHAIN (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
3.	18LVA\$30	ROBOTIC PROCESS AUTOMATION DEVELOPMENT (Common to MECH, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2
4.	18LVA\$31	<b>NETWORK ESSENTIALS</b> <b>(Common to ECE, CSE &amp; IT Branches)</b>	VA	100	-	100	1	0	2	2
5.	18LVA\$32	NETWORK ENGINEERING (Common to ECE, CSE & IT Branches)	VA	100	-	100	1	0	2	2
6.	18LVA\$33	<b>PROFESSIONAL READINESS FOR INNOVATION EMPLOYABILITY AND ENTREPRENEURSHIP</b> <b>(Common to ECE, CSE &amp; IT Branches)</b>	VA	100	-	100	1	0	2	2

  
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**B.E. PRODUCTION ENGINEERING  
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**NAAN MUTHALVAN COURSES-(2022-2023)-EVEN SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours / Week			
							L	T	P	C
1.	18PVA\$24	SMART AND ADVANCED MANUFACTURING - DESIGN & SIMULATION (Common to MECH & PRODN Branches)	VA	100	-	100	1	0	2	2
2.	18PVA\$25	EV DESIGN	VA	100	-	100	1	0	2	2
3.	18PVA\$26	BLOCKCHAIN (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
4.	18PVA\$27	DIGITAL MARKETING (Common to all Branches Except IBT)	VA	100	-	100	1	0	2	2
5.	18PVA\$28	ROBOTIC PROCESS AUTOMATION DEVELOPMENT (Common to MECH, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2
6.	18PVA\$29	PRODUCT DESIGN AND MANUFACTURING - 3D SURFACE MODELLING (Common to MECH & PRODN Branches)	VA	100	-	100	1	0	2	2

  
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**B.E ELECTRONICS AND INSTRUMENTATION ENGINEERING**  
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**NAAN MUTHALVAN COURSES-(2022-2023)-EVEN SEMESTER**

Sl. No	Course Code	Course Title	CAT	CA Marks	End Sem. Marks	Total Marks	Hours / Week			
							L	T	P	C
1.	18NVA\$11	EMBEDDED SYSTEM DESIGN FOR INDUSTRIAL APPLICATIONS (Common to EEE & EIE Branches)	VA	100	-	100	2	0	1	3
2.	18NVA\$12	ELECTRIC VEHICLE CHARGING SYSTEM DESIGN (Common to EEE & EIE Branches)	VA	100	-	100	1	0	2	2
3.	18NVA\$13	DIGITAL MARKETING (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
4.	18NVA\$14	BLOCKCHAIN (Common to all Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
5.	18NVA\$15	ROBOTIC PROCESS AUTOMATION DEVELOPMENT (Common to MECH, ECE, PRODN & EIE Branches)	VA	100	-	100	1	0	2	2

  
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**GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE – 641 013**

**B.E.COMPUTER SCIENCE AND ENGINEERING**

**CBCS 2018 & 2018A REGULATIONS**

**NAAN MUDHALVAN COURSES – (2022 – 2023) ODD SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SVAS02	Machine Learning with Application to Object Recognition (Common to CSE & IT)	VA	100	-	100	1	0	2	2
2	18SVAS03	Augmented Reality and Virtual Reality Development (Common to EEE, ECE, EIE, CSE & IT)	VA	100	-	100	1	0	2	2
3	18SVAS04	Cloud Essentials (Common to ECE, EIE, CSE & IT)	VA	100	-	100	1	0	2	2
4	18SVAS05	Big Data Analytics (common to ECE, EIE, CSE & IT)	VA	100	-	100	1	0	2	2
5	18SVAS06	Full Stack (Common to CSE & IT)	VA	100	-	100	2	0	2	3
6	18SVAS07	Microsoft Office Fundamentals (Common to All Branches)	VA	100	-	100	1	0	2	2

  
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**CBCS 2018 & 2018A REGULATIONS**

**NAAN MUDHALVAN COURSES – (2022 – 2023) EVEN SEMESTER**

Sl. No.	Course Code	Course Title	CAT	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18SVA\$08	Professional Readiness for Innovation Employability and Entrepreneurship (Common to ECE, CSE & IT)	VA	100	-	100	1	0	2	2
2	18SVA\$09	Network Engineering (Common to ECE, CSE & IT)	VA	100	-	100	1	0	2	2
3	18SVA\$10	Foundations of AI, ML and FS (Common to CSE & IT)	VA	100	-	100	1	0	2	2
4	18SVA\$11	Blockchain (Common to All Branches Except ECE & IBT)	VA	100	-	100	1	0	2	2
5	18SVA\$12	Digital Marketing (Common to All Branches Except IBT)	VA	100	-	100	1	0	2	2
6	18SVA\$13	Network Essentials (Common to ECE, CSE & IT)	VA	100	-	100	1	0	2	2

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NAAN MUTHALVAN COURSES – (2022 – 2023) EVEN SEMESTER

Sl. No.	Course Code	Course Title	Category	CA Marks	End Sem Marks	Total Marks	Hours/Week			
							L	T	P	C
1	18BVAS05	Plant Simulation	VA	100	-	100	1	0	2	2

  
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