

Course Outcomes - Academic Year 2019-20 3rd Semester

SL NO	SUBJECT	CO#	Students will be able to :	BTL
		COURSE OUTCOMES		
1	Analog Electronic Circuits	CO1	Define semiconductor device and different operating condition and their performance parameter. Analyze and design the FET and BJT biasing circuit	2
		CO2	Describe the ac and dc signal analysis of BJT and FET	3
		CO3	Understand and describe the concept of frequency analysis of amplifier circuits	2
		CO4	Learn how to Design combinational circuit using Op Amp	2
		CO5	Understand the concepts of different types of power amplifier	2
		CO6	Analyze the behaviours the sinusoidal oscillators & feedback circuits	3
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
2	Network Theory	CO1	Apply network theorems for the analysis of electrical circuits	3
		CO2	Explain the transient and steady state response of electrical circuit	2
		CO3	Analyze circuits in the sinusoidal steady state(Single phase & Three phase)	4
		CO4	Analyze two port circuit behavior	4
		CO5	Learn how to Design low pass, high pass, band pass and band elimination filter networks	2
		CO6	Explain transfer functions of circuits and analysis of stability using poles of the transfer Function	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
3	Mathematics – III	CO1	Apply & solve Analytic Function, Cauchy-Riemann equations, line integral in complex plane, Cauchy Integral theorem, Taylor's series, Maclaurin's series, Laurent's series.	3
		CO2	Solve and explain Residue Integration method, Evaluation of Real Integrals, Error & Error Propagation, Lagranges Interpolation, Newton's Divided Difference Interpolation, Newton's Forward and backward Interpolation, Spine's Interpolation.	3, 2
		CO3	Explain Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule, Gauss Integral Formula, Euler's Method for ODE, Runge-Kutta 2 nd order and 4 th order Method, Multi-Step method.	2
		CO4	Apply & solve Probability & Random Variables, Probability Distribution Function, Probability Density Function, Binomial Distribution, Poisson's Distribution, Uniform Distribution, Normal Distribution.	3
		CO5	Apply & solve distribution of several random variable, scope of statistics & random sampling, sampling distribution, correlation analysis, regression analysis.	3
		CO6	Solve Fitting of straight lines, Estimation of Parameter & statistical Hypothesis.	3
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
4	Organisational Behaviour	CO1	Define organisational behaviour, and explain nature of learning.	1,2
		CO2	Define personality and explain determinants of personality, personality Traits.	1,2
		CO3	Explain perception and explain perceptual process, importance of perception in OB.	1,2
		CO4	Explain types of communication , gateways and Barriers to communication, communication as a tool for improving Interpersonal Effectiveness.	2
		CO5	Explain Theories of Leadership-Trait theory, Leader Behaviour theory, Contingency Theory, Leadership and Followership, How to be an effective leader.	2
		CO6	Explain organizational culture and organizational effectiveness.	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
5	Object Oriented Programming Using Java	CO1	Able to explain the basic concepts and features of OOPS, use of compiler and interpreter in Java programming. Able to acquire the knowledge on JDK, JRE, JVM. And program execution.	2
		CO2	Understand the use of classes, objects, members of a class and relationships among them in different scenario. Able to explain the inheritance and string manipulation for various scenario.	2
		CO3	Able to understand and demonstrate the use of data abstraction, polymorphism, use of exception handling and multi threading.	2,3
		CO4	Able to understand the use of IO stream in java application. Acquire the idea of GUI design using various components of Applet and AWT.	2
		CO5	Make use of MVC architecture to develop various advanced GUI application using the module like SWING and JavaFX.	3
		CO6	Able to understand the impact of exception handling to avoid abnormal termination of program using checked and unchecked exceptions.	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
6	Analog Electronic Circuits Lab.	CO1	Identify relevant information to supplement to the Analog Electronic Course.	3
		CO2	Setup testing strategies and select proper instruments to evaluate performance characteristics of electronic circuit.	4
		CO3	Choose testing and experimental procedures on different types of electronic circuit and analyze their operation different operating conditions.	1
		CO4	Evaluate possible causes of discrepancy in practical experimental observations in comparison to theory.	4
		CO5	Practice different types of wiring and instruments connections keeping in mind technical, Economic, safety issues.	1
		CO6	Prepare professional quality textual and graphical presentations of laboratory data and Computational results, incorporating accepted data analysis and synthesis methods, Mathematical software and word processing tools.	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
7	Network Theory Lab.	CO1	Analyze Practical implementation of the fundamental electrical theorems and modeling of simple electrical systems	4
		CO2	Find different parameter values of two port network systems.	1
		CO3	Compare the frequency responses between different filters	2
		CO4	Measure the inductances of different coupled circuits.	3
		CO5	Analyze & Compare resonance in R-L-C series and parallel circuit.	4
		CO6	Develop analytical skills to compare experimental results with theoretical concepts of network theory.	3
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
8	OOP Using Java Lab.	CO1	Understand the programming language concepts	2
		CO2	Write, debug and document well-structured java applications	3
		CO3	Implement Java classes from specification, create and use objects from predefined class libraries	3
		CO4	Understand the behaviour of primitive data types , control statements , object reference and arrays	2
		CO5	Implement Modular , multithreading and event driven programming	3
		CO6	Implement interface, inheritance polymorphism, exception handling, file I/O and multithreading	3
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
		CO1	Understand number representation and conversion between different representation in digital electronic circuits	2
		CO2	Analyze logic processes and implement logical operations using combinational logic circuits.	3
		CO3	Analyze the concepts of combinational circuits and design different types of combinational circuits.	4
		CO4	understand concepts of sequential circuits and to analyze sequential systems in terms of state machines.	2
		CO5	Implement combinational and sequential circuits using VHDL.	4
		CO6	Understand characteristics of memory and their classifications	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
2	Electrical Machines-I	CO1	Learn how to Determine the Efficiency and Voltage Regulation by Open Circuit and Short Circuit test on single phase transformer.	2
		CO2	Compare parallel operation and back to back test on single phase transformer.	2
		CO3	Learn how to Determine the Efficiency, Plotting of Torque-Slip Characteristics of Three Phase Induction motor by Brake Test.	2
		CO4	Learn how to Determine parameters of three phase induction motor from No load Test and Blocked Rotor Test.	2
		CO5	Examine the Performance of grid connected induction generator.	4
		CO6	Learn how to Determine the performance characteristics of DC machine by conducting direct and indirect tests.	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
3	Power Electronics	CO1	Explain the differences between signal level and power level devices.	2
		CO2	Analyze various single phase and three phase power converter circuits and understand their applications.	4
		CO3	Analyze the operation of DC-DC choppers and their applications.	4
		CO4	Analyze the operation of voltage source inverters and their applications.	4
		CO5	Explain basic operation of various power semiconductor devices and switching circuits.	2
		CO6	Analyze power electronic inverter circuits.	4
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
4	Electro Magnetic Theory	CO1	Define and recognize different co ordinate systems to describe the spatial variations of the physical quantities dealt in electromagnetic field theory as they are functions of space and time. Apply different techniques of vector calculus to understand different concepts of electromagnetic field theory.	1
		CO2	Explain fundamental laws governing electromagnetic fields and evaluate the physical quantities of electromagnetic fields (Field intensity, Flux density etc.) in different media using the fundamental laws.	2
		CO3	Learn how to Determine the electromagnetic force exerted on charged particles, current elements, working principle of various electric and electromagnetic energy conversion devices are based on this Force	2
		CO4	Learn how to Design electromagnetic energy storage devices like capacitor, inductor which are frequently used in electrical systems and choose suitable materials required to assemble such electromagnetic energy storage devices.	2
		CO5	Justify the concepts of electromagnetic waves, means of transporting energy or information, in the form of radio waves, TV signals, radar beams and light rays.	2
		CO6	Explain the concepts of guided structures like transmission line, means of transporting energy or information, commonly used in power distribution and communication.	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
5	Digital Signal Processing	CO1	Apply their knowledge to design LTI systems using Z transform technique.	3
		CO2	Apply their knowledge to design linear filter for long data sequence using DFT and IDFT technique	3
		CO3	Understand and design different form of FIR and IIR filter structures.	4
		CO4	Design FIR and IIR filters with desired frequency response.	2
		CO5	Understand the implementation of DFT in terms of FFT as well as some of its application(Computation of convolution sum, Spectral analysis)	2
		CO6	Understand the concept of adaptive filters and application	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
6	Engineering Economics	CO1	Understand the scope, basics of the Economics. Able to explain the demand and supply for maintaining the market equilibrium.	2
		CO2	Able to explain the law of production.	2
		CO3	Understand the analysis of the cost, revenue and its minimization.	2
		CO4	Able to understand the market structure and break even analysis.	2
		CO5	Able to explain the effect of interest and depreciation capital assets. Apply the engineering project cost evaluation for various projects.	3
		CO6	Able to explain the inflation, cause and measures and understand the banking system	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
7	Digital Electronics Laboratory	CO1	Learn the basics of gates.	2
		CO2	Construct basic combinational circuits and verify their functionalities	4
		CO3	Apply the design procedures to design basic sequential circuits	3
		CO4	Learn about counters	3
		CO5	Learn about Shift registers	2
		CO6	Understand the basic digital circuits and to verify their operation	2
		COURSE OUTCOMES		
		CO#	Students will be able to :	BTL
8	Electrical Machines-I Laboratory	CO1	Learn how to Determine the Efficiency and Voltage Regulation by Open Circuit and Short Circuit test on single phase transformer.	2
		CO2	Compare parallel operation and back to back test on single phase transformer.	2
		CO3	Learn how to Determine the Efficiency, Plotting of Torque-Slip Characteristics of Three Phase Induction motor by Brake Test.	2
		CO4	Learn how to Determine parameters of three phase induction motor from No load Test and Blocked Rotor Test.	2

		CO5	Examine the Performance of grid connected induction generator.	4
		CO6	Learn how to Determine the performance characteristics of DC machine by conducting direct and indirect tests.	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	3
		CO2	Identify relevant information to supplement to the Power Electronics course.	4
		CO3	Analyze testing strategies and select proper instruments to evaluate performance characteristics of Power devices and power electronics circuits and analyze their operation under different loading conditions.	2
9	Power Electronics Laboratory	CO4	Plan different types of wiring and devices connections keeping in mind technical, economical, safety issues.	1
		CO5	Relate the limitations of computer simulations for verification of circuit behavior, apply these techniques to different power electronic circuits and evaluate possible causes of discrepancy in practical experimental observations in comparison to theory.	2
		CO6	Show professional quality textual and graphical presentations of laboratory data and computational results, incorporating accepted data analysis and synthesis methods, mathematical software, and word processing tools.	2
			Demonstrate the ability to interact effectively on a social and interpersonal level with fellow students, and will demonstrate the ability to divide up and share task responsibilities to complete assignments.	2
Course Outcomes - Academic Year 2019-20 5TH SEMESTER				
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Illustrate the basics to formulate the LPP, TP, AP, IPP & NLPP.	2
		CO3	Explain the boundedness, feasibility, degeneracy of solution, Stepping Stone method.	3, 2
		CO4	Apply the market demand and able to compare the cost of the product time to time.	3
		CO5	Solve the transportation cost involved in a TP, Quadratic programming using Kuhn-Tucker Conditions, Wolfe's method.	3
		CO6	Select job to different machine/human depending upon their credibility/job solving capacity.	2
			Compare the time period of stay in a queue using Markovian models, M/M/1model Kendall's notations	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Explain the differences between signal level and power level devices.	4
		CO3	Analyze various single phase and three phase power converter circuits and understand their applications.	4
		CO4	Analyze the operation of DC-DC choppers and their applications.	4
		CO5	Analyze the operation of voltage source inverters and their applications.	2
		CO6	Explain basic operation of various power semiconductor devices and switching circuits.	4
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Identify a detailed sw & hw structure of the Microprocessor	3
		CO3	Compare the accepted standards and guidelines to select appropriate Microprocessor (8085 & 8086) and Microcontroller to meet specified performance requirements.	3
		CO4	Apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller.	3
		CO5	Illustrate how the different peripherals (8255, 8253 etc.) are interfaced with Microprocessor.	3
		CO6	Analyze assembly language programs; select appropriate assemble into machine a cross assembler utility of a microprocessor and microcontroller.	4
			Evaluate assembly language programs and download the machine code that will provide solutions real world control problems.	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	3
		CO2	Apply their knowledge to design LTI systems using Z transform technique.	3
		CO3	Apply their knowledge to design linear filter for long data sequence using DFT and IDFT technique	2
		CO4	Understand and design different form of FIR and IIR filter structures.	4
		CO5	Design FIR and IIR filters with desired frequency response.	2
		CO6	Understand the implementation of DFT interm of FFT as well as some of its application(Computation of convolution sum, Spectral analysis)	2
			Understand the concept of adaptive filters and application .	2
	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Explain the environmental aspects of non-conventional energy resources. In Comparison with various conventional energy systems, their prospects and limitations.	2
		CO3	Elaborate the need of renewable energy resources, historical and latest developments.	2
		CO4	Explain the use of solar energy and the various components used in the energy production with respect to applications like-heating, cooling, desalination, power generation, drying, cooking etc.	2
		CO5	Illustrate the need of Wind Energy and the various components used in energy generation and know the classifications.	3
		CO6	Discuss the concept of Biomassenergy resources and their classification, types of biogas Plants-applications	2
			Compare Solar, Wind and bio energy systems, their prospects, Advantages and limitations.	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Learn how to Perform a complete electrical system inspection.	2
		CO3	Learn how to Disable an airbag using correct safety procedures	2
		CO4	Test, diagnose and document body control systems	2
		CO5	Test, diagnose and document needed repairs on starting and charging systems	2
		CO6	Test, diagnose and document needed repairs on electrical accessory systems	2
			Prepare and submit repair orders electronically for assessment of diagnosed vehicles	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Explain the role, structure, services and types of operating system also discuss various issues and types of system calls.	2
		CO3	Compare and contrast the common algorithm for both preemptive and non preemptive task in os such as FCFS, SJF, Priority, RR scheduling, differentiate between process and thread, various threading issues, cite the various approach to solve the problem of mutual exclusion related to critical regions.	2
		CO4	Understand the concept of deadlock in Operating systems how they can be managed and avoided through the implementation of Banker's algorithm and resource request algorithm and also cite different methods involved in recovery from deadlock.	2
		CO5	Learn how virtual memory is used and describe the operation of memory management unit, also define various page replacement strategies like FIFO, LRU, Optimal, also able to analyse the use of demand paging, and segmentation	2
		CO6	Optimal, also able to analyse the use of demand paging, and segmentation	2
			Understand various approaches of free space management and apply the knowledge to implement disk scheduling algorithms such as SSTF, LOOK, SCAN, C-LOOK, C-SCAN and also illustrating the overview of I/O hardware application I/O interface kernel I/O subsystem.	2
Course Outcomes - Academic Year 2019-20 6TH SEMESTER				
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Explain the concept of various forms of renewable energy	2
		CO3	Outline division aspects and utilization of renewable energy sources for both domestics and agricultural application	2
		CO4	Understand the need of Wind Energy and the various components used in energy generation and know the classifications	2
		CO5	Understand the concept of Biomass energy resources and their classification.	2
		CO6	Compare Solar, Wind and bio energy systems, their prospects, Advantages and limitations	2
			Explain green guidelines such as GRIHA and LEED .	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	4
		CO2	Examine various applications in industrial and domestic areas where use of electric drives are essential.	3
		CO3	Classify types of electric drives systems based on nature of loads, control objectives, performance and reliability.	3
		CO4	Combine concepts of previously learnt courses such as electrical machines, Control and power electronics to cater to the need of automation industries.	3
		CO5	Select most suitable type and specification of motor/drive combination for efficient conversion and control of electricpower.	3
		CO6	Identify the critical areas in application levels, and derive typical solutions.	2
			Design and justify new control and power conversion schemes for implementing alternative solutions considering the critical and contemporary issues.	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	3
		CO2	Utilize the techniques to control power flows, frequency and voltage.	3
		CO3	Construct the Single Line or One Line Diagram, Impedance and Reactance Diagrams	2
		CO4	Explain the techniques to control reactive power, reactive power-voltage coupling concept.	2
		CO5	Explain Economic Operation of Power System	2
		CO6	Show Load Frequency Control, Control Area Concept	2
			Elaborate Two Area Systems and Power System Stability	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Develop the knowledge of HVDC transmission and HVDC converters and the applicability and advantage of HVDC transmission over conventional AC transmission.	3
		CO3	Formulate and solve mathematical problems related to rectifier and inverter control methods and learn about different control schemes as well as starting and stopping of DC links	4
		CO4	Analyze the different harmonics generated by the converters and their variation with the change in firing angles.	2
		CO5	Develop harmonic models and use the knowledge of circuit theory to develop filters and assess the requirement and type of protection for the filters.	2
		CO6	Illustrate the nature of faults happening on both the AC and DC sides of the converters and formulate protection schemes for the same	2
			Analyze application of HVDC-VSC system and application of MTDC system.	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	4
		CO2	Analyze discrete-time mathematical models in both time domain (difference equations, state equations) and z-domain (transfer function using z-transform).	4
		CO3	Analyze transient and steady-state responses and stability and sensitivity of both open-loop and closed-loop linear, time-invariant, discrete-time control systems.	3
		CO4	Utilize knowledge of state space and state feedback in modern control systems, pole placement, design of state observers and output feedback controllers	1
		CO5	Define and explain the basic properties of multivariable linear systems such as controllability, observability, and transfer functions.	2
		CO6	Explain the stability of linear and nonlinear systems by Lyapunov method.	2
			Explain the non linear system behavior by phase plane and describing function methods	2
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	3
		CO2	Communicate effectively in work places.	3
		CO3	Make effective presentation.	3
		CO4	Develop problem solving skills.	2
		CO5	Extend engineering ethics and human values.	3
		CO6	Develop leadership skills.	3
			Face group discussion and interview..	3
SL NO	SUBJECT	CO#	COURSE OUTCOMES	BTL
		CO1	Students will be able to :	2
		CO2	Describe the basic concepts of data communication, networks, Internet, OSI and TCP/IP models	2
		CO3	Illustrate the Digital-to-Digital, Analog-to-Analog and Digital-to-Analog conversion techniques	2
		CO4	Explain Analog-to-Analog conversion, different types of multiplexing techniques and transmission	2
		CO5	Understand the different functionalities of data link layer and discuss error detection and correction codes	2
		CO6	Discuss the different media access control protocols and IEEE standards for wired and wireless LANs	2
			Understand the routing protocols and analyze how to assign the IP addresses for the given network	2
Course Outcomes - Academic Year 2019-20 7TH SEMESTER				

SL NO	SUBJECT	CO#	Students will be able to :	BTL	
1	Internet Of Things (IOT)	COURSE OUTCOMES			BTL
		CO1	Define and explain various issues and challenges of IOT and understand the components of IOT.	1,2	
		CO2	Understand various protocols of IOT and architecture of various IOT layers.	2	
		CO3	Understand the resource management like software agent, data synchronization and network architecture	2	
		CO4	Understand various case studies of IOT application and use of IOT in Big Data and industry. Interfacing using Raspberry Pi/Arduino	2	
		CO5	Outline the difference between WoT and IoT. Understand the use of IOT in Grid and Cloud	2	
		CO6	Understand the revolution of Internet in Mobile Devices, Cloud & Sensor Networks	2	
2	Marketing Management	COURSE OUTCOMES			BTL
		CO1	Understand marketing concepts and their application to profit-oriented and non-profit oriented organizations	2	
		CO2	Apply these concepts to the analysis of marketing problems and development of appropriate and creative marketing strategies to solve these problems	3	
		CO3	Understand the need for a customer orientation in the competitive global business environment	2	
		CO4	Have an appreciation that marketing is integrated with other functional areas of business	1	
		CO5	Develop an understanding and acquiring skills in how to successfully design and implement marketing plans and strategies	2	
		CO6	Understand the concept of marketing mix and its application in traditional and novel environments characterized by emerging information technologies	2	
3	Switch Gear & Protective Devices	COURSE OUTCOMES			BTL
		CO1	Know various types of existing circuit breakers, their design and constructional details.	2	
		CO2	Acquire the knowledge of various abnormal conditions that could occur in power system	2	
		CO3	Design various protective devices in power system for protecting equipment and personnel	2	
		CO4	Know various conventional relays, their design and latest developments.	2	
		CO5	Know standards and specifications related to switchgear and protection.	2	
		CO6	Understands protection of different electrical equipments. Identify the challenges and solutions to industrial power system protection problems.	2	
4	Digital Image Processing	COURSE OUTCOMES			BTL
		CO1	Understand and analyze fundamental concepts of a digital image processing signal and system	2	
		CO2	Analyze images in the frequency domain using various transforms technique	3	
		CO3	Understand and Evaluate the techniques for image enhancement and image restoration.	2	
		CO4	Examine various types of images, intensity transformations and spatial filtering.	4	
		CO5	Implements various compression techniques.	4	
		CO6	Implement image process and analysis algorithms and apply image processing algorithms in practical applications	4	
5	Seminar	COURSE OUTCOMES			BTL
		CO1	Study research papers for understanding of a new field, in the absence of a textbook, to summarise and review them	1	
		CO2	Identify promising new directions of various cutting edge technologies	2	
		CO3	Impart skills in preparing detailed report describing the project and results	1	
		CO4	Effectively communicate by making an oral presentation before an evaluation committee	2	
		CO5	Compose text characterized by clear and careful organization, coherent paragraphs and well-constructed sentences that employ the conventions of Standard Written English and appropriate diction.	3	
		CO6	Evaluate and synthesize information in order to draw consistent conclusions	2	
6	Minor Project	COURSE OUTCOMES			BTL
		CO1	Demonstrate the capability of effectively utilising the allotted time	3	
		CO2	Apply the theoretical branch knowledge to the practical engineering product/services	3	
		CO3	Show contribution to the team work	1	
		CO4	Show cooperation to the team work	1	
		CO5	Demonstrate the capability of learning from the failures	3	
		CO6	Mentor/lead the team/a group of people	3	
7	Cryptography & Network Security	COURSE OUTCOMES			BTL
		CO1	Classify the symmetric encryption techniques	2	
		CO2	Illustrate various Public key cryptographic techniques	2	
		CO3	Understand the authentication and hash algorithms.	2	
		CO4	Elaborate on authentication applications	2	
		CO5	Summarize the intrusion detection and its solutions to overcome the attacks.	2	
		CO6	Understand the basic concepts of system level security.	2	
Course Outcomes - Academic Year 2019-20 8TH SEMESTER					
1	Entrepreneurship Development	COURSE OUTCOMES			BTL
		CO1	Define what entrepreneurship is, consider how everyone has the potential to be entrepreneurial, and to explore the constituents of the entrepreneurial process	1	
		CO2	Identify steps required to research the potential for an innovative idea for the development of an existing enterprise, a new venture or a social change opportunity	3	
		CO3	Examine the key resources required to exploit an innovative idea or opportunity to develop an existing business, launch a new venture, or initiate a social enterprise	3	
		CO4	Identify the key steps required for exploiting an innovative idea or opportunity to develop an existing business, launch a new venture, or initiate a social enterprise	3	
		CO5	Understand the basic development of entrepreneurship as a profession.	2	
		CO6	Understand business models.	2	
2	Smart Grid	COURSE OUTCOMES			BTL
		CO1	Explain the smart grids components and architecture	2	
		CO2	Describe different measuring methods and sensors used in smart grid	2	
		CO3	Summarize various renewable energy technologies	3	
		CO4	Interpret the role of batteries and energy storages	3	
		CO5	Summarize the importance of Electric Vehicles in smart grid	2	
		CO6	Develop skills required for smart grid planning & formulation of regulations.	1	
3	Seminar	COURSE OUTCOMES			BTL
		CO1	Represent the technical concepts and understanding of the subject	1	
		CO2	Demonstrate effective communication	2	
		CO3	Demonstrate the presentation ability in front of a group of experts	2	
		CO4	Apply modern software and/or application tools for representing	3	
		CO5	Analyse the modern and contemporary trends in the engineering field	3	
		CO6	Show professional ethics on a stage	1	
4	Major Project	COURSE OUTCOMES			BTL
		CO1	Demonstrate fair knowledge of most concepts of Engineering	3	
		CO2	Apply the multi-disciplinary knowledge through the project	3	
		CO3	Show independent decision making capability	1	
		CO4	Apply modern tools and softwares for developing products and/or services	3	
		CO5	Explain clear objectives of any assignment	3	
		CO6	Mentor/lead the team/a group of people	3	