

Department of Fourth Year Engineering

Course Outcomes [CO'S]

CLASS: FOURTH YEAR (ENTC) [2019 COURSE]

Course Outcome	
Sr. No	Name of Subject
1	404181: Radiation and Microwave Theory
	<p>CO1: Apply the fundamentals of electromagnetic to derive free space propagation equation and distinguish various performance parameters of antenna.</p> <p>CO2: Identify various modes in the waveguide. Compare: coaxial line, rectangular waveguides & striplines and identify applications of the same.</p> <p>CO3: Explore construction and working of principles passive microwave devices/components.</p> <p>CO4: Explore construction and working of principles active microwave devices/components.</p> <p>CO5: Analyze the structure, characteristics, operation, equivalent circuits and applications of various microwave solid state active devices.</p> <p>CO6: Know the various microwave systems, device set ups of microwave measurement devices and Identify the effect of radiations on environmental sustainability.</p>
2	404182: VLSI Design and Technology
	<p>CO1: Develop effective HDL codes for digital design.</p> <p>CO2: Apply knowledge of real time issues in digital design.</p> <p>CO3: Model digital circuit with HDL, simulate, synthesis and prototype in PLDs.</p> <p>CO4: Design CMOS circuits for specified applications.</p> <p>CO5: Analyze various issues and constraints in design of an ASIC.</p> <p>CO6: Apply knowledge of testability in design and Build In Self Test (BIST) circuit.</p>
3	404183: Cloud Computing
	<p>CO1: Understand the basic concepts of Cloud Computing.</p> <p>CO2: Describe the underlying principles of different Cloud Service Models.</p> <p>CO3: Classify the types of Virtualization.</p> <p>CO4: Examine the Cloud Architecture and understand the importance of Cloud Security.</p> <p>CO5: Develop applications on Cloud Platforms.</p> <p>CO6: Evaluate distributed computing and the Internet of Things.</p>
4	404184 (A): Speech Processing (Elective - III)
	<p>CO1: Understand basics of Human speech production mechanism.</p> <p>CO2: Classify speech sounds based on acoustic and articulatory phonetics.</p> <p>CO3: Analyse speech signal to extract the characteristic of vocal tract (formants) and vocal cords (pitch).</p> <p>CO4: Evaluate speech signal for extracting LPC and MFCC Parameters of speech signal.</p> <p>CO5: Implement algorithms for processing of speech and audio signals considering the properties of acoustic signals.</p> <p>CO6: Design speech recognition application for speech signal analysis.</p>
5	404184 (B): PLC SCADA and Automation (Elective - III)
	<p>CO1: Understand and Recognize Industrial Control Problems.</p> <p>CO2: Analyze & explain different hardware functions of PLC.</p> <p>CO3: Develop Ladder Programming in PLC and PLC Interface in real time applications.</p> <p>CO4: Explore and interpret functionality of SCADA.</p> <p>CO5: Identify and interpret the functionality of DCS.</p>



	CO6: Define and explain CNC machines and Applications of Industrial Protocols.
6	404184 (C): Java Script (Elective - III)
	CO1: Use basic features of java script. CO2: Use relevant data types for developing application in java script. CO3: Use the function and objects as self-contained, with data passing in and out through well-defined interfaces in development of small systems. CO4: Apply the regular expression for Text matching and manipulation. CO5: Explore use of the various aspects of JavaScript object models that are fundamental to the proper use of the language. CO6: Develop the application using windows controlling and form handling.
7	404184 (D): Embedded System & RTOS (Elective - III)
	CO1: Apply design metrics of Embedded systems to design real time applications to match recent trends in technology. CO2: Apply Real time systems concepts. CO3: Evaluate μ COS operating system and its services. CO4: Apply Embedded Linux Development Environment and testing tools. CO5: Analyze Linux operating system and device drivers. CO6: Analyze the hardware – software co design issues for testing of real time Embedded system.
8	404184 (E): Modernized IoT (Elective - III)
	CO1: Comprehend and analyze concepts of sensors, actuators, IoT and IoE. CO2: Interpret IoT Architecture Design Aspects. CO3: Comprehend the operation of IoT protocols. CO4: Describe various IoT boards, interfacing, and programming for IoT. CO5: Illustrate the technologies, Catalysts, and precursors of IIoT using suitable use cases. CO6: Provide suitable solution for domain specific applications of IoT.
9	404185 (A): Data Mining (Elective - IV)
	CO1: Understand the process of data mining and performance issues in data mining CO2: Apply data preprocessing techniques to the historical data collected in data warehouse CO3: Analyze various types of Frequent pattern analysis methods and advanced Pattern mining techniques CO4: Evaluate various data mining algorithms for developing effective data mining models CO5: Analyze different clustering and outlier detection methods CO6: Design data mining models in different mining application areas
10	404185 (B): Electronics Product Design (Elective - IV)
	CO1: Understand and explain design flow of design of electronics product. CO2: Associate with various circuit design issues and testing. CO3: Inferring different software designing aspects and the Importance of product test & test specifications. CO4: Summarizing printed circuit boards and different parameters. CO5: Estimating assorted product design aspects. CO6: Exemplifying special design considerations and importance of documentation.
11	404185 (B): Deep Learning (Elective - IV)
	CO1: Classify machine learning algorithms and its types. CO2: Discuss the concepts of deep learning and its Frameworks. CO3: Identify the deep learning architectures with respect to the applications. CO4: Demonstrate different architectures of Convolutional neural networks. CO5: Discuss natural language processing architectures.



	CO6: Make use of various case studies and deep learning applications.
	404185 (D): Low Power CMOS (Elective - IV)
	CO1: Explain the sources of power dissipation in CMOS. CO2: Classify the special techniques to mitigate the power consumption in CMOS circuits. CO3: Summarize the power optimization and trade off techniques in digital circuits. CO4: Illustrate the power estimation at logic and circuit level. CO5: Explain the software design for low power in various level. CO6: Use the CAD tools for low power synthesis.
13	404185 (E): Smart Antennas (Elective - IV)
	CO1: Compare various linear wire antenna and uniform array in terms of antenna parameters and analyze them based on the current distribution and identify an appropriate wire antenna for given application. CO2: Classify Microstrip & re-configurable antenna and techniques. CO3: Describe smart antenna systems and discuss the beam steering and mutual coupling effects. CO4: Explain DOA estimation methods and classify. CO5: Classify the beam forming methods. CO6: Describe and Compare MIMO systems.

Soojey

Head of the Department

Electronics and Telecommunications Engineering

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[Signature]

Principal

