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MAULANA MUKHTAR AHMAD NADVI TECHNICAL CAMPUS

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Affiliated to Savitribai Phule Pune University, Pune

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Department of Electronics and Telecommunication Engineering

Course Outcomes (CO)

COURSE PATTERN 2019 SE ELECTRONIS AND TELECOMMUNICATION ENGINEERING			
SE ETC SEM-III			
Course Code	Course Name	COs	Course Outcomes
207005	Engineering Mathematics - III	1	CO1: Solve higher order linear differential equation using appropriate techniques for modelling, analyzing of electrical circuits and control systems.
		2	Apply concept of Fourier transform & Z-transform and its applications to continuous & discrete systems, signal & image processing and communication systems.
		3	Obtain Interpolating polynomials, numerically differentiate and integrate functions, numerical solutions of differential equations using single step and multi-step iterative methods used in modern scientific computing.
		4	Perform vector differentiation & integration, analyze the vector fields and apply to electromagnetic fields & wave theory.
		5	Analyze Complex functions, Conformal mappings, Contour integration applicable to electrostatics, digital filters, signal and image processing.
204181	Electronic Circuits	1	Assimilate the physics, characteristics and parameters of MOSFET towards its application as amplifier.
		2	Design MOSFET amplifiers, with and without feedback, & MOSFET oscillators, for given specifications.
		3	Analyze and assess the performance of linear and switching regulators, with their variants, towards applications in regulated power supplies.
		4	Explain internal schematic of Op-Amp and define its performance parameters.
		5	Design, Build and test Op-amp based analog signal processing and conditioning circuits towards various real time applications.

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		6	Understand and compare the principles of various data conversion techniques and PLL with their applications.
204182	**Digital Circuits**	1	Identify and prevent various hazards and timing problems in a digital design.
		2	Use the basic logic gates and various reduction techniques of digital logic circuit.
		3	Analyze, design and implement combinational logic circuits.
		4	Analyze, design and implement sequential circuits.
		5	Differentiate between Mealy and Moore machines.
		6	Analyze digital system design using PLD.
204183	**Electrical Circuits**	1	Analyze the simple DC and AC circuit with circuit simplification techniques.
		2	Formulate and analyze driven and source free RL and RC circuits.
		3	Formulate & determine network parameters for given network and analyze the given network using Laplace Transform to find the network transfer function.
		4	Explain construction, working and applications of DC Machines / Single Phase & Three Phase AC Motors.
			Explain construction, working and applications of special purpose motors & understand motors used in electrical vehicles.
		5	Analyze and select a suitable motor for different applications.
204184	**Data Structures**	1	Solve mathematical problems using C programming language.
		2	Implement sorting and searching algorithms and calculate their complexity.
		3	Develop applications of stack and queue using array.
		4	Demonstrate applicability of Linked List.
		5	Demonstrate applicability of nonlinear data structures - Binary Tree with respect to its time complexity.
		6	Apply the knowledge of graph for solving the problems of spanning tree and shortest path algorithm.

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COURSE PATTERN 2019 SE ELECTRONIS AND TELECOMMUNICATION ENGINEERING

SE ETC SEM-IV

Course Code	Course Name	COs	Course Outcomes
204191	**Signals & Systems**	1	Identify, classify basic signals and perform operations on signals.
		2	Identify, Classify the systems based on their properties in terms of input output relation and in terms of impulse response and will be able to determine the convolution between to signals.
		3	Analyze and resolve the signals in frequency domain using Fourier series and Fourier Transform
		4	Resolve the signals in complex frequency domain using Laplace Transform, and will be able to apply and analyze the LTI systems using Laplace Transforms.
		5	Define and Describe the probability, random variables and random signals. Compute the probability of a given event, model, compute the CDF and PDF.
		6	Compute the mean, mean square, variance and standard deviation for given random variables using PDF.
204192	**Control Systems**	1	Determine and use models of physical systems in forms suitable for use in the analysis and design of control systems.
		2	Determine the (absolute) stability of a closed-loop control system.
		3	Perform time domain analysis of control systems required for stability analysis.
		4	Perform frequency domain analysis of control systems required for stability analysis.
		5	Apply root-locus, Frequency Plots technique to analyze control systems.

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		6	Express and solve system equations in state variable form.
		7	Differentiate between various digital controllers and understand the role of the controllers in Industrial automation.
204193	**Principles of Communication Systems**	**1**	To compute & compare the bandwidth and transmission power requirements by analyzing time and frequency domain spectra of signal required for modulation schemes under study.
		2	Describe and analyze the techniques of generation, transmission and reception of Amplitude Modulation Systems.
		3	Explain generation and detection of FM systems and compare with AM systems.
		4	Exhibit the importance of Sampling Theorem and correlate with Pulse Modulation technique (PAM, PWM, and PPM).
		5	Characterize the quantization process and elaborate digital representation techniques (PCM, DPCM, DM and ADM).
		6	Illustrate waveform coding, multiplexing and synchronization techniques and articulate their importance in baseband digital transmission.
204194	**Object Oriented Programming**	**1**	Describe the principles of object oriented programming.
		2	Apply the concepts of data encapsulation, inheritance in C++.
		3	Understand Operator overloading and friend functions in C++.
		4	Apply the concepts of classes, methods inheritance and polymorphism to write programs C++.
		5	Apply Templates, Namespaces and Exception Handling concepts to write programs in C++.
		6	Describe and use of File handling in C++.
204199	**Employability Skills Development**	**1**	Define personal and career goals using introspective skills and SWOC assessment. Outline and evaluate short-term and long-term goals.

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		2	Develop effective communication skills (listening, reading, writing, and speaking), self- management attributes, problem solving abilities and team working & building capabilities in order to fetch employment opportunities and further succeed in the workplace.
		3	Be a part of a multi-cultural professional environment and work effectively by enhancing inter-personal relationships, conflict management and leadership skills.
		4	Comprehend the importance of professional ethics, etiquettes & morals and demonstrate sensitivity towards it throughout certified career.
		5	Develop practically deployable skill set involving critical thinking, effective presentations and leadership qualities to hone the opportunities of employability and excel in the professional environment.
204200	**Project Based Learning**	1	Identify the real-world problem (possibly of interdisciplinary nature) through a rigorous literature survey and formulate / set relevant aim and objectives.
		2	Contribute to society through proposed solution by strictly following professional ethics and safety measures.
		3	Propose a suitable solution based on the fundamentals of electronics and communication engineering by possibly the integration of previously acquired knowledge.
		4	Analyze the results and arrive at valid conclusion.
		5	Use of technology in proposed work and demonstrate learning in oral and written form.
		6	Develop ability to work as an individual and as a team member.

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304181	**Digital Communication**	1	Apply the statistical theory for describing various signals in a communication system.
		2	Understand and explain various digital modulation techniques used in digital communication systems and analyze their performance in presence of AWGN noise.
		3	Describe and analyze the digital communication system with spread spectrum modulation.
		4	Analyze a communication system using information theoretic approach.
		5	Use error control coding techniques to improve performance of a digital communication system.
304182	**Electromagnetic Field Theory**	1	Apply the basic electromagnetic principles and determine the fields (E & H) due to the given source.
		2	Apply boundary conditions to the boundaries between various media to interpret behavior of the fields on either sides.
		3	State, Identify and Apply Maxwell's equations (integral and differential forms) in both the forms (Static, time-varying or Time-harmonic field) for various sources, Calculate the time average power density using Poynting Theorem, Retarded magnetic vector potential.
		4	Formulate, Interpret and solve simple uniform plane wave (Helmholtz Equations) equations, and analyze the incident/reflected/transmitted waves at normal incidence.

COURSE PATTERN 2019 TE ELECTRONIS AND TELECOMMUNICATION ENGINEERING

TE ETC SEM-V

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		5	Interpret and Apply the transmission line equation to transmission line problems with load impedance to determine input and output voltage/current at any point on the Transmission line, Find input/load impedance, input/load admittance, reflection coefficient, SWR, Vmax/Vmin, length of transmission line using Smith Chart.
		6	Carry out a detailed study, interpret the relevance and applications of Electromagnetics.
304183	Database Management	1	Ability to implement the underlying concepts of a database system.
		2	Design and implement a database schema for a given problem-domain using data model.
		3	Formulate, using SQL/DML/DDL commands, solutions to a wide range of query and update problems.
		4	Implement transactions, concurrency control, and be able to do Database recovery.
		5	Able to understand various Parallel Database Architectures and its applications.
		6	Able to understand various Distributed Databases and its applications.
304184	Microcontroller	1	Understand the fundamentals of microcontroller and programming.
		2	Interface various electronic components with microcontrollers
		3	Analyze the features of PIC 18F XXXX.
		4	Describe the programming details in peripheral support.
		5	Develop interfacing models according to applications.
		6	Evaluate the serial communication details and interfaces.

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304185 (A)	**Digital Signal Processing (Elective - I)**	**1**	Interpret and process discrete/ digital signals and represent DSP system.
		2	Analyze the digital systems using the Z-transform techniques.
		3	Implement efficient transform and its application to analyze DT signals.
		4	Design and implement IIR filters.
		5	Design and implement FIR filters.
		6	Apply DSP techniques for speech/ biomedical/ image signal processing.
304185 (B)	**Electronic Measurements (Elective - I)**	**1**	Understand the metrics for the measurement system
		2	Select and use the instruments for measurement & analysis of basic electronic parameters
		3	Identify and use the different signal generators for specific applications
		4	Understand the principles of different Oscilloscopes for specific applications
		5	Identify the use of other display devices, recorders and timer/counter in measurement systems
		6	Use the advanced measurement systems for electronics parameter measurement
304185 ©	**Fundamentals of JAVA Programming (Elective - I)**	**1**	Understand the basic principles of Java programming language
		2	Apply the concepts of classes and objects to write programs in Java
		3	Demonstrate the concepts of methods & Inheritance
		4	Use the concepts of interfaces & packages for program implementation

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		5	Understand multithreading and Exception handling in Java to develop robust programs
		6	Use Graphics class, AWT packages and manage input and output files in Java
304185 (D)	Computer Networks (Elective - I)	1	Design LAN using appropriate networking architecture, topologies, transmission media, and networking devices.
		2	Understand the working of controlling techniques for flawless data communication using data link layer protocols.
		3	Learn the functions of network layer, various switching techniques and internet protocol addressing.
		4	Explore various interior and exterior, unicasting and multicasting protocols.
		5	Analyze data flow using TCP/UDP Protocols, congestion control techniques for QoS.
		6	Illustrate the use of protocols at application layer.
304190	Skill Development	1	Student should recognize the need to engage in independent and life-long learning in required skill sets
		2	Student needs to experience the impact of industries on society by visiting different industries and understand the importance of industrial products for analog and digital circuits and systems.
		3	Student has to make use of the modern electronic and IT Engineering Tools and Technologies for solving electronic engineering problems.
		4	Student would be able to communicate effectively at different technical and administrative levels.
		5	Student will exhibit leadership skills both as an individual and as a member in a team in multidisciplinary environment.

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COURSE PATTERN 2019 TE ELECTRONIS AND TELECOMMUNICATION ENGINEERING			
TE ETC SEM-VI			
Course Code	**Course Name**	**COs**	**Course Outcomes**
304192	**Cellular Networks**	**1**	Understand fundamentals of wireless communications.
		2	Discuss and study OFDM and MIMO concepts.
		3	Elaborate fundamentals mobile communication.
		4	Describes aspects of wireless system planning.
		5	Understand of modern and futuristic wireless networks architecture.
		6	Summarize different issues in performance analysis.
304193	**Project Management**	**1**	Apply the fundamental knowledge of project management for effectively handling the projects.
		2	Identify and select the appropriate project based on feasibility study and undertake its effective planning.
		3	Assimilate effectively within the organizational structure of project and handle project management related issues in an efficient manner.
		4	Apply the project scheduling techniques to create a Project Schedule Plan and accordingly utilize the resources to meet the project deadline.
		1	Identify and assess the project risks and manage finances in line with Project Financial Management Process.
		2	Develop new products assessing their commercial viability and develop skillsets for becoming successful entrepreneurs while being fully aware of the legal issues related to Product development and Entrepreneurship.

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304194	**Power Devices & Circuits**	**1**	To differentiate based on the characteristic parameters among SCR, GTO, MOSFET & IGBT and identify suitability of the power device for certain applications and understand the significance of device ratings.
		2	To design triggering / driver circuits for various power devices.
		3	To evaluate and analyze various performance parameters of the different converters and its topologies.
		4	To understand significance and design of various protections circuits for power devices.
		5	To evaluate the performance of uninterruptible power supplies, switch mode power supplies and battery.
		6	To understand case studies of power electronics in applications like electric vehicles, solar systems etc.
304195 (B)	**Sensors in Automation (Elective -II)**	**1**	Understand the Concepts of Sensors/Transducers, classify and evaluate static and Dynamic Characteristics of Measurement Systems.
		2	Choose the proper sensor comparing different standards and guidelines for measurements of Temperature and Humidity.
		3	Choose the proper sensor comparing different standards and guidelines for measurements of Force, Pressure, Stress and Flow
		4	Choose the proper sensor comparing different standards and guidelines for measurements of Displacement, Vibration, Acceleration and Level
		5	Explore sensors to profound areas like environmental, Agricultural and bio-medical equipment and sustainability.
		6	Explore IoT based applications of Sensors and Transducers.
304195 ©	**Advanced JAVA Programming (Elective - II)**	**1**	Design and develop GUI applications using Applets.
		2	Apply relevant AWT/ swing components to handle the given event.
		3	Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.

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		4	Learn to access database through Java programs, using Java Database Connectivity (JDBC)
		5	Invoke the remote methods in an application using Remote Method Invocation (RMI)
		6	Develop program for client /server communication using Java Networking classes.
304195 (D)	**Embedded Processors (Elective - II)**	1	Understand basics of Embedded C Programming and usage of Embedded C and study different software tools for programming microcontrollers.
		2	Get acquainted with various Embedded Processor architectures related to industrial application.
		3	Know about the programming of ARM 7 based microcontroller with on chip peripherals and external peripherals.
		4	Understand the architectures of ARM Cortex M4 Microcontrollers and its advantages over ARM 7 Microcontrollers.
		5	Implement the real world programming of ARM 7 based microcontroller with on chip peripherals and external peripherals.
		6	Recognize the interfacing of real world sensors and standard buses. Will also able to design different case studies.
304,195 €	**Network Security (Elective-II)**	1	Analyze attacks on computers and computer security.
		2	Demonstrate knowledge of cryptography techniques.
		3	Illustrate various Symmetric and Asymmetric keys for Ciphers
		4	Evaluate different Message Authentication Algorithms and Hash Functions
		5	Get acquainted with various aspects of E-Mail Security
		6	Assimilate various aspects of Web Security
304199	**Internship**	1	To develop professional competence through internship.

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		2	To apply academic knowledge in a personal and professional environment.
		3	To build the professional network and expose students to future employees.
		4	Apply professional and societal ethics in their day to day life.
		5	To become a responsible professional having social, economic and administrative considerations.
		6	To make own career goals and personal aspirations.
304200	**Mini Project**	1	Understand, plan and execute a Mini Project with team.
		2	Implement electronic hardware by learning PCB artwork design, soldering techniques, testing and troubleshooting etc.
		3	Prepare a technical report based on the Mini project.
		4	Deliver technical seminar based on the Mini Project work carried out.

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BE ETC SEM-VII			
404181	**Radiation and Microwave Theory**	1	Apply the fundamentals of electromagnetic to derive free space propagation equation and distinguish various performance parameters of antenna
		2	Identify various modes in the waveguide. Compare: coaxial line, rectangular waveguides &striplines and identify applications of the same.
		3	Explore construction and working of principles passive microwave devices/components.
		4	Explore construction and working of principles active microwave devices/components.
		5	Analyze the structure, characteristics, operation, equivalent circuits and applications of various microwave solid state active devices.
		6	Know the various microwave systems, device set ups of microwave measurement devices and Identify the effect of radiations on environmental sustainability.
404182	**VLSI Design and Technology**	1	Develop effective HDL codes for digital design
		2	Apply knowledge of real time issues in digital design
		3	Model digital circuit with HDL, simulate, synthesis and prototype in PLDs.
		4	Design CMOS circuits for specified applications.
		5	Analyze various issues and constraints in design of an ASIC
		6	Apply knowledge of testability in design and Build In Self Test (BIST) circuit.

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404183	**Cloud Computing**	**1**	Understand the basic concepts of Cloud Computing.
		2	Describe the underlying principles of different Cloud Service Models.
		3	Classify the types of Virtualization.
		4	Examine the Cloud Architecture and understand the importance of Cloud Security.
		5	Develop applications on Cloud Platforms.
		6	Evaluate distributed computing and the Internet of Things.
404184 (A)	**Speech Processing (Elective - III)**	**1**	Understand basics of Human speech production mechanism
		2	Classify speech sounds based on acoustic and articulatory phonetics.
		3	Analyse speech signal to extract the characteristic of vocal tract (formants) and vocal cords (pitch).
		4	Evaluate speech signal for extracting LPC and MFCC Parameters of speech signal.
		5	Implement algorithms for processing of speech and audio signals considering the properties of acoustic signals.
		6	Design speech recognition application for speech signal analysis.
404184 (B)	**PLC SCADA and Automation (Elective - III)**	**1**	Understand and Recognize Industrial Control Problems
		2	Analyze & explain different hardware functions of PLC
		3	Develop Ladder Programming in PLC and PLC Interface in real time applications.
		4	Explore and interpret functionality of SCADA.

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		5	Identify and interpret the functionality of DCS
		6	Define and explain CNC machines and Applications of Industrial Protocols.
404184 ©	**Java Script (Elective - III)**	1	Use basic features of java script.
		2	Use relevant data types for developing application in java script.
		3	:Use the function and objects as self-contained, with data passing in and out through well-defined interfaces in development of small systems.
		4	Apply the regular expression for Text matching and manipulation.
		5	Explore use of the various aspects of JavaScript object models that are fundamental to the proper use of the language
		6	Develop the application using windows controlling and form handling.
404184 (D)	**Embedded System & RTOS (Elective - III)**	1	Apply design metrics of Embedded systems to design real time applications to match recent trends in technology.
		2	Apply Real time systems concepts.
		3	Evaluate µ COS operating system and its services.
		4	Apply Embedded Linux Development Environment and testing tools.
		5	Analyze Linux operating system and device drivers.
		6	Analyze the hardware – software co design issues for testing of real time Embedded system
404184 (E):	**Modernized IoT (Elective - III)**	1	Comprehend and analyze concepts of sensors, actuators, IoT and IoE
		2	Interpret IoT Architecture Design Aspects.

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		3	Comprehend the operation of IoT protocols.
		4	Describe various IoT boards, interfacing, and programming for IoT.
		5	Illustrate the technologies, Catalysts, and precursors of IIoT using suitable use cases
		6	Provide suitable solution for domain specific applications of IoT.
404185 (A)	**Data Mining (Elective - IV)**	**1**	Understand the process of data mining and performance issues in data mining
		2	Apply data preprocessing techniques to the historical data collected in data warehouse
		3	Analyze various types of Frequent pattern analysis methods and advanced Pattern mining techniques
		4	Evaluate various data mining algorithms for developing effective data mining models
		5	Analyze different clustering and outlier detection methods
		6	Design data mining models in different mining application areas
404185 (B)	**Electronics Product Design (Elective - IV)**	**1**	Understand and explain design flow of design of electronics product
		2	Associate with various circuit design issues and testing
		3	Inferring different software designing aspects and the Importance of product test & test specifications.
		4	Summarizing printed circuit boards and different parameters
		5	Estimating assorted product design aspects.
		6	Exemplifying special design considerations and importance of documentation.

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404185 (C)	**Deep Learning (Elective - IV)**	**1**	Classify machine learning algorithms and its types.
		2	Discuss the concepts of deep learning and its Frameworks
		3	Identify the deep learning architectures with respect to the applications
		4	Demonstrate different architectures of Convolutional neural networks.
		5	Discuss natural language processing architectures.
		6	Make use of various case studies and deep learning applications
404185 (D)	**Low Power CMOS (Elective - IV)**	**1**	Explain the sources of power dissipation in CMOS.
		2	Classify the special techniques to mitigate the power consumption in CMOS circuits.
		3	Summarize the power optimization and trade off techniques in digital circuits.
		4	Illustrate the power estimation at logic and circuit level.
		5	Explain the software design for low power in various level.
		6	Use the CAD tools for low power synthesis
404185(E):	**Smart Antennas (Elective - IV)**	**1**	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.
		2	Classify Micros trip& re-configurable antenna and techniques.
		3	Describe smart antenna systems and discuss the beam steering and mutual coupling effects.

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		4	Explain DOA estimation methods and classify.
		5	Classify the beam forming methods
		6	Describe and Compare MIMO systems
404188	**Project Phase – I**	1	Demonstrate a sound technical knowledge in field of E&TC in the form of project.
		2	Undertake real life problem identification, formulation and solution.
		3	Design engineering solutions to complex problems utilizing a systematic approach.
		4	Demonstrate the knowledge, effective communication skills and attitudes as professional engineer.

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COURSE PATTERN 2019 BE ELECTRONIS AND TELECOMMUNICATION ENGINEERING			
BE ETC SEM-VIII			
Course Code	**Course Name**	**COs**	**Course Outcomes**
404190	**Fiber Optic Communication**	**1**	Explain the working of components and measurement equipment's in optical fiber networks
		2	Calculate the important parameters associated with optical components used in fiber optic telecommunication systems
		3	Compare and contrast the performance of major components in optical links.
		4	Evaluate the performance viability of optical links using the power and rise time budget analysis.
		5	Design digital optical link by proper selection of components and check its viability using simulation tools.
		6	Compile technical information related to state of art components, standards, simulation tools and current technological trends by accessing the online resources to update their domain knowledge.
404191 (A)	**Biomedical Signal Processing (Elective - V)**	**1**	Describe the origin of various biomedical signals and Interpret the meaning of various parameters associated with biomedical signals
		2	Analyze ECG Signals with extraction of meaningful information
		3	Explain Processing of EEG signals for Diseases of Central Nervous System
		4	Analyze EMG signals for understanding Neuromuscular Diseases
		5	Analyze various Biomedical Signals
		6	Process the biomedical signals to remove adaptive interference and noise

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404191 (B)	**Industrial Drives & Control (Elective - V)**	1	Understand significance and design of various components of electrical drives.
		2	Develop, evaluate and analyze the performance of DC motor drives.
		3	Design, estimate and examine the performance of chopper controlled DC drives.
		4	Adapt, choose and categorize performance of PWM inverter drives for Induction motors.
		5	Elaborate, interpret and analyze the performance of Synchronous motor drive.
		6	Develop, explain and examine performance of stepper motor control
404191 ©	**Android Development (Elective - V)**	1	Describe the process of developing mobile applications.
		2	Create mobile applications on the different android platform.
		3	Design and implement mobile applications involving data storage in databases.
404191 (D)	**Embedded System Design (Elective - V)**	1	Apply the design aspects of Embedded system.
		2	Create and debug a firmware for the Embedded System using ARM Cortex M4
		3	Develop a specific software code for the functionality of the Embedded System
		4	Utilize an open source RTOS for embedded system design.
		5	Design an advanced embedded system.
		6	Explore Embedded Android system.
404,191 €	**Mobile Computing (Elective - V)**	1	Understand concepts of Mobile Communication
		2	Analyse next generation Mobile Communication System

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		3	Understand network layers of Mobile Communication.
		4	Understand IP and Transport layers of Mobile Communication.
		5	Study of different mathematical models.
		6	Understand different mobile applications
404192 (A)	System on Chip (Elective - VI)	1	Understand the basic concepts and architecture of SOC.
		2	Understand the basic terminology of Verilog HDL programming.
		3	Apply the various Verilog modeling styles in writing the design and test bench codes
		4	Understand the basic steps used in the VLSI Physical Design.
		5	Understand the basic architecture of various processors used in SOC.
		6	Understand the working principle of various Buses and memory used in SOC
404192 (B)	Nano electronics (Elective - VI)	1	Understand the fundamental knowledge behind nanotechnology
		2	Understand to Nano-CMOS technology
		3	Explore various Nano electronics material
		4	Understand the importance of carbon nanotubes
		5	Understand Nanomaterial and Nano device fabrication.
		6	Understand various applications of Nanotechnology in Electronics.

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404192 ©	**Remote Sensing (Elective - VI)**	**1**	Describe the concepts of remote sensing and electromagnetic radiation interaction.
		2	Explain the sensors characteristics and analyze its resolution.
		3	Classify different types of satellite data products and design various color composites
		4	Describe the fundamentals of microwave remote sensing.
		5	Analyze GNSS signal structure and augmentation systems.
		6	Demonstrate and describe real life applications of remote sensing
404192 (D)	**Digital Marketing (Elective - VI)**	**1**	Design websites using free tools like Word press and explore it for digital marketing.
		2	Apply various keywords for a website & to perform SEO
		3	Understand the various SEM Tools and implement the Digital Marketing Tools.
		4	Illustrate the use of Facebook, Instagram and You tube for Digital Marketing in real life
		5	Use Linked in platform for various campaigning.
		6	Understand the importance of recent trends in digital marketing.
404193	**Innovation and Entrepreneurship**	**1**	Understand Innovation, Entrepreneurship and characteristics of an entrepreneur
		2	Develop a strong understanding of the Design Process and its application in variety of business settings.
		3	Generate sustainable ideas.
		4	Explore various processes required to be an entrepreneur.

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		5	Understand patents and its process of filing.
		6	Choose and use appropriate social media for marketing.
404194	**Digital Business Management**	1	Identify drivers of digital business
		2	Illustrate various approaches and techniques for E-business and management.
		3	Prepare E-business plan.