
	Akhil Bharatiya Maratha Shikshan Parishad's Anantrao Pawar College of Engineering & Research		
	Record No.: ADM/D/036B Revision: 00	DoI: 21/01/2019	
Internal Correspondence For Department			

Third Year

Electronics & Telecommunication Engineering (2019 Course)

Course Outcome and Course Objectives

Sr. No.	Name of the subject	Digital Communication
1	Course Objectives 1	To familiarize students with various digital modulation techniques used in digital communication systems.
	Course Objectives 2	To equip students the students with tools required for performance analysis of digital communication systems..
	Course Objectives 3	To introduce the students with the concept of information theory & coding techniques
	Course Outcomes 1	Apply the statistical theory for describing various signals in a communication system.
	Course Outcomes 2	Understand and explain various digital modulation techniques used in digital communication systems and analyze their performance in presence of AWGN noise.
	Course Outcomes 3	Describe and analyze the digital communication system with spread spectrum modulation..
	Course Outcomes 4	Analyze a communication system using information theoretic approach.
	Course Outcomes 5	Use error control coding techniques to improve performance of a digital communication system
	2	Name of the subject
Course Objectives 1		Provide the foundation and rudiments of Electromagnetic theory essential to subsequent courses of radiation, microwave and wireless communications.
Course Objectives 2		Expose the students to basic laws of electro statics, magneto statics leading to the Maxwell Equations for static and dynamic fields.
Course Objectives 3		Extend these laws to Uniform Plane waves, transmission line theory and some of the case studies of applications of engineering electromagnetic field theory.
Course Objectives 4		The main focus will be on the physical interpretation of all the mathematical formulations and extend these concepts to real time applications in the field Electronics and Telecommunication Engineering
Course Outcomes 1		Apply the basic electromagnetic principles and determine the fields (E & H) due to the given source.



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Course Outcomes 2	Apply boundary conditions to the boundaries between various media to interpret behavior of the fields on either sides.
Course Outcomes 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.
Course Outcomes 4	Formulate, Interpret and solve simple uniform plane wave (Helmholtz Equations) equations, and analyze the incident/reflected/transmitted waves at normal incidence.
Course Outcomes 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.
Course Outcomes 6	Carry out a detailed study, interpret the relevance and applications of Electromagnetics

3	Name of the subject	Database Management
	Course Objectives 1	To understand fundamental concepts of database from its design to its implementation.
	Course Objectives 2	To analyze database requirements and determine the entities involved in the system and with one another.
	Course Objectives 3	To manipulate database using SQL Query to create, update and manage Database.
	Course Objectives 4	Be familiar with the basic issues of transaction processing and concurrency control.
	Course Objectives 5	To learn and understand Parallel Databases and its Architectures.
	Course Objectives 6	To learn and understand Distributed Databases and its applications.
	Course Outcomes 1	Ability to implement the underlying concepts of a database system.
	Course Outcomes 2	Design and implement a database schema for a given problem-domain using data model.
	Course Outcomes 3	Formulate, using SQL/DML/DDL commands, solutions to a wide range of query and update problems.
	Course Outcomes 4	Implement transactions, concurrency control, and be able to do Database recovery.
	Course Outcomes 5	Able to understand various Parallel Database Architectures and its applications
	Course Outcomes 6	Able to understand various Distributed Databases and its applications.

4	Name of the Subject	Microcontroller
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	Course Objectives 1	Understand architecture and features of 8051 and PIC18FXX Microcontroller.
	Course Objectives 2	Learn interfacing of real-world peripheral devices with microcontroller.
	Course Objectives 3	Explore different features of PIC 18F Microcontroller with Architecture
	Course Objectives 4	Use concepts of timers and interrupts of PIC 18 in programming.
	Course Objectives 5	Design and develop microcontroller based embedded application.
	Course Objectives 6	Demonstrate real life applications using PIC 18.
	Course Outcomes 1	Understand the fundamentals of microcontroller and programming.
	Course Outcomes 2	Interface various electronic components with microcontrollers.
	Course Outcomes 3	Analyze the features of PIC 18F XXXX.
	Course Outcomes 4	Describe the programming details in peripheral support.
	Course Outcomes 5	Develop interfacing models according to applications.
	Course Outcomes 6	Evaluate the serial communication details and interfaces
5	Name of the subject	Fundamentals of JAVA Programming (Elective -I)
	Course Objectives 1	Make the students familiar with basic concepts and techniques of object oriented programming in Java.
	Course Objectives 2	Develop an ability to write various programs in Java for problem solving.
	Course Outcomes 1	Understand the basic principles of Java programming language
	Course Outcomes 2	Apply the concepts of classes and objects to write programs in Java
	Course Outcomes 3	Demonstrate the concepts of methods & Inheritance
	Course Outcomes 4	Use the concepts of interfaces & packages for program implementation
	Course Outcomes 5	Understand multithreading and Exception handling in Java to develop robust programs
	Course Outcomes 6	Use Graphics class, AWT packages and manage input and output files in Java
6	Name of the subject	Cellular Networks
	Course Objectives 1	Various propagation Model and Estimation techniques of wireless communication system.
	Course Objectives 2	OFDM and MIMO technologies to explain modern wireless systems.
	Course Objectives 3	Various aspects of mobile communication system.
	Course Objectives 4	Various aspects of wireless-system planning.
	Course Objectives 5	Different Generation of Mobile Networks.
	Course Objectives 6	Diversified issues that can enhance Network Performance.
	Course Outcomes 1	Understand fundamentals of wireless communications.
	Course Outcomes 2	Discuss and study OFDM and MIMO concepts.
	Course Outcomes 3	Elaborate fundamentals mobile communication.
	Course Outcomes 4	Describes aspects of wireless system planning.



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	Course Outcomes 5	Understand of modern and futuristic wireless networks architecture.
	Course Outcomes 6	Summarize different issues in performance analysis.
7	Name of the subject	Project Management
	Course Objectives 1	The basics of project management and its life cycle
	Course Objectives 2	The process of project identification, selection criteria of the project and how the project planning is undertaken.
	Course Objectives 3	The organizational structure within a project and issues related to project management
	Course Objectives 4	The techniques for effective project scheduling and resource considerations in project.
	Course Objectives 5	The basics of effective handling the risks as well as managing finances within the project
	Course Objectives 6	The complete product development process and requirements for entrepreneurship along with related legal issues.
	Course Outcomes 1	Apply the fundamental knowledge of project management for effectively handling the projects.
	Course Outcomes 2	Identify and select the appropriate project based on feasibility study and undertake its effective planning.
	Course Outcomes 3	Assimilate effectively within the organizational structure of project and handle project management related issues in an efficient manner.
	Course Outcomes 4	Apply the project scheduling techniques to create a Project Schedule Plan and accordingly utilize the resources to meet the project deadline.
	Course Outcomes 5	Identify and assess the project risks and manage finances in line with Project Financial Management Process.
	Course Outcomes 6	Develop new products assessing their commercial viability and develop skill sets for becoming successful entrepreneurs while being fully aware of the legal issues related to Product development and Entrepreneurship.
	8	Name of the subject
Course Objectives 1		To introduce different power devices viz. SCR, GTO, MOSFET and IGBT with construction, characteristics, repetitive and non repetitive ratings and typical triggering/driver circuits.
Course Objectives 2		To understand working, design and performance analysis and applications of various power converter circuits such as ac to dc converters, inverter and chopper
Course Objectives 3		To know various protection circuit requirements of power electronic devices.
Course Outcomes 1		To differentiate based on the characteristic parameters among SCR, GTO, MOSFET & IGBT and identify suitability of the power device for certain



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		applications and understand the significance of device ratings.
	Course Outcomes 2	To design triggering / driver circuits for various power devices.
	Course Outcomes 3	To evaluate and analyze various performance parameters of the different converters and its topologies..
	Course Outcomes 4	To understand significance and design of various protections circuits for power devices.
	Course Outcomes 5	To evaluate the performance of uninterruptible power supplies, switch mode power supplies and battery
	Course Outcomes 6	To understand case studies of power electronics in applications like electric vehicles, solar systems etc
9	Name of the subject	Advanced JAVA Programming (Elective -II)
	Course Objectives 1	Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.
	Course Objectives 2	Design and develop Web applications
	Course Objectives 3	Designing Enterprise based applications by encapsulating an application's business logic..
	Course Objectives 4	Designing applications using pre-built frameworks
	Course Outcomes 1	Design and develop GUI applications using Applets.
	Course Outcomes 2	Apply relevant AWT/ swing components to handle the given event.
	Course Outcomes 3	Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.
	Course Outcomes 4	Learn to access database through Java programs, using Java Database Connectivity (JDBC)
	Course Outcomes 5	Invoke the remote methods in an application using Remote Method Invocation (RMI)
	Course Outcomes 6	Develop program for client /server communication using Java Networking classes.
10	Name of the subject	Mini Project
	Course Objectives 1	To understand the "Product Development Process" including budgeting through Mini Project.
	Course Objectives 2	To plan for various activities of the project and distribute the work amongst team members.
	Course Objectives 3	To inculcate electronic hardware implementation skills by -
	Course Objectives 4	Learning PCB artwork design using an appropriate EDA tool.
	Course Objectives 5	Imbibing good soldering and effective trouble-shooting practices.
	Course Objectives 6	Following correct grounding and shielding practices.
	Course Objectives 7	To develop student's abilities to transmit technical information clearly and test the same by delivery of Seminar based on the Mini Project.



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	Course Objectives 8	To understand the importance of document design by compiling Technical Report on the Mini Project work carried out.
	Course Outcomes 1	Understand, plan and execute a Mini Project with team.
	Course Outcomes 2	Implement electronic hardware by learning PCB artwork design, soldering techniques, testing and troubleshooting etc.
	Course Outcomes 3	Prepare a technical report based on the Mini project.
	Course Outcomes 4	Deliver technical seminar based on the Mini Project work carried out.

Head of the department

Electronics & Telecommunication Engineering

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