

MET's Institute of Technology, Polytechnic

## Department of Computer Engineering

Course Outcomes – 'I' Scheme by MSBTE

Course	Course Code	Course Outcomes
<b>First Semester</b>		
<b>Fundamentals of ICT - 22001</b>	22001.1	Use computer system and its peripherals.
	22001.2	Prepare business document using word processing tool.
	22001.3	Interpret data and represent it graphically using spreadsheet.
	22001.4	Prepare professional presentations.
	22001.5	Use different types of web browsers.
<b>Engineering Graphics - 22003</b>	22003.1	Draw regular geometrical figures.
	22003.2	Use drawing codes, conventions and symbols as per IS SP-46 in engineering drawing
	22003.3	Draw the views of given object using principles of orthographic projection.
	22003.4	Draw isometric views of given component or from orthographic projections.
	22003.5	Draw free hand sketches of given engineering elements.
	22003.6	Use computer aided drafting approach to create engineering drawings
<b>English - 22101</b>	22101.1	Formulate grammatically correct sentences.
	22101.2	Summarise comprehension passages
	22101.3	Compose dialogues and paragraphs for different situations.
	22101.4	Use relevant words as per context.
	22101.5	Deliver prepared speeches to express ideas, thoughts and emotions.
<b>Basic Physics &amp; Basic Chemistry - 22102</b>	22102.1	Estimate errors in the measurement of physical quantities.
	22102.2	Apply the principles of electricity and magnetism to solve engineering problems.
	22102.3	Use the basic principles of heat and optics in related engineering applications.
	22102.4	Apply the catalysis process in industries.
	22102.5	Use corrosion preventive measures in industry.
	22102.6	Use relevant engineering materials in industry.
<b>Basic Mathematics - 22103</b>	22103.1	Apply the concepts of algebra to solve engineering related problems. Developing the vocabulary.
	22103.2	Utilize basic concepts of trigonometry to solve elementary engineering problems.
	22103.3	Solve basic engineering problems under given conditions of straight lines.
	22103.4	To Solve the problems based on measurement of regular closed figures and regular solids
	22103.5	Use basic concepts of statistics to solve engineering related problems.

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<b>Second Semester</b>		
<b>Applied Science - 22202</b>	22202.1	Select relevant material in industry by analyzing its physical properties.
	22202.2	Apply laws of motion in various applications.
	22202.3	Use LASER X-Rays and photo electric sensors.
	22202.4	Select the relevant metallurgical process related to industrial applications.
	22202.5	Use relevant water treatment process to solve industrial problems.
	22202.6	Use relevant fuel in relevant applications.
<b>Engineering Drawing - 22207</b>	22207.1	Draw projections of 2D and 3D standard regular entities.
	22207.2	Draw sectional views of objects.
	22207.3	Draw orthographic sectional and missing views.
	22207.4	Draw auxiliary views of objects.
	22207.5	Use various drawing codes, conventions and symbols as per IS SP-46.
	22207.6	Draw free hand sketches of given engineering elements
<b>Business Communication Using Computers - 22009</b>	22009.1	Communicate effectively by avoiding barriers in various formal and informal.
	22009.2	Communicate skillfully using non-verbal methods of communication.
	22009.3	Give presentations by using audio-visual aids.
	22009.4	Write reports using correct guidelines.
	22009.5	Compose e-mail and formal business letters.
<b>Computer Peripheral and Hardware Maintenance - 22013</b>	22013.1	Identify different types of computer systems.
	22013.2	Troubleshoot common motherboard problems
	22013.3	Select processors required for relevant systems.
	22013.4	Partition/format hard disk drives.
	22013.5	Troubleshoot peripherals and networks.
<b>Web page Designing with HTML - 22014</b>	22014.1	Use block level formatting tags to present content on web page.
	22014.2	Use text level formatting tags to present content on web page.
	22014.3	Apply hyper linking on web page.
	22014.4	Organize the content using table and frames.
	22014.5	Apply presentation schemes on content using CSS.
	22014.6	Publish websites on Internet or Intranet.
<b>Elements of Electrical Engineering - 22215</b>	22215.1	Use principles of magnetic circuits.
	22215.2	Use single phase AC supply for electrical and electronics equipment.
	22215.3	Use three phase AC supply for industrial equipment and machines
	22215.4	Connect transformers and DC motors for specific requirements
	22215.5	Use FHP motors for diversified applications.
	22215.6	Use relevant protective devices/switchgear for different requirements.

<b>Applied Mathematics - 22224</b>	22224.1	Calculate the equation of tangent, maxima, minima, radius of curvature by differentiation.
	22224.2	Solve the given problems of integration using suitable methods.
	22224.3	Apply the concept of integration to find area and volume.
	22224.4	Solve the differential equation of first order and first degree using suitable methods.
	22224.5	Apply the concepts of numerical methods in computer programming languages.
<b>Basic Electronics - 22225</b>	22225.1	Identify electronic components in electronic circuits.
	22225.2	Use diodes in different applications .
	22225.3	Interpret the working of junction transistor in the electronic circuits.
	22225.4	Interpret the working of unipolar devices in the electronic circuits.
	22225.5	Use sensors and transducers.
<b>Programming in 'C' - 22226</b>	22226.1	Develop flowcharts and algorithms to solve problems logically.
	22226.2	Write simple 'C' programs using arithmetic operations.
	22226.3	Develop 'C' programs using control structures.
	22226.4	Develop 'C' programs using arrays and structures.
	22226.5	Develop/Use functions in C programs for modular programming approach.
	22226.6	Develop 'C' programs using pointers.

Course	Course Code	Course Outcomes
<b>Third Semester</b>		
<b>Object Oriented Programming using C++ - 22316</b>	22316.1	Develop a C++ programs to solve problems using procedure oriented approach.
	22316.2	Develop a C++ programs using classes and objects.
	22316.3	Implement inheritance in C++ program.
	22316.4	Use Polymorphism in C++ program.
	22316.5	Develop a C++ programs to perform file operation.
<b>Data Structures using 'C' - 22317</b>	22317.1	Perform basic operations on arrays.
	22317.2	Apply different searching and sorting techniques.
	22317.3	Implement basic operations on stack and queue using array implementation.
	22317.4	Implement basic operations on Linked List.
	22317.5	Implement program to create and traverse tree to solve problems.
<b>Computer Graphics - 22318</b>	22318.1	Manipulate visual and geometric information of images.
	22318.2	Implement standard algorithms to draw various graphics objects using C program.
	22318.3	Develop programs for 2-D and 3-D Transformations.
	22318.4	Use projections to visualize objects on view plane.
	22318.5	Implement various clipping algorithms.
	22318.6	Develop programs to create curves using algorithms.
<b>Database Management System - 22319</b>	22319.1	Design Normalized Database on Given Data
	22319.2	Create and Manage Database Using Given data
	22319.3	Write PL/SQL code for given database
	22319.4	Apply Triggers on Database also create procedure and function according to given condition.
	22319.5	Apply Security and confidentiality on given Database.
<b>Digital Techniques - 22320</b>	22320.1	Use Number System and codes for interpreting working of Digital System.
	22320.2	Use Boolean Expression to realize logic circuit.
	22320.3	Build Simple Combinational circuit.
	22320.4	Build Simple Sequential circuit.
	22320.5	Test Data Converters and PLDs in digital electronics systems.

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<b>Fourth Semester</b>		
<b>GUI Application Development Using VB.Net - 22034</b>	22034.1	Use Visual Studio IDE to design application.
	22034.2	Develop GUI Application using Form Controls and its events.
	22034.3	Apply Object Oriented concepts in GUI Application.
	22034.4	Use Data access controls to store data in Database and retrieve it.
	22034.5	Use Data Binding in GUI Application.
<b>Java Programming - 22412</b>	22412.1	Develop programs using Object Oriented methodology in Java.
	22412.2	Apply concept of inheritance of code reusability.
	22412.3	Develop programs using multithreading.
	22412.4	Implement Exception Handling.
	22412.5	Develop programs using graphics and applets.
	22412.6	Develop programs for handling I/O and file streams.
<b>Software Engineering - 22413</b>	22413.1	Select suitable process model for software development.
	22413.2	Prepare software requirement specifications.
	22413.3	Use software modelling to create data designs.
	22413.4	Estimate size and cost of software product.
	22413.5	Apply project management and quality assurance principles in software development.
<b>Data Communication and Computer Network - 22414</b>	22414.1	Analyze the function of data communication and computer network.
	22414.2	Select relevant transmission media and switching technique as per need.
	22414.3	Analyze the transmission errors with respect to IEEE standards.
	22414.4	Configure various networking devices.
	22414.5	Configure TCP IP Services.
<b>Microprocessors - 22415</b>	22415.1	Analyze the functional block of 8086 microprocessor.
	22415.2	Write the assembly Language program for given problem.
	22415.3	Use Instructions for different addressing modes.
	22415.4	Develop an assembly language program using assembler.
	22415.5	Develop an assembly language program using procedure, macros and modular programming approach.

Course	Course Code	Course Outcomes
<b>Fifth Semester</b>		
<b>Environmental Studies - 22447</b>	22447.1	Develop public awareness about environment.
	22447.2	Select alternative energy Resources for engineering practice.
	22447.3	Conserve. Ecosystem & biodiversity.
	22447.4	Apply techniques to reduce environmental pollution.
	22447.5	Manage social issues and Environmental Ethics as lifelong learning.
<b>Management - 22509</b>	22509.1	Use basic management principles to execute daily activities.
	22509.2	Use principles of planning and organising for accomplishment of tasks.
	22509.3	Use principles of directing and controlling for implementing the plans.
	22509.4	Apply principles of safety management in all activities.
	22509.15	Understand various provisions of industrial acts.
<b>Operating System - 22516</b>	22516.1	Install Operating System and configure it.
	22516.2	Use operating system tools to perform various functions.
	22516.3	Execute process commands for performing process management operations.
	22516.4	apply scheduling algorithms to calculate turn-around time and average waiting time.
	22516.5	calculate efficiency of different memory management techniques.
	22516.6	Apply file management techniques.
<b>Advanced Java Programming - 22517</b>	22517.1	Develop programs using GUI Framework (AWT and Swing).
	22517.2	Handle events of AWT and Swing components.
	22517.3	Develop programs to handle events in Java programming.
	22517.4	Develop java programs using networking concepts.
	22517.5	Develop programs using database.
	22517.6	Develop programs using Servlets.
<b>Software Testing - 22518</b>	22518.1	Apply various Software Testing methods.
	22518.2	Prepare Test cases for different types and levels of testing.
	22518.3	Prepare Test plan for an application.
	22518.4	Identify bugs to create defect report of given application.
	22518.5	Test softwares for performance measures using automated testing tools.
<b>Client Side Scripting Language (Elective) - 22519</b>	22519.1	Create interactive web pages using program flow control structure.
	22519.2	Implement array and functions in java script.
	22519.3	Create event based web forms using java script.
	22519.4	Use java script for handling cookies.
	22519.5	Create interactive web page using regular expression for validations.
	22519.6	Create menu and navigations in web page

<b>Advanced Computer Network (Elective) - 22520</b>	22520.1	Implement Network Layer Protocols.
	22520.2	Configure IPv6 network.
	22520.3	Choose routing protocol in given network situation.
	22520.4	Implement different Transport Layer Protocols.
	22520.5	Configure various Application Layer Protocols.
<b>Advanced Database Management Systems (Elective) - 22551</b>	22551.1	Differentiate different database architectures.
	22551.2	Use Object Oriented and Advanced XML queries on Database.
	22551.3	Manipulate data using MongoDB Commands.
	22551.4	Use Data Mining and Data Warehousing concepts.
	22551.5	Use Big Data Concepts.

Course	Course Code	Course Outcomes
<b>Sixth Semester</b>		
<b>Entrepreneurship Development - 22032</b>	22032.1	Identify your entrepreneurial traits.
	22032.2	Identify the business opportunities that suits you.
	22032.3	Use the support systems to zero down to your business idea.
	22032.4	develop comprehensive business plans.
	22032.5	Prepare plans to manage the enterprise effectively.
<b>Programming with Python - 22616</b>	22616.1	Display message on screen using python script on IDE.
	22616.2	Develop python program to demonstrate use of operators.
	22616.3	Perform operations on data structures in python.
	22616.4	Develop function for given problem.
	22616.5	Design classes for given problem.
	22616.6	Handle exceptions.
<b>Mobile application development - 22617</b>	22617.1	Interpret features of Android operating System.
	22617.2	Configure android environment and development tools.
	22617.3	develop rich user Interfaces by using layouts and controls.
	22617.4	Use user interface components for android application development.
	22617.5	Create android application using database.
	22617.6	Publish android applications.
<b>Emerging Trend in Computer and Information Technology - 22618</b>	22618.1	Description of Artificial Intelligence, Machine Learning and Deep learning.
	22618.2	Interpret IOT Concepts.
	22618.3	Compare Models of Digital Forensic Investigation.
	22618.4	Description of evidence Handling Procedures.
	22618.5	Description of Ethical Hacking process.
	22618.6	Detecting Network, Operation system and applications vulnerabilities.
<b>Web Based Application Development using PHP - 22619</b>	22619.1	Develop programs using control statements.
	22619.2	Perform operations based arrays and graphics.
	22619.3	Develop programs by applying various Object-Oriented Concepts.
	22619.4	Use form controls with validation to collect user's input.
	22619.5	Perform database operations in PHP.
<b>Network and Information Security (Elective) - 22620</b>	22620.1	Identify risks related to Computer Security and Information hazard in various situations.
	22620.2	Apply user identification and authentication methods.
	22620.3	Apply cryptographic algorithms and protocols to maintain Computer Security.
	22620.4	Apply measures to prevent attacks on network using firewall.
	22620.5	Maintain secured networks and describe Information Security Compliance Standards.

<b>Data Warehousing and Mining Techniques (Elective) - 22621</b>	22621.1	Establish scope and necessity of Data Mining for various applications.
	22621.2	Establish scope and necessity of Data warehouse for various applications.
	22621.3	Use concept of data mining components and techniques in designing data mining systems.
	22621.4	Use data mining tools for different applications.
	22621.5	Apply basic Statistical calculations on Data.
<b>Capstone Project Planning - 22058</b>	22058.1	Implement or plan the activity individually and/or as a team.
	22058.2	Select collect and use required information/knowledge to solve the identified problem.
	22058.3	Take the appropriate decision based on collected and analyzed information.
	22058.4	Ensure quality in product.
	22058.5	Incorporate Energy and environment conservation projects.
	22058.6	Consider the ethical issues related to project.
	22058.7	Assess the impact of project on society.
	22058.8	Communicate effectively and confidently as a member and leader of a team.
	22058.9	Prepare project report after performing due plagiarism check using appropriate tools.