Madhav Institute of Technology & Science, Gwalior- 474 005

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Computer Science Engineering **Year 2020-2024**

Semester		Course Outcome
		100015:Energy, Environment, Ecology & Society
Semester 1	CO1	List and describe various energy resources, their conversion to electrical power and role in technological & economic development
	CO2	Update themselves with national/international power status and renewable power development targets & missions
	CO3	Understand the impact of pollution on the ecosystem and control policies adopted atnational/international levels
	CO4	Illustrate the concepts of ecosystems and their conservation
	CO5	Solve practical problems of society in a sustainable and ethical manner
	CO6	Fulfill their professional duties keeping in mind the environmental safety, health, and welfare of public.
		230102: Introduction to Computer Programming
	CO1	Identify situations where computational methods and programming would be useful.
	CO2	implement the basic principles of imperative and structural programming.
	CO3	Develop a pseudo-code and flowchart for a given problem.
	CO4	Analyze the problems and choose suitable programming techniques to develop solutions.
	CO5	Design, implement, debug and test programs.
	CO6	Design computer programs to solve real world problems.
		150111:IT Workshop
	CO1	Understand the basic concept and structure of application software
	CO2	Identify the existing configuration of the computers and peripherals.
	CO3	Integrate the PCs into local area network and re-install operating system and various application programs.
	CO4	Design and develop basic web pages using HTML and CSS.
	CO5	Design & create and implement a static and dynamic webpage
	CO6	Design and implement a program to solve a real world problem.
Semster 2		**290201: Digital Electronics**
	CO1	explain the computer architecture for defining basic component and functional unit
	CO2	recall different number system and solve the basic arithmetic operations
	CO3	develop the understanding of combinational circuits.
	CO4	analyze the basic concept of sequential circuits.
	CO5	compare various memories.
	CO6	solve the boolean functions using logic gates.
		290202:Data Structures
	CO1	Outline the basics of algorithms and their performance criteria.
	CO2	Explain the working of linear and non-linear data structures.
	CO3	Identify the appropriate data structure to solve the specific problems.
	CO4	Analyse the performance of various data structures and their applications.
	CO5	Evaluate the time and space complexities of various data structures and their applications.
	CO6	Design the optimal algorithmic solutions for various problems
		290203: Object Oriented Programming and Methodology
	CO1	Relate the concepts and significance of OOPs in real world.
	CO2	Demonstrate adeptness of object oriented programming to solve problems using Object oriented concepts
	CO3	Apply object oriented programming to develop solutions of problems using standard language constructs.
	CO4	Analyze data flow diagrams and flow charts for small/ moderate problems
	CO5	Determine how to simulate the problem in field of Operating system, Computer networks and real world problems.
	CO6	Develop software using concepts of objects, associations and integrity constraint.
Semester 3		**1000005:Project Management & Financing**
	CO1	Know the attributes of project and its different phases.
	CO2	Develop the project network based on work breakdown structure and esimation of activity durations
	CO3	Analyze the project network and make decide the various alternates.
	CO4	Evaluate the optimum cost of project for assigned deadlines.
	CO5	Understand the different options to arrange the finances to complete it within stipulated time
		100025:Engineering Mathematics - II
	CO1	explain the computer architecture for defining basic component and functional unit
	CO2	recall different number system and solve the basic arithmetic operations
	CO3	develop the understanding of combinational circuits.
	CO4	analyze the basic concept of sequential circuits.
	CO5	compare various memories.
	CO6	solve the boolean functions using logic gates.
		150311:Computer System Organization
	CO1	Recall the basic building blocks of computer Architecture.
	CO2	Explain different memories and the functional units of a processor.
	CO3	Explain the concept of working of microprocessor, multiprocessor and pipelining.
	CO4	Analyze various modes of Input-Output data transfer.
	CO5	Evaluate the arithmetic related to the number system.
	CO6	Develop the skill of writing low level programming.
		150312:Operating Systems
	CO1	Relate the concepts and significance of OOPs in real world.
	CO2	Demonstrate adeptness of object oriented programming to solve problems using Object oriented concepts
	CO3	Apply object oriented programming to develop solutions of problems using standard language constructs.
	CO4	Analyze data flow diagrams and flow charts for small/ moderate problems
	CO5	Determine how to simulate the problem in field of Operating system, Computer networks and real world problems.
	CO6	Develop software using concepts of objects, associations and integrity constraint.
		150313:Computer Graphics
	CO1	Explain interactive Computer Graphics, various display devices and explore applications of computer graphics.
	CO2	Illustrate various line generations, circle generation, curve generation and shape Generation algorithms.
	CO3	Apply various 2-Dimensional and 3-Dimensional transformations and projections on Images.
	CO4	Classify methods of image clipping and various algorithms for Line and Polygon clipping.
	CO5	Choose appropriate filling algorithms, Hidden Surface Elimination algorithm and apply

	CO6	Discuss various color models, shading methods, animation and Digital Image Processing.
		150314: Design & Analysis of Algorithms
	CO1	Tell the basic features of an Algorithms.
	CO2	Outline major Algorithms and Data Structures.
	CO3	Apply various algorithmic design paradigms.
	CO4	Analyze the asymptotic performance of Algorithms.
	CO5	Compare different design techniques to develop algorithms for computational problems.
	CO6	Design algorithms using greedy strategy, divide and conquer approach, dynamic programming, backtracking, branch and bound approach.
		150315: Computer Hardware & Troubleshooting Lab
	CO1	Explain basics of different computer peripherals and interfaces.
	CO2	Demonstrate architecture of various computer hardware devices and their functioning.
	CO3	Demonstrate the details of system buses, memory system, and I/O interfaces.
	CO4	Identify the existing configuration of the computers peripherals and creating wireless network through the access point.
	CO5	Analyze progress in contemporary peripherals and bus systems.
	CO6	construct a networking based on IPv4 address scheme.
		150315 : Summer Internship Project - I
	CO1	Design solutions to real world problems
	CO2	Express the technical ideas, strategies and methodologies
	CO3	Utilize new tools, algorithms, techniques to obtain solution of the project
	CO4	Evaluate the performance of the prototype/ results
	CO5	Able to locate and use technical information from multiple sources.
	CO6	Demonstrate the ability to communicate effectively in speech and writing