MARWADI SIKSHA SAMITHI

Ramnath Guljarilal Kedia College of Commerce

(Affiliated to Osmania University, NAAC Re-Accredited)|
3-1-336, Esamia Bazar, Opp. New Chaderghat Bridge, Hyderabad- 500027.

Program Name: **MCA**

Program Outcomes:

- Knowledge of Computing fundamentals, Computing specialization, Mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
- Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practice.
- Recognize the need, and have the ability, to engage in independent learning for continual development as a Computing professional.
- Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions

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- **Program Specific Outcomes**
- To prepare graduates who will create systems through software development to solve problems in Industry domain areas.

- To Prepare Graduates who will contribute to societal growth through research in their chosen field.

- To prepare graduates who will perform both as an individual and in a team through good analytical, design and implementation skills.

- To prepare graduates who will be lifelong learners through continuous professional development

Course Outcomes:

Course Code	Semester	Course Name	Learning Outcome
501	V	Information Security	✓ Appreciate the value of information to the modern organisation ✓ Understand the CIA triad of Confidentiality, Integrity and Availability ✓ Appreciate the difficulties that arise when valuable information needs to be shared ✓ Identify the five leading-edge resources that have up-to-date information on information security.
502	Vth	Object oriented system Development and Lab	✓ It facilitates changes in the system at low cost. ✓ It promotes the reuse of components. ✓ It simplifies the problem of integrating components to configure large system. ✓ It simplifies the design of distributed systems. ✓ Method of wages payment
503	V sem	Bigdata Analytic and Lab	✓ Overview of Big Data, i.e. storage, retrieval and processing of big data. ✓ It focuses on the "technologies", i.e., the tools/algorithms that are available for storage, processing of Big Data. ✓ It also helps a student to perform a variety of "analytics" on different data sets and to arrive at positive conclusions.
504	V	Electronic commerce	✓ Understand the basic concepts and technologies used in the field of management information systems ✓ Have the knowledge of the different types of management information

			systems
			✓ Understand the processes of developing and implementing information systems.
			✓ Be aware of the ethical, social, and security issues of information systems
505	V	Mobile Computing	✓ Define mobile technologies in terms of hardware, software, and communications.
			✓ Utilize mobile computing nomenclature to describe and analyse existing mobile computing frameworks and architectures.
			✓ Evaluate the effectiveness of different mobile computing frameworks.
			✓ Describe how mobile technology functions to enable other computing technologies.
301	III	Software Engineering and Lab	✓ Knowledge of basic SW engineering methods and practices, and their appropriate application.
			✓ Describe software engineering layered technology and Process frame work.
			✓ A general understanding of software process models such as the waterfall and evolutionary models.
			✓ Understanding of software requirements and the SRS documents.
			✓ Understanding of the role of project management including planning, scheduling, risk management, etc
302	III	Design and Analysis of Algorithm and Lab	✓ Analyze the asymptotic performance of algorithms.
			✓ Write rigorous correctness proofs for algorithms.
			✓ Demonstrate a familiarity with major algorithms and data structures.
			✓ Apply important algorithmic design

			paradigms and methods of analysis. ✓ Synthesize efficient algorithms in common engineering design situations.
303	III	Information Retrieval System and Lab	✓ Understand the retrieval of relevant information from a text database. ✓ Understand the Term Vocabulary And Postings Lists. ✓ Understand the Index Construction. ✓ Understand the Index Compression. ✓ Understand the Vector Space Model
304	III	Operating Research	✓ Formulate and solve problems as networks and graphs. ✓ Construct linear integer programming models and discuss the solution techniques. ✓ Set up decision models and use some solution methods for nonlinear optimization problems. ✓ propose the best strategy using decision making methods under uncertainty and game theory. ✓ Use computer softwares to solve decision models.
305	III	Environmental Science	✓ An Environmental Studies major will be able to recognize the physical, chemical, and biological components of the earth's systems and show how they function. ✓ An Environmental Studies major will be able to do independent research on human interactions with the environment.
401	IV	Computer Network and Lab	✓ Recognize computer networks. ✓ List computer network topologies. ✓ Explain each computer network topology physically or logically. ✓ List required hardware to constitute

			computer network.
			✓ Explain the mission of each computer network.
			✓ Recognize essential computer network protocols.
402	IV	Data Mining and Lab	✓ To fully understand standard data mining methods and techniques such as association rules, data clustering and classification.
			✓ Learn new, advanced techniques for emerging applications (e.g. social network analysis, stream data mining).
403	IV	Web Programming and Lab	✓ Structure and implement HTML/CSS.
			✓ Apply intermediate and advanced web development practices.
			✓ Implement basic JavaScript.
			✓ Create visualizations in accordance with UI/UX theories.
			✓ Develop a fully functioning website and deploy on a web server.
404	IV	Distributed System	✓ To provide hardware and software issues in modern distributed systems
			✓ To get knowledge in distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security, and distributed file systems.
			✓ To analyze the current popular distributed systems such as peer-to-peer (P2P) systems will also be analyzed.
			✓ To know about Shared Memory Techniques.
			✓ Have Sufficient knowledge about file access.
			✓ Have knowledge of Synchronization

			and Deadlock
405	IV	Distributed Databases	✓ Understand distributed database systems architecture and design ✓ Be able to apply methods and techniques for distributed query processing and optimization ✓ Understand the broad concepts of distributed transaction process. ✓ Understand the basic concepts of Data warehousing and OLAP technology ✓ Be able to apply methods and techniques for association analysis, data classification and clustering.
101	I	Mathematical Foundation of Computer Science	✓ Evaluate the validity of logical argumentsand construct mathematical proofs. ✓ Analyse whether given graphs are isomorphic and apply different algorithms to find the shortest path. Apply the concept of two dimensional random variables to correlation, regression and Central limit theorem. ✓ Learn and apply multivariate analysis necessary for Principal Component Analysis. ✓ Identify the Markovianqueueing model in the given system, find the performance measures and analyse the results.
102	I	Data Structure using C and Lab	✓ Analyze the concepts of algorithm evaluation and find time and space complexities for searching and sorting algorithms. ✓ Implement linear data structure such as stacks, queues, linked lists and their applications. ✓ Implement basic operations on binary trees

				✓ Demonstrate the representation and traversal techniques of graphs and their applications
103	I		Object Oriented programming using Java and Lab	✓ Understand the basic object oriented programming concepts and apply them in problem solving. ✓ Illustrate inheritance concepts for reusing the program. ✓ Demonstrate on the multi-tasking by using multiple threads. ✓ Develop data-centric applications using JDBC. ✓ Understand the basics of java console and GUI based programming
104	I		Computer Architecture	✓ Understand the theory and architecture of central processing unit. ✓ Analyze some of the design issues in terms of speed, technology, cost, performance. ✓ Design a simple CPU with applying the theory concepts. ✓ Use appropriate tools to design verify and test the CPU architecture. ✓ Learn the concepts of parallel processing, pipelining and interprocessor communication. ✓ Understand the architecture and functionality of central processing unit.
105	I		Probability and Statistics	✓ Analyze statistical data graphically using frequency distributions and cummulative frequency distributions. ✓ Analyze statistical data using measures of central tendency, dispersion and location. ✓ Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.

			✓ Translate real-world problems into probability models.
			✓ Derive the probability density function of transformation of random variables.
			Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.
106	I	Managerial Economics and accountancy	✓ Apply economic principles to management decisions.
			✓ Understand the Nature, Scope and Significance of Managerial Economics, its Relationship with other Disciplines.
			✓ Understand the Role of Managerial Economics in Decision Making.
			✓ Understand the cardinal and ordinal approach of consumer behavior.
			✓ How to estimate demand and furcating of demand in the markets.
			✓ Managerial uses of Production Function, Short Run and Long Run Production Analysis
109	I	Soft Skills	✓ Effectively communicate through verbal/oral communication and improve the listening skills
			✓ Write precise briefs or reports and technical documents .
			✓ Actively participate in group discussion / meetings / interviews and prepare & deliver presentations .
			✓ Become more effective individual through goal/target setting, self motivation and practicing creative thinking.
			✓ Function effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership quality
201	II	Operating System and Lab	✓ know basic components of an operating system.
			✓ comprehend how an operating system

			virtualises CPU and memory. ✓ discuss various scheduling and swapping policies. ✓ learn basic concurrent programming in C and assembly code. ✓ explain how a simple file system organizes data in the hard disk.
202	II	Database Management System and Lab	✓ Understand the basic principles of database management systems. ✓ Draw Entity-Relationship diagrams to represent simple database application scenarios ✓ write SQL queries for a given context in relational database. ✓ Discuss normalization techniques with simple examples. CO ✓ Describe transaction processing and concurrency control concepts
203	II	Artificial Intelligence and Lab	✓ Apply various pre-processing techniques on different datasets. ✓ Construct Machine learning programs for Supervised, Unsupervised and Semi supervised learning models. ✓ Develop Deep learning programs for Supervised & Unsupervised learning models. ✓ Identify and Apply Artificial Intelligence concepts to solve real world problems
204	II	Machine Learning	✓ Learn the basics of learning problems with hypothesis and version spaces ✓ Understand the features of machine learning to apply on real world problems ✓ Characterize the machine learning algorithms as supervised learning and unsupervised learning and Apply and analyze the various algorithms of

			supervised and unsupervised learning ✓ Analyze the concept of neural networks for learning linear and non-linear activation functions ✓ Learn the concepts in Bayesian analysis from probability models and methods ✓ Understand the fundamental concepts of Genetic Algorithm and Analyze and design the genetic algorithms for optimization engineering problems
205	II	Operation Research	✓ Solve linear programming problems using appropriate techniques and optimization solvers, interpret the results obtained. ✓ Model competitive real-world phenomena using concepts from game theory. Analyse pure and mixed strategy games ✓ Formulate Network models for service and manufacturing systems, and apply operations research techniques and algorithms to solve these Network problems