Vignan's Institute of Information Technology(A) :: Visakhapatnam

Department of Master of Computer Applications

Course Outcomes

I-MCA COURSE OUTCOMES (VR-19)

1st Year MCA Semester-I Course Outcomes (VR-19)

C Programming and Data Structures :

- Analyze problems and develop solutions by writing algorithms.
- Design various dynamic allocation memory programs.
- Develop simple real-time applications to get familiarity of the programming environment.
- Solve problems using various data structures like linear list, stack, queue, tress and graphs

Digital Computer Fundamentals :

- Identify the logic gates and their functionality.
- Perform number conversions from one system to another system.
- Design basic electronic circuits (combinational circuits).
- Perform a comparative analysis of the components of different memory units.

Discrete Mathematical Structures and Graph Theory :

- Analyze logical structure and able to Apply inference theory to verify the consistence of data.
- Construct Hasse diagram and Understand concept of recursive functions.
- Understand different counting techniques.
- Apply different methods to solve homogeneous and non-homogeneous recurrence relations.
- Apply graph theory concepts in core subjects such as data structures and network theory effectively.

Accounting and Financial Management :

- To identify the need and the role of accounting in present modern business.
- To have capabilities to preparation of trail balance – Final accounts.
- Financial management role and objectives of the business.
- To explain the Importance of the cost behavior
- Use of the standard costing and budgeting in present business level.

Professional Communication :

- The students will be able to read, understand and interpret material on Environment, Science and Technology, tourism, Energy Sources, Social Awareness
- The students will be able to analyze the functions of language and grammar in spoken and written forms.
- The students will be able to write effectively on various domains.
- The students will be able to prepare and exhibit oral presentation skills by using ICT.(Individual/Team)

English Language Communication Skills Lab :

- Use English language fluently, accurately and appropriately.
- Demonstrate skills in Reading, listening comprehension, GDs and Interview.
- Read and answer questions (orally and in writing) based on passages.
- Show effective writing skills in academic and professional contexts.

C Programming and Data Structures Lab :

- Able to write programs in C Language
- Develop logical and analytical thinking in C
- Knowledge in writing programs in various concepts like arrays, functions, pointer etc.
- How to read and write contents from or into a file

IT Workshop Lab :

- Identify the basic peripherals, assembling a Personal Computer, Installation of system software like MS Windows, device drivers.
- Troubleshoot Hardware and software.
- Analyze different ways of hooking the PC on to the internet from home and workplace effectively, Usage of the internet, web browsers, email, newsgroups and discussion forums.
- Get awareness about "Cyber hygiene" (protecting the personal computer from getting infected with viruses), worms and other cyber-attacks.
- Crafting professional word documents, Excel spread sheets, Power point presentations and personal web sites using the Microsoft suite of office tools.

(**Note:** Student should be thoroughly exposed to a minimum of 12 Tasks)

1st Year MCA Semester-II Course Outcomes (VR-19)

OOPS Through JAVA :

- Apply OOP concepts and basics of Java programming.
- Use the concepts of Java programming in problem solving.
- Extend the knowledge of Java programming in developing futuristic applications.

Operating Systems :

- Apply optimization techniques for the improvement of system performance.
- Design and solve synchronization problems.
- Learn about minimization of turnaround time, waiting time and response time and also maximization of throughput by keeping CPU as busy as possible.
- Change access controls to protect files.

Software Engineering :

- Prepare a Software Requirement Specification (SRS) document for any software project.
- Identify the importance of system analysis and design in solving complex problems.
- Distinguish between object-oriented approach and traditional approach in system analysis and design.
- Analyze various metrics to measure software product size and complexity.

Operations Research :

- **Formulate** a given simplified description of a suitable real world problem as a linear programming model
- **Solve** the transportation problem, and assignment problems to drive their optimal solution.
- **Identify** the best age of replacement and Use waiting line models to estimate system performance
- **Describe** the functions and costs of an inventory system and **Determine** the order quantity.
- **Solve** simple games using various techniques. **Identify** the resources required for a project and generate a plan and work schedule.

Database Management Systems :

- Give a description of the Architecture of Database Management Systems
- Understand the applications of Databases and functions of DBA
- Compare relational model with the structured query language (SQL)
- Know the rules guiding transaction ACID.

OOPS Through JAVA Lab :

- write simple programs in Java Language
- Develop logical and analytical thinking in Java
- Knowledge in writing programs in various concepts like Exception Handling, applets, swings etc.
- Design to read and write contents from or into a file

Database Management Systems Lab :

Operating System Lab :

- Implement CPU scheduling algorithms and Bankers algorithm used for deadlock avoidance and prevention.
- Implement CPU scheduling algorithms and Bankers algorithm used for deadlock avoidance and prevention.

II-MCA COURSE OUTCOMES (VR-17)

2nd Year MCA Semester-I Course Outcomes (VR-17)

Database Management Systems :

- Student can able to describe the Architecture of Database Management Systems
- Student can design different ER Models
- Student can able to differentiate the knowledge in TRC & DRC
- Student can compare relational model with the structured query language (SQL)
- Student can able to design the new database
- Student can perform transactions for new concepts
- Student can differentiate different indexing techniques in real time

Advanced JAVA Programming:

- Students are able to develop a dynamic webpage by the use of java script and DHTML.
- Students will be able to connect a java program to a DBMS and perform insert, update and delete operations on DBMS table.
- Students will be able to write a server side java application called Servlet to catch form data sent from client, process it and store it on database.
- Students will be able to write a server side java application called JSP to catch form data sent from client and store it on database
- Students are able to develop a dynamic webpage by the use of java script and DHTML.

UNIX Programming :

- Ability to understand and reason out the working of Unix Systems
- To teach students the use of basic UNIX Utilities
- To teach students the principles of UNIX shell programming
- To familiarize students with the concepts, design, and structure of the UNIX operating system
- To be able to build an application / service over a UNIX system

Management Information System :

- The students will know to Define information technology and state the advancement of IT
- The students will know to Identify the different types of Information systems
- Describe the evolution of MIS
- To Recognize the importance of having a disaster recovery plan
- Understand the role of Computer Aided Decision System in business environment
- To Measure the threat of virus and identify ways of preventing them

Design and Analysis of Algorithms :

- Basic data structure and it working topological design.
- Basic functionality of different type of algorithms and its usage
- Analysis of different type of complexity and its applicable condition

Database Management Systems Lab :

- Have a good understanding of how several fundamental algorithms work, particularly those concerned with creation and updating of tables.
- Have a good understanding of the fundamental DBMS used in computer science
- Be able to understand various queries and their execution.
- Be able to design new database and modify existing ones for new applications and reason about the efficiency of the result

UNIX Programming Lab :

- You will be able to run various UNIX commands on a standard UNIX/LINUX Operating System (We will be using Ubuntu flavor of the Linux operating system).
- You will be able to run C / C++ programs on UNIX.
- You will be able to do shell programming on UNIX OS.
- You will be able to understand and handle UNIX system calls

Advanced JAVA Programming Lab :

- Create and Mange static web pages for given scenario
- Apply server side technologies to establish dynamic applications
- Implement web applications with effective data management
- Develop secure web applications with session management API's

2nd Year MCA Semester-II Course Outcomes (VR-17)

Object Oriented Analysis and Design :

- Possess an ability to practically apply knowledge software engineering methods, such as object-oriented analysis and design methods with a clear emphasis on UML
- Have a working ability and grasping attitude to design and conduct object-oriented analysis and design experiments using UML, as well as to analyze and evaluate their Models.
- Have a capacity to analyze and design software systems, components to meet desired needs
- Display an ability to identify, formulate and solve software development problems: software requirements, specification (problem space), Software design, and implementation (solution space).
- Show an ability to use the graphical UML representation using tools, such as IBM's Rational Rose or Microsoft's Vision.

Computer Networks :

- Student will able to Solve error detection and correction techniques of data link layer and describe MAC layer techniques and to get a concept of different type of routing algorithm and channel allocation method for communication
- Student will able to full fill the network security needs and its implementation in network management system and demonstration of WWW and multimedia

Data warehousing and Mining :

- Student will able to know various types of data and how to maintain the quality of data.
- Students will have the knowledge of different structure of Web data, search engine and web mining

Elective-1 :

Mobile Computing :

- Student will able to know various Wireless Network Models and classify the functionality of every individual layer. Classifying the different type of Adhoc topology and transmission of controlling the data on every layer.

Human Computer Interaction :

- Apply the basics of human and computational abilities and limitations
- Apply new theories, tools and techniques in HCI.
- Have a capacity to analyze and design software systems, components to meet desired needs.
- Apply the fundamental aspects of designing and evaluating interfaces.
- Practice a variety of simple methods for evaluating the quality of a user interface
- Apply appropriate HCI techniques to design systems that are usable by people.

Cloud Computing :

- Student will able to Evaluate the different view of virtual servers and its computing collaboration with different applications with virtual work environment..

Elective-2 :

Software Project Management :

- Basic Knowledge on software Engineering
- Basic knowledge on project goals
- Basic Knowledge on Software Constraints

Artificial Intelligence :

- Identify problems that are amenable to solution of AI methods, and which AI methods may be suited to solving a given problem.
- Formalize a given problem in the language/framework of different AI methods
- Implement basic AI algorithms
- Design and carry out an empirical evaluation of different algorithms on a problem formalization, and state the conclusions that the evaluation supports.

Embedded Systems :

- Exploration and analysis of various types of timers and Universal Asynchronous Receiver/ Transmitter.
- Student will able to do deep discussion about message queues, mailboxes, and pipes. Describe the process of effective memory management

Soft Skills Lab :

- The learner will be able to maintain work life balance and will become professionally and ethically sound in overcoming stress.
- The learner will be able to maintain interpersonal relationships by managing emotional intelligence.
- The learner will be able to acquire employability and problem solving skills.

Data Warehousing and Mining Lab :

- To understand the basic principles, concepts and applications of data warehousing and data mining,
- Ability to do Conceptual, Logical, and Physical design of Data Warehouses OLAP applications and OLAP deployment.
- Have a good knowledge of the fundamental concepts that provide the foundation of data mining.

Object Oriented Analysis and Design Lab :

- Understand the Case studies and design the Model.
- Understand how design patterns solve design problems.
- Develop design solutions using creational patterns.
- Construct design solutions by using structural and behavioral patterns.

III-MCA COURSE OUTCOMES (VR-17)

3rd Year MCA Semester-I Course Outcomes (VR-17)

Big Data Analytics :

- Understand the concepts of Big data and challenges in processing Big Data
- Understand Hadoop architecture and eco-system.
- Gain conceptual understanding of Hadoop Distributed File System.
- Understand the concepts of map and reduce and functional programming
- Identify appropriate techniques and tools to solve actual Big Data problems.

Network Programming:

- Ability to understand and reason out the working of network Systems.
- To teach students the use of basic socket programming Utilities.
- To teach students the principles of socket programming
- To familiarize students with the concepts, design, and structure of the
- TCP/UDP programming.
- To be able to build an application of UNIX programming in socket.

Python Programming :

- Construct Software easily right out of the box
- Experiment with an interpreted Language
- Build software for real needs
- Explain to testing Orielly

Elective-3 :

Cyber Security :

- Explore various security policies and evolution of security.
- Investigate more on various catalog approaches and cyber security objectives.
- Analyze cyber user and conflict issues.
- Review cyber management and infrastructure issues.
- Examine various case studies on cyber security policies.

Computer Forensics :

- Explain the role of forensics in preventing various forms of fraud.
- Develop skills in distinguishing various types of computer crimes and identify the digital fingerprints associated with criminal activities.
- Illustrate how to apply different forensic analysis tools to recover important evidence for identifying computer crimes.

- Explain about threats and compare various threats.
- Summarize the need for surveillance and list the tools used.

E-Commerce :

- Gain an understanding of the theories and concepts underlying e-commerce.
- Apply e-commerce theory and concepts to what e-marketers are doing in "the real world"
- Review e-Commerce infrastructures including architecture models, security & payment systems.
- Improve familiarity with current challenges and issues in e-commerce.
- Identify business models surrounding e-Commerce including marketing strategies.

Elective-4 :

Internet of Things :

- Demonstrate knowledge and understanding of the security and ethical issues of the Internet of Things
- Conceptually identify vulnerabilities ,including recent attacks ,involving the Internet of Things
- Develop critical thinking skills
- Compare and contrast the threat environment based on Industry or device type.

Multimedia Application Development :

- Developed understanding of technical aspect of Multimedia Systems.
- Understand various file formats for audio, video and text media.
- Develop various Multimedia Systems applicable in real time.
- Design interactive multimedia software.
- Apply various networking protocols for multimedia applications.

Software Testing Methodologies :

- Analyze the Conventional Software Management and improving Software Economics.
- 2.Demonstrate the principles of conventional software Engineering, Life cycle Phases, and Artifacts of the process.
- 3.Apply the Software testing Work Flows of the process, Checkpoints of the process and Iterative Process Planning.
- 4.Develop automation Process, Project Control and Process instrumentation, tailoring the process in software testing.
- 5. Evaluate the project organizations and responsibilities, future software project management with case study

Big Data Analytics Lab :

- To understand the basic principles, concepts of Big Data Analyze and interpret data using an ethically responsible approach.
- Collect, manage, store, query, and analyze various form of big data
- Gain hands-on experience on large-scale analytics tools to solve some open big data problems
- Understand the impact of big data for business decisions and strategy.

Network Programming Lab :

Python Programming Lab :