

Y.A.Govt.Degree College Women,Chirala

Department of Computer Science

PG M.Sc., (Computer Science) Subject Wise Outcomes

DATA STRUCTURES IN C

1. **Principles of C programming**
2. **Array and structures concepts**
3. **Stacks, Queues and Linked list**
4. **Demonstrate different traversal methods for trees**
5. **Sorting techniques**
6. **Spanning trees**
7. **Graph operations**

OBJECT ORIENTED PROGRAMMING WITH JAVA

1. **understand the principles of the object oriented programming paradigm specifically including abstraction, encapsulation, inheritance and polymorphism using Java**
2. **learn how to use an object oriented programming language, and associated class libraries, to develop object oriented programs using Java**
3. **Read and understand Java-based software code of medium-to-high complexity.**
4. **Use standard and third party Java's API's when writing applications**
5. **To learn how to produce robust programs in Java using exception handling and extensive program testing.**
6. **Learn how to implement real time applications using multithreading concept.**
7. **Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem.**
8. **choose an engineering approach to solving problems, starting from the acquired knowledge of programming and knowledge of operating systems**

COMPUTER ORGANIZATION

1. **To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.**
2. **Employ the codes and number systems converting circuits and Compare different types of logic families which are the basic unit of different types of logic gates in the domain of economy, performance and efficiency**
3. **To understand the structure, function and characteristics of computer systems.**

4. **To understand the design of the various functional units and components of computers**
5. **Understand the basics of hardwired and micro-programmed control of the CPU.**
6. **To identify the elements of modern instructions sets and their impact on processor design.**
7. **Compare CPU implementations etc**
8. **Learn about various I/O devices and the I/O interface**
9. **Learn the function of each element of a memory hierarchy**

DISCRETE MATHEMATICAL STRUCTURES

1. **Write an argument using logical notation and determine if the argument is or is not valid.**
2. **Demonstrate the ability to write and evaluate a proof or outline the basic structure of and give examples of each proof technique described**
3. **Understand the basic principles of sets and operations in sets.**
4. **Prove basic set equalities**
5. **Details of Boolean algebra**
6. **Demonstrate an understanding of relations and functions**
7. **Demonstrate different traversal methods for graphs.**
8. **Model problems in Computer Science using graphs**

SOFTWARE ENGINEERING

1. **Study a body of knowledge relating to Software Engineering, Software myths**
2. **A general understanding of software process models such as the waterfall and evolutionary models**
3. **Understanding of software engineering practices and system engineering**
4. **Understanding analysis modeling approaches**
5. **Understanding of software design techniques**

WEB TECHNOLOGIES

1. **Develop a dynamic webpage by the use of java script and DHTML.**
2. **Design a responsive web site using HTML and CSS**
3. **Write a well formed / valid XML document**
4. **Developing CGI applications**
5. **Design to create structure of web page, to store the data in web document, and transport information through web.**
6. **Establish the Connection between Java Application and database to insert, retrieve and modify the data in tables**
7. **Install Tomcat Server and execution of programs on server side.**
8. **Identify the problems in Servlets and overcome those using Java Server Pages also develop JSP applications with Model View Control architecture**

DATABASE MANAGEMENT SYSTEMS

1. **have a broad understanding of database concepts and database management system software**
2. **Compare the basic database storage structures and access techniques file and page organizations, indexing methods including B tree, and hashing 32**
3. **Explain and use design principles for logical design of databases, including the E R method and normalization approach**
4. **Apply relational database theory and be able to describe relational algebra expression, tuple and domain relation expression from queries.**
5. **write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS**
6. **Formulate the queries required to solve the issues in database**
7. **Recognize and identify the use of normalization and functional dependency, indexing and hashing technique used in database design.**
8. **Understand how to normalize the tables**
9. **Apply and relate the concept of transaction, concurrency control and recovery in database.**
10. **Explain basic issues of transaction processing and concurrency control**
11. **Understand Distributed database and client server architectures**

OPERATING SYSTEMS

1. **Analyze the structure of OS and basic architectural components involved in OS design**
2. **Appreciate the role of operating system as System software.**
3. **Demonstrate understanding of the Process.**
4. **Evaluate the requirement for process synchronization and coordination handled by operating system**
5. **Understand the process management policies and scheduling of processes by CPU**
6. **Apply various concept related with Deadlock to solve problems related with Resources allocation, after checking system in Safe state or not.**
7. **Identify use and evaluate the storage management policies with respect to different storage management technologies**
8. **Compare the various algorithms and comment about performance of various algorithms used for management of memory, File handling and I/O operations.**
9. **Master issues related to file system interface and implementation, disk management**

COMPUTER NETWORKS

1. **Acquire the computer networking knowledge as well as the existing connectivity technologies and the required infrastructure which comprises the key steps involved in the communication process.**
2. **Identify the key issues for the realization of the LAN/WAN/MAN network architectures and the hybridized existing form in the business environment and enterprise.**
3. **Establish a solid knowledge of the layered approach that makes design, implementation and operation of extensive networks possible. To learn the 7-layer OSI network model (each layer and its responsibilities) and understand the TCP/IP suite of protocols and the networked applications supported by it.**
4. **Establish a solid knowledge of the layered approach that makes design, implementation, and operation of extensive networks possible.**
5. **Physical layer, theoretical basis for data communication, guided transmission media, wireless transmission, and communication satellites.**
6. **Acquire the knowledge about error correction and detection methods in the data link layer.**
7. **Understanding the characteristics of Ethernet technologies**
8. **Understanding the basic protocols involved in Ethernet, IEEE 802.2, Bluetooth.**
9. **Able to learn Ethernet switching techniques**
10. **Network layer, switching and routing, packet vs. circuit switching, protocols and services, internetworking protocols, IP, ICMP, ARP, DHCP, and VPN. Routing principles, the network layer and its usage in the Internet.**
11. **Transport layer services and protocols, User Datagram Protocol (UDP), Transmission Control Protocol (TCP), TCP congestion control**
12. **Understanding about Domain Name System, message delivery.**
13. **Understanding architecture of World Wide Web and its protocols**
14. **Acquire the knowledge about the Multimedia data compression and different types of multimedia data**

DESIGN AND ANALYSIS OF ALGORITMS

1. **Time and Space Complexities**
2. **Solving certain problems using divide and conquer strategy**
3. **Generation of minimum cost trees**
4. **Solving knapsack problem using greedy method and also dynamic programming**
5. **Difference between two traversals**
6. **How to solve complex problems using backtracking method**
7. **Domains where branch and bound technique has to be used**
8. **How to solve combinatorial problems**
9. **Designing backtracking methods**

PYTHON PROGRAMMING

1. **Basics of python language**
2. **Control structures**
3. **Dictionaries**
4. **Encoding and decodings**
5. **Understanding objects**
6. **Design of modules**
7. **Recursions**
8. **understand GUI**
9. **Events**

.NET PROGRAMMING

1. **Understand .NET Framework and describe some of the major enhancements to the new version of Visual Basic.**
2. **Describe the basic structure of a Visual Basic.NET project and use main features of the integrated development environment (IDE)**
3. **Use the features of Dot Net Framework along with the features of ASP. NET**
4. **Create a Web form with various controls.**
5. **Separate page code from content by using code-behind pages, page controls, and components**
6. **Use the features of Dot Net Framework along with the features of C#**
7. **Be able to understand use of C# basics, Objects and Types, Inheritance**
8. **To develop, implement and creating Applications with C#**
9. **Display dynamic data from a data source by using Microsoft ADO.NET and data binding.**
10. **Explain Security in the .NET framework and Deployment in the .NET**

OBJECT ORIENTED MODELLING AND DESIGNING USING UML

1. **Analyze, design, document the requirements through use case driven approach**
2. **Understand object oriented modeling**
3. **Demonstrate the ability to apply the knowledge of object oriented concepts for solving system modeling and design problems.**
4. **Comprehend the concept of state modeling approaches for system design and implementation issues for various interaction models**
5. **Develop, explore the state and interaction modeling on various scenarios and applications**
6. **Create interaction diagrams that model the dynamic aspects of a software system.**
7. **Explain the facets of the Domain and Application analysis**
8. **Understand various concepts of System design, class design**
9. **Knowledge on various programming styles.**

ARTIFICIAL INTELLIGENCE

1. **Importance of Artificial Intelligence**
2. **Different search algorithms and their significance**
3. **Need of a Heuristic Algorithm**
4. **Programming of Artificial Intelligence**
5. **Different ways of representing knowledge using rules**
6. **Tackling the facts that are uncertain**
7. **Representation of varying knowledge**
8. **Different planning techniques**
9. **The methods that are used to make machines develop commonsense reasoning**
10. **Importance of developing an expert system and their applications.**

CRYPTOGRAPHY AND NETWORK SECURITY

1. **Different types of attacks**
2. **Symmetric encryption mechanisms**
3. **Important Symmetric algorithms**
4. **Asymmetric cryptosystem**
5. **Encryption using private**
6. **Various Authentication Services**
7. **Importance of Message Authentication Codes and digital signatures**
8. **Mail security and ip security**
9. **Design principles to develop a firewall**

DATA MINING AND BIG DATA

1. **Ability to identify the characteristics of datasets and compare the trivial data and big data for various applications.**
2. **Understand the key issues in data management and its associated applications in intelligent business and scientific computing**
3. **Decision trees**
4. **Back propagation methods**
5. **understanding big data latest technology foundations**
6. **Acquire fundamental enabling techniques and scalable algorithms Hadoop, Map Reduce, HDLC architecture, HBase architecture in big data analytics.**
7. **Interpret business models and scientific computing paradigms, and apply software tools for big data analytics**

CLOUD COMPUTING

1. **Understand the concepts of Parallel and Distributed Computing.**
2. **Describe importance of virtualization along with their technologies**
3. **Identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.**
4. **Understand concurrent programming in cloud computing.**

5. **Understanding the high throughput Computing**
6. **Understanding data intensive computing**
7. **Understanding the key dimensions of the challenge of Cloud Computing**

MACHINE LEARNING

1. **How to make a computer program to learn from experience**
2. **Importance of concept learning**
3. **Representation of decisions and decision making explicitly**
4. **To come to a conclusion from the observations about an item**
5. **Prediction of probabilities**
6. **Classification of text and its importance**
7. **Different learning theories**
8. **The methods to categorize and organize information**
9. **Generation of solutions to optimization and search problems**
10. **Different kinds of learning techniques**
11. **Describing the set of learning problems**