M.SC COMPUTER SCIENCE - COURSE OUTCOME (CO)

Core & Practical Advanced Java Programming	To understand and explore the basics of JDK Environment & tools also with OOPs. Understand the basics of java, control structure and Array concepts in java. To learn the functions of Classes and Objects. To familiarize the Packages also collections. Understanding the File and Exception Handling methods in java environment.
Core Analysis and Design Algorithm	Ability to analyze the performance of algorithms. Ability to choose appropriate algorithm design techniques for solving problems. Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs. To understand the variations among tractable and intractable problems. To understand NP-Hard and NP-Complete problems
Core & Practical Shell Programming	Understanding the basic set of commands and utilities in Linux/UNIX systems. To learn to develop software for Linux/UNIX systems. To learn the important Linux/UNIX library functions and system calls. To obtain a foundation for an advanced course in operating systems. To understand the concept of web processing and file systems in Linux.
Core & Practical Web Technology	Students are able to develop a dynamic webpage by the use of java script and DHTML. Students will be able to write a well formed / valid XML document. 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.
Core & Practical Advanced Database	Explain and evaluate the fundamental theories and requirements that influence the design of modern database systems. Assess and apply database functions and packages suitable for enterprise database development and database management. Critically evaluate alternative designs and architectures for databases and data warehouses. Discuss and evaluate methods of storing, managing and interrogating complex data. Explain and critically evaluate database solutions for data exchange. Analyse the background processes involved in queries and transactions, and explain how these impact on database operation and design.

Core Data mining and Data warehousing	To explain the core concepts of the Data Warehousing. This Explain about the Concept of Different Types of Data warehouse and its features. To discuss Data Mining Techniques and issues. To analyze various Association Rules in Data Warehousing. To understand various Clustering techniques. To deploy applications of Web Mining.
Core Advanced Operating System	Knowledge about advanced concepts in OS. Ability to develop OS for distributed systems. Extrapolate the interactions among the various components of computing systems. Master system resources sharing among the users. Ability to develop modules for mobile devices
Core & Practical Python Programming	To acquire programming skills in core Python. To acquire Object Oriented Skills in Python. To develop the skill of designing Graphical user Interfaces in Python. To develop the ability to write database applications in Python
Core Data Analytics	Design, implement, populate and query relational databases for operational data (OLTP). Design, implement, populate and query data warehouses for informational data (OLAP). Harness very large data sets (big data) to make business decisions. Evaluate the use of data from acquisition through cleansing, warehousing, analytics, and visualization to the ultimate business decision. Mine data and carry out predictive modeling and analytics to support business decision-making. Interpret and communicate data insights to any audience effectively. Discern when to implement relational versus document oriented database structures. Execute real-time analytical methods on streaming datasets to react quickly to customer needs

Electives

Advanced Computer Network	Configure PCs running Linux so that they receive IP addresses, have default routes, can resolve host names, and so on. (And similarly for Windows, if time permits.) Differentiate between different LAN-based forwarding devices so that they can make thoughtful suggestions on how to build a network. Write networking code that uses TCP and UDP in client-server applications. Design networking protocols. Implement networking protocols.
Cryptography and Network Security	Describe network security services and mechanisms. Symmetrical and Asymmetrical

	cryptography. Data integrity, Authentication, Digital Signatures. Various network security applications, IPSec, Firewall, IDS, Web security, Email security, and Malicious software etc
Wireless Sensor Network	Understand and explain common wireless sensor node architectures. Be able to carry out simple analysis and planning of WSNs. Demonstrate knowledge of MAC protocols developed for WSN. 4. Demonstrate knowledge of routing protocols developed for WSN. Understand and explain mobile data-centric networking principles. Be familiar with WSN standards.
Animation Techniques	Adobe after Effects allows you to create videos containing animation and special effects for graphics-related projects. You can use After Effects to animate, alter, and composite media using various tools and optional plug-ins. The program is widely used by motion-graphics professionals, website designers, and visual effect artists for post-production on digital films, DVD, video, and the web. This subject was designed to teach students how to successfully use After Effects, no matter if they have ever used the program before or not. Both the beginner and seasoned user can benefit from this course, starting with the basics of the program including navigation and continuing on to more advanced features, including.
Principles of Multimedia	To understand about various latest interactive multimedia devices, the basic concepts about images and image formats. To understand about data compression techniques, image compression techniques like JPEG, video compression techniques like MPEG, and the basic concepts about animation. To develop an interactive multimedia presentation by using multimedia devices and identify theoretical and practical aspects in designing multimedia applications surrounding the emergence of multimedia technology
Computer Graphics	Have a basic understanding of the core concepts of computer graphics. Be capable of using OpenGL to create interactive computer graphics. Understand a typical graphics

	pipeline. Have made pictures with their computer.
Android Development	The primary learning outcome for this course is that students will be able to design and create Android apps. Students will do so by leveraging the Java programming language, the Android SDK, and Android Studio developer tools. Students will gain fundamental knowledge essential to not only Android development, but mobile development in general
Ajax Programming	Students who complete this course will be able compose basic JavaScript programs including data types, control structures, functions operators and events. Debugging: Students who complete course will be able to explain browser specific debugging tools and general fundamental debugging techniques to fix JavaScript errors.
Big Data	Student must be Able to understand the building blocks of Big Data. Student must be able to articulate the programming aspects of cloud computing(map Reduce etc). Student must be able to understand the specialized aspects of big data with the help of different big data applications. Student must be able to represent the analytical aspects of Big Data. Student must be know the recent research trends related to Hadoop File System, MapReduce and Google File System etc
Software Engineering	How to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment. An ability to work in one or more significant application domains. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle. Demonstrate an ability to use the techniques and tools necessary for engineering practice
Software Testing	List a range of different software testing techniques and strategies and be able to apply

	specific(automated) unit testing method to the projects. Distinguish characteristics of structural testing methods. Demonstrate the integration testing which aims to uncover interaction and compatibility problems as early as possible. Discuss about the functional and system testing methods. Demonstrate various issues for object oriented testing
Software Project Management	Identify the different project contexts and suggest an appropriate management strategy. Practice the role of professional ethics in successful software development. Identify and describe the key phases of project management. Determine an appropriate project management approach through an evaluation of the business context and scope of the project.