

**PROGRAM OUTCOME,PROGRAM SPECIFIC OUTCOME,COURSE OUTCOME FOR
BSC-COMPUTER SCIENCE.**

<p>PROGRAM OUTCOME</p>	<p>The BSc Computer Science helps to develop a widely applicable skill set in computing with strong programming and mathematics skills, as well as wide ranging skills in project management, effective presentations and teamwork. Graduate with a portfolio of work fit to present to potential employers. Depending on the chosen pathway, you can focus on particular areas of interest such as machine learning, web development, data science and video games.</p> <p>The explosive and ever-growing use of technology in business and commerce means that there's a whole range of different career possibilities for computing graduates. In terms of job opportunities and salaries, the IT sector is well ahead of most other industrial and commercial sectors.</p>
<p>PROGRAM SPECIFIC OUTCOME</p>	<p>With the BSc Computer Science, you will be able to apply for a range of computational and mathematical jobs in the creative industries, business, finance, education, medicine, engineering and science. Typical job titles include:</p> <ul style="list-style-type: none"> Application programmer Mobile App developer Web developer Video game developer Film special effects and post-production Computer music/sound engineer Interface designer Systems analyst Database manager <p>The course of study offers a broad-based intellectual engagement with computing both in theory and practice as well as logic and capabilities. The theoretical ground,</p>

	<p>abstraction, design as well as the professional practice levels (technical competence, teamwork, problem solving and communication skills), social and ethical contexts of the discipline of computing are well integrated into the curriculum that the department offers.</p> <p>The study program is designed to prepare students for a wide variety of careers. The most profound positions that our graduates are well prepared to occupy (or have already been engaged in) may be classified into the following professional disciplines: Software Engineering, Systems Design, and Programming, Applications design and programming and Information-Systems design and analysis. The program also prepares students for further studies and research in the computing field.</p> <p>The computer science program graduates a computer scientist who, within few years of graduation, fulfills societal needs, with consideration to ethical and environmental issues, in one or more of the following roles:</p> <ul style="list-style-type: none">1- A professional team member in a multidisciplinary environment, local or global.2- A distinguished member of computing field through promotion, or professional development.3- A successful member of an advanced academic or research organization.4- A successful entrepreneur. <p>The program enables students to achieve the following outcomes, by the time of graduation:</p> <ul style="list-style-type: none">1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements
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	<p>in the context of the program’s discipline.</p> <ol style="list-style-type: none"> 3. Communicate effectively in a variety of professional contexts. 4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles. 5. Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline. 6. Apply computer science theory and software development fundamentals to produce computing-based solutions.
<p>COMPUTER SCIENCE PAPER-I (PROGRAMMING CONCEPTS USING C)</p>	
<p>COURSE OBJECTIVE</p>	<ol style="list-style-type: none"> 1. Enables students to develop logics which will help them to create programs, applications in C. 2. Provides students with a strong foundation in basic programming constructs so that they can easily switch over to any other programming language in future.
<p>COURSE OUTCOME</p>	<ul style="list-style-type: none"> • Illustrate the flowchart and design an algorithm for a given problem to develop a c programs using operators. • Develop conditional and iterative statements to write c programs. • Exercise user defined functions to solve real time problems. • Inscribe c programs that use pointers to access arrays ,strings and functions. • Exercise user defined datatypes including structures and unions to solve problems. • Inscribe c programs using pointers and to allocate memory using dynamic memory management functions.

	<ul style="list-style-type: none"> • Exercise files concept to show input and output of files in c
COMPUTER SCIENCE PAPER-II (DATA STRUCTURES)	
COURSE OBJECTIVE	<ol style="list-style-type: none"> 1. Exposes students to basic data structures and algorithms. 2. Introduces students to various techniques for representation of the data in the real world. 3. Helps understand and compute the complexity of various algorithms, be able to design and analyze the time and space efficiency of the data structures
COURSE OUTCOME	<ul style="list-style-type: none"> • Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms • Demonstrate different methods for traversing trees • Compare alternative implementations of data structures with respect to performance • Compare and contrast the benefits of dynamic and static data structures implementations • Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack • Discuss the computational efficiency of the principal algorithms for sorting, searching.
COMPUTER SCIENCE PAPER-III (DBMS AND SE)	
COURSE OBJECTIVE	<ol style="list-style-type: none"> 1. Enables students obtain a broad understanding of database concepts and database management system software. 2. Helps obtain a high level understanding of major DBMS concepts and their functions. 3. Helps to program a data-intensive applications using DBMS APIs.

	<p>4. Helps students understand software development processes and to apply software engineering principles in software development.</p> <p>5. Enables students to know about classical software development life cycles.</p> <p>6. Emphasizes quality and process improvement models.</p> <p>7. Helps develop a software project in a team</p>
<p>COURSE OUTCOME</p>	<ul style="list-style-type: none"> • Familiarization with Database Management System. • Comprehensive knowledge of database models. • Ability to code database transactions using SQL. • Skill to write PL/SQL programs • Master the basics of SQL and construct queries using SQL. • Be familiar with the relational database theory, and be able to write relational algebra expressions for queries. • Master sound design principles for logical design of databases, including the E-R method and Normalization approach. • Usage of DML and TCL statements. • Master the basics of PL/SQL Composite Data types like Procedures, Functions, Packages and Triggers. • 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

	<ul style="list-style-type: none"> • Demonstrate an ability to use the techniques and tools necessary for engineering practice
COMPUTER SCIENCE PAPER-IV (UNIX & OPERATING SYSTEMS)	
COURSE OBJECTIVE	<ol style="list-style-type: none"> 1. Helps gain knowledge on how the shell relates to the keyboard, the screen, the operating system, and users' programs. 2. Enables students understand when and why command-line interfaces should be used instead of graphical interfaces. 3. Helps gain insights about concepts related to concurrency and control of programs. 4. Provides to communicate directly with an operating system via system calls. 5. Enables students to gain knowledge on operating system concepts that includes deadlock detection and concurrency management.
COURSE OUTCOME	<ul style="list-style-type: none"> • Discuss the architecture, networking and basic commands of UNIX . • Implement various file processing commands used in UNIX. • Apply Regular expression to perform pattern matching using utilities like grep, sed and awk. C • construct various shell scripts for simple applications. • Explain the process management using system calls . • Analyze the structure of OS and basic architectural components involved in OS design . • Analyze and design the applications to run in parallel either using process or thread models of different OS . • Analyze the various device and resource management techniques for timesharing and distributed systems .

	<ul style="list-style-type: none"> • Understand the Mutual exclusion, Deadlock detection and agreement protocols of Distributed operating system. • Interpret the mechanisms adopted for file sharing in distributed Applications . • Conceptualize the components involved in designing a contemporary OS.
COMPUTER SCIENCE PAPER-V (JAVA)	
COURSE OBJECTIVE	<ol style="list-style-type: none"> 1. Enables gain knowledge of the structure and model of the Java programming language. 2. Helps develop software applications using Java. 3. Enables to identify Java language components and how they work together in applications
COURSE OUTCOME	<ul style="list-style-type: none"> • Able to understand the use of OOPs concepts. • Able to solve real world problems using OOP techniques. • Able to understand the use of abstraction. • Able to understand the use of Packages and Interface in java. • Able to develop and understand exception handling, multithreaded applications with synchronization. • Able to design GUI based applications and develop applets for web applications. • Able to handle IOstreams Use and create package and interfaces in a Java program.
COMPUTER SCIENCE PAPER-VI (VISUAL PROGRAMMING)	
COURSE OBJECTIVE	<ol style="list-style-type: none"> 1. Helps students to understand and develop the client required user interface. 2. Enables students to develop real time projects and applications.

<p>COURSE OUTCOME</p>	<ul style="list-style-type: none"> • The student will use VB to build Windows applications using structured and object-based programming techniques. Students are exposed to the following concepts and skills at an Introductory conceptual level: <ul style="list-style-type: none"> • Design, formulate, and construct applications with VB • Integrate variables and constants into calculations applying VB. • Determine logical alternatives with VB decision structures • Implement lists and loops with VB controls and iteration • Separate operations into appropriate VB procedures and functions • Assemble multiple forms, modules, and menus into working VB solutions • Create VB programs using multiple array techniques • Build integrated VB solutions using files and structures with printing capabilities • Translate general requirements into data-related solutions using database concepts • Learn and Design applications using VC++ concepts like dialog boxes, menus etc
<p>COMPUTER SCIENCE PAPER-VII (WEB PROGRAMMING)</p>	
<p>COURSE OBJECTIVE</p>	<ol style="list-style-type: none"> 1. Helps students understand the principles of creating an effective web page, including an indepth consideration of information architecture. 2. Enables students become familiar with graphic design principles that relate to web design and learn how to implement theories into practice. 3. Helps develop skills in analyzing the usability of a web site

<p>COURSE OUTCOME</p>	<ul style="list-style-type: none"> • Upon successful completion of the course, the student will demonstrate the ability to: • Understand the major areas and challenges of web programming. • Distinguish web-related technologies. • Use advanced topics in HTML5, CSS3, JavaScript • Use a server-side scripting language, PHP • Use a relational DBMS, MySQL • Design and implement typical static web pages and interactive web applications and dynamic web applications.
<p>COMPUTER SCIENCE PAPER-VIII (COMPUTER NETWORKS)</p>	
<p>COURSE OBJECTIVE</p>	<ol style="list-style-type: none"> 1. Enables an understanding of the importance of data communication and the internet in supporting business communications and daily activities. 2. Helps understand the role of protocols in networking and analyze the features and operations of various application layer protocols such as Http, DNS and SMTP. 3. Enables students to analyze the services and features of the various layers of data network. 4. Helps design, calculate and apply subnet mask and address to fulfil networking requirements.
<p>COURSE OUTCOME</p>	<ul style="list-style-type: none"> • Explain the local, metropolitan and wide area networks using the Standard OSI reference model. • Discussion of various networking technologies. • Explain the concepts of protocols, network interfaces and design of performance issues in local area networks and wide area networks.

	<ul style="list-style-type: none">• Describe about wireless networking concepts, contemporary issues in networking technologies, network tools and network programming.• Explain the analysis of different types of protocol and the comparison of number of data link, network and transport layer protocols.• Describe the functions of each layer in OSI and TCP/IP model.• Explain the functions of Application layer and Presentation layer paradigms and Protocols.• Describe the Session layer design issues and Transport layer services.• Classify the routing protocols and analyze how to assign the IP addresses for the given network.• Describe the functions of data link layer and explain the protocols.• Explain the types of transmission media with real time applications.
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