

## DEPARTMENT OF COMPUTER SCIENCE

<b>Programme Outcomes</b>	
<ul style="list-style-type: none"> <li>❖ Improve their computer literacy, their basic understanding of operative systems and a working knowledge of software commonly used in academic and professional environments.</li> <li>❖ Serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.</li> <li>❖ Serve as the Computer Engineers with enhanced knowledge of computers And its building blocks. Work as the Hardware Designers/Engineers with the knowledge of Networking Concepts. Work as the System Engineers and System integrators.</li> <li>❖ Serve as the System Administrators with thorough knowledge of DBMS.</li> <li>❖ Create, select, and apply appropriate techniques, resources, and modern computing and IT tools including prediction and modeling to complex scientific activities with an understanding of the limitations.</li> <li>❖ Work as the Support Engineers and the Technical Writers Work as Consultant and Management officers for system management.</li> <li>❖ Serve as the IT Officers in Banks and cooperative societies.</li> <li>❖ Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</li> </ul>	
<b>Programme Specific Outcomes</b>	
<ul style="list-style-type: none"> <li>❖ A graduate with a B.Sc. in Computer Science will have the ability to:</li> <li>❖ Demonstrate mastery of Computer Science in the following core knowledge areas                             <ul style="list-style-type: none"> <li>• Data Structures and Programming Languages</li> <li>• Databases, Software Engineering and Development</li> <li>• Computer Hardware and Architecture</li> </ul> </li> <li>❖ Apply problem-solving skills and the knowledge of computer science to solve real world problems.</li> <li>❖ Develop technical project reports and present them orally among the users.</li> <li>❖ Communicate computer science concepts, designs, and solutions effectively and professionally.</li> <li>❖ Use software development tools, software systems, and modern computing platforms.</li> </ul>	

### NAME OF THE COURSE : COMPUTER SCIENCE

<b>COURSE</b>	<b>COURSE OUTCOMES</b>
<b>Ist SEM B.Sc :</b>  <b>1.1 MS-OFFICE AND C-PROGRAMMING TECHNIQUES</b>	<ul style="list-style-type: none"> <li>❖ Illustrate the flowchart and design an algorithm for a given problem and to develop C programs using operators.</li> <li>❖ Develop conditional and iterative statements to write C programs</li> </ul>

	<ul style="list-style-type: none"> <li>❖ Inscribe C programs that use Pointers to access arrays, strings and functions.</li> <li>❖ Exercise files concept to show input and output of files in C.</li> <li>❖ <b>Getting Started With Word</b> <ul style="list-style-type: none"> <li>• Navigate in Microsoft Word , Create and Save Word Documents</li> <li>• Edit Documents , Preview and Print Documents</li> <li>• Customize the Word Environment .</li> </ul> </li> <li>❖ <b>Formatting Text and Paragraphs</b> <ul style="list-style-type: none"> <li>• Apply Character Formatting , Control Paragraph Layout</li> <li>• Align Text Using Tabs , Display Text in Bulleted or Numbered Lists , Apply Borders and Shading.</li> </ul> </li> <li>❖ <b>Adding Tables</b> <ul style="list-style-type: none"> <li>• Insert a Table , Modify a Table , Format a Table , Convert Text to a Table.</li> </ul> </li> <li>❖ <b>Inserting Graphic Objects</b> <ul style="list-style-type: none"> <li>• Insert Symbols and Special Characters , Add Images to a Document.</li> </ul> </li> <li>❖ <b>Controlling Page Appearance</b> <ul style="list-style-type: none"> <li>• Apply a Page Border and Color , Add Headers and Footers Control Page Layout .</li> </ul> </li> <li>❖ <b>Preparing To Publish a Document</b> <ul style="list-style-type: none"> <li>• Check Spelling, Grammar, and Readability , Use Research Tools , Save a Document to Other Formats.</li> </ul> </li> </ul>
<p><b>IInd SEM B.Sc</b>  <b>2.1 ADVANCE ‘C’</b>  <b>PROGRAMMING , MS-</b>  <b>OFFICE AND</b>  <b>INTERNET TOOLS.</b></p>	<ul style="list-style-type: none"> <li>❖ Exercise user defined functions to solve real time problems.</li> <li>❖ Inscribe C programs that use Pointers to access arrays, strings and functions.</li> <li>❖ Exercise user defined data types including structures and unions to solve problems.</li> <li>❖ Inscribe C programs using pointers and to allocate memory using dynamic memory management functions.</li> <li>❖ <b>Getting Started With Microsoft Office Excel 2016</b></li> <li>❖ Navigate the Excel User Interface , Use Excel Commands , Create and Save a Basic Workbook , Enter Cell Data.</li> </ul>

	<ul style="list-style-type: none"> <li>❖ <b>Performing Calculations</b></li> <li>❖ Create Worksheet Formulas , Insert Functions , Reuse Formulas and Functions.</li> <li>❖ <b>Modifying a Worksheet</b></li> <li>❖ Insert, Delete, and Adjust Cells, Columns, and Rows , Search for and Replace , Data Use Proofing and Research Tools.</li> <li>❖ <b>Formatting a Worksheet</b></li> <li>❖ Apply Text Formats , Apply Number Formats , Align Cell Contents , Apply Styles and Themes , Apply Basic Conditional Formatting.</li> <li>❖ <b>Printing Workbooks</b></li> <li>❖ Preview and Print a Workbook , Set Up the Page Layout , Configure Headers and Footers.</li> <li>❖ <b>Managing Workbooks</b></li> <li>❖ Manage Worksheets , Manage Workbook and Worksheet Views, Manage Workbook Properties.</li> </ul>
<p><b>IIIrd SEM B.Sc</b>  <b>3.1 COBOL AND SYSTEM ANALYSIS AND DESIGN</b></p>	<ul style="list-style-type: none"> <li>❖ <b>Divisions:</b> Identify the four COBOL program divisions and describe their purpose</li> <li>❖ <b>Procedure Division</b> File status codes; Open, Read, Write, Close, Stop, Goback; Accept, display; Move, Justified, data name qualification, reference modification.</li> <li>❖ <b>Perform statement</b> Out-of-line, With test ... Until, ... Times, in-line statement; Go to statement.</li> <li>❖ <b>Program design</b> Design techniques, design considerations, procedure names, program structure.</li> <li>❖ <b>Arithmetic:</b> Rounded option, On Size Error option, Add, Subtract, Multiply, Divide, Compute.</li> <li>❖ <b>Subroutines:</b> Call, Using clause - calling program/called</li> </ul>

	<p>program, Linkage Section, returning control.</p>
<p><b>IVth SEM B.Sc</b> <b>4.1 DATA</b> <b>STRUCTURES USING</b> <b>‘C’</b></p>	<ul style="list-style-type: none"> <li>❖ Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms</li> <li>❖ Describe common applications for arrays, records, linked structures, stacks, queues, trees, and graphs</li> <li>❖ Demonstrate different methods for traversing trees</li> <li>❖ Compare alternative implementations of data structures with respect to performance</li> <li>❖ Compare and contrast the benefits of dynamic and static data structures implementations</li> <li>❖ Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack</li> <li>❖ Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing</li> </ul>
<p><b>Vth SEM B.Sc</b> <b>5.1 DATABASE</b> <b>MANAGEMENT</b> <b>SYSTEM</b></p>	<ul style="list-style-type: none"> <li>❖ List and explain the fundamental concepts of a relational database system.</li> <li>❖ How relationships between entities are defined and refined, and how such relationships are incorporated into the database design process.</li> <li>❖ Populate and query a database using SQL DML/DDDL commands.</li> <li>❖ Manipulate a database using SQL.</li> <li>❖ Utilize a wide range of features available in a DBMS package.</li> <li>❖ Understand, appreciate and effectively explain the underlying concepts of database technologies</li> <li>❖ Design and implement a database schema for a given problem-domain</li> </ul>

	<ul style="list-style-type: none"> <li>❖ Normalize a database.: About the normal forms 1NF, 2NF, 3NF, BCNF, and 4NF.</li> <li>❖ Populate and query a database using SQL DML/DDDL commands.</li> <li>❖ Manipulate a database using SQL.</li> <li>❖ Programming PL/SQL including stored procedures, stored functions, cursors, packages.</li> </ul>
<p><b>Vth SEM B.Sc</b> <b>5.2 OOPS WITH C++</b></p>	<ul style="list-style-type: none"> <li>❖ Understand the features of C++ supporting object oriented programming</li> <li>❖ Understand the relative merits of C++ as an object oriented programming language</li> <li>❖ Discover errors in a C++ program and describe how to fix them</li> <li>❖ Analyze a problem and construct a C++ program that solves it</li> <li>❖ Understand how to produce object-oriented software using C++</li> <li>❖ Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism</li> <li>❖ Understand advanced features of C++ specifically stream I/O, templates and operator overloading</li> </ul>
<p><b>VIth SEM B.Sc</b> <b>6.1</b></p>	<ul style="list-style-type: none"> <li>❖ Design, formulate, and construct applications with VB</li> <li>❖ Implement lists and loops with VB</li> <li>❖ Integrate variables and constants into calculations applying VB</li> <li>❖ Identify the features of event-driven programming in</li> </ul>

	<p>Visual Basic , file types and file extensions in a Visual Basic 6.0 , project templates</p> <ul style="list-style-type: none"> <li>❖ Add a standard control to a form , ActiveX controls to the Toolbox.</li> <li>❖ Identify the components of the ADO object model.</li> <li>❖ Import an existing HTML page into the DHTML Page designer.</li> <li>❖ Identify the principal properties required to manipulate the style and content of HTML pages during run time.</li> </ul>
<p><b>Vith SEM B.Sc 6.2</b></p>	<ul style="list-style-type: none"> <li>❖ knowledge of object-oriented paradigm in the Java programming language,</li> <li>❖ the use of Java in a variety of technologies and on different platforms.</li> <li>❖ Explore the Java programming language</li> <li>❖ Work with Primitive Types, Strings and Interactive Input/Output</li> <li>❖ Manipulate the Flow of Control</li> <li>❖ Design/Create/Use Classes and Methods</li> <li>❖ Manipulate Classes and Methods</li> <li>❖ Identify and fix defects and common security issues in code.</li> <li>❖ Program with Inheritance</li> <li>❖ To strengthen Core Competencies in order to increase success in this and other courses and in the workplace.</li> </ul>