B. Sc. (Comp. Sci.)

FYBSc		
Course Code	**Subject Name**	**Course Outcomes**
CSO1	**Computer Fundamentals**	**Students will be able to:** • Understand the concept of input and output devices of computers and how it works and recognize the basic terminology used in computer programming • Equipped with the of basic computer hardware architecture and are able to design fundamental logic circuits. • Introduced five generations of computer system. • Thrust with concept and need of primary and secondary memory.
CS02-	**DigitalElectronic**	**Students will be able to:** • Understand the concept of Number System, Logic Gates, Boolean Laws, Theorems, flipflops and counter. • Use De Morgan's Theorem to simplify a negated expression. • Create circuits to solve problems using gates to replicate all logic functions.
CSO4	**Operating System I**	**Students will be able to:** • Notice the services provided by and the design of an operating system. • Get knowledge of different types of operating system. • Use different types of scheduling Algorithms. • Introduced the concepts of deadlock.
CSO5	**Programming in C**	**Students will be able to:** • Analyze a given problem and develop an algorithm to solve the problem. • Design, develop and test programs written in 'C' • Use different data types in a computer program. • Design programs involving decision structures, loops and functions. • Differ one dimension and multidimensional array.
CS313	**Practical Paper**	**Students will be able to:** • Create, Save, Copy, Delete, Organize various types of files. • Manage the desk top in general, use a standard word. • Design and implement binary Adder subtract or shift registers using Flip-flop • Implement the different scheduling algorithm. • Use the conditional expressions and looping statements to solve problems associated with conditions and repetitions.
SYBSc		
Course Code	**Subject Name**	**Course Outcomes**

CSO7	**Advance in C Programming**	**Students will be able to:** • Understand a functional hierarchical code organization. • Manage data structures based on problem subject domain. • Work with textual information, characters and strings. • Use concept of pointer and diff data conversion function. • Work with different file handling function.
CSO8	**Data Structure**	**Students will be able to:** • Understand concept of stack and linked list. • Solve problems based upon different data structure & also write programs. • Choose an appropriate data structure for a particular problem. • Work with queue and link.
CS011	**Programming in C++**	**Students will be able to:** • Get knowledge of difference between object-oriented programming and procedural oriented language. • Do program using C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism etc. • Simulate the problem in the subjects like Operating system, Computer networks and real-world problems. • Understand the concept of constructor and destructors.
CS012	**DBMS Using SQL**	**Students will be able to:** • Gain a good understanding of the architecture and functioning of database management systems as well as associated tools and techniques. • Acquired Principles of data modeling using entity relationship and develop a good database design and normalization techniques to normalize a database. • Understand the concept of functional dependency anomalies. • Acquired a good understanding of database systems concepts and to be in a position touse and design databases for different applications.
CS813	**Practical Paper- I**	**Students will be able to:** • Identity the appropriate data structure for given problem • Get practical knowledge on the application of data structures. • Handle operations like insertion, deletion, searching and traversing on various data structures. • Design, implement, test, debug, and document programs in C. • Program with pointers and arrays, perform pointer arithmetic, and use the preprocessor • Design and implement Data structures and related algorithms.
CS914	**Practical Paper-II**	**Students will be able to:** • Understand object-oriented concepts and how they are supported by C^{++}. • Use inheritance and Pointers when creating or using classes and create templates.

		• Apply object-oriented programming features to program design and implementation. • Analyze, use, and create functions, classes, to overload operators. • Gain knowledge about SQL Fundamentals. • Perform Unary & Binary table operations. • Normalize relation with 1NF 2NF and 3NF. • Draw E-R Diagram of different relation.
TYBSc		
Course Code	**Subject Name**	**Course Outcomes**
CS015	**Software Engineering**	**Students will be able to:** • Select and implement different software development process models. • Extract and analyze software requirements specifications for different projects. • Develop some basic level of software architecture/design. • Define the basic concepts and importance of Software project management concepts, Agility Process. • Apply different principle that guide practice, Communication Principles, Construction principles.
CS016	**Web Designing**	**Students will be able to:** • Understand, analyze basic of languages like HTML, DHTML, CSS. • Understand, analyze and create web pages using HTML, DHTML and Cascading Styles sheets. • Understand, analyze and build dynamic web pages using JavaScript. • Understand, analyze and build interactive web applications. • Student will be familiar with concepts of DOM.
CS019	**Data Communication and Networking**	**Students will be able to:** • Familiar with the basics of data communication. • Familiar with various types of computer networks; • Understand different type of Transmission Media. • Understand the fundamentals and various computational processing of mobile networks.
CSO20	**Ethics and Cyber Law**	**Students will be able to:** • Identify and analyze statutory, regulatory, constitutional, and organizational laws that affect the information technology professional. • Understand, Explore, And Acquire A Critical Understanding Cyber Law. • Get the role and function of certifying authorities. • Understand and follow professional ethics and responsibilities. • Understand the ethics of computer security and related issue.
CS1413	**Practical Paper- I**	**Students will be able to:** • Understand and demonstrate basic knowledge in software engineering.

		• Identify requirements, analyze and prepare models. • Implement interactive web page(s) using HTML, CSS and JavaScript. • Design a responsive web site using HTML5 and CSS3. • Analyze a web page and identify its elements and attributes.
CS1513	**Practical Paper-II (Seminar and Project)**	**Students will be able to:** • Apply critical and creative thinking in the design of projects. • Plan and manage time effectively as a team. • Apply knowledge of the 'real world' situations that a professional engineer can encounter. • Design and develop a functional product prototype while working in a team • Orally present and demonstrate your product to peers, academics, general and industry community • Manage any disputes and conflicts within and outside team.