Sl No	SYLLABUS FOR COMPUTER SCIENCE AND ENGINEERING Unit Name and Content
1	**Problem Solving using C:** Design of algorithms for solving problems and use of C language features like expressions, branching and looping, arrays and structures, functions, recursion, pointers and dynamic memory allocation, preprocessor directives, files etc. for implementation of these algorithms
2	**Object Oriented Programming using C++:**Features of object oriented programming languages, Classes and objects, inheritance, compiler time and run time polymorphism, abstract classes, interfaces, exception handling, class templates
3	**Internet Programming:** Java language features, use of AWT and SWING package, event driven programming, threads in Java, networking using Java, JDBC,HTML, Javascript, DHTML,DOM, SOAP,XML,XSL, JSP and PHP
4	**Digital Systems:** Transistor Logic family, simplification of Boolean Functions, combinational Logic design, synchronous sequential logic design, counters, registers
5	**Computer Organization**: Architecture of 8086/8088 microprocessor, instruction set architecture and addressing modes, assembly language programming, RISC,CISC, memory technology, IO subsystem, pipelining
6	**Data structures**: Representation and implementation of linear data structures like linear lists, stacks, queues, dynamic memory storage management techniques, representation and implementation of graphs, trees, binary search tress, height balanced trees, searching and sorting, graph algorithms (traversal, shortest path, spanning tree, max flow) and tree algorithms (traversals, searching, successors)
7	**Operating System**: Architecture, process management, process synchronization and inter process communication, UNIX system calls for process management and memory management, System V IPC, Files and Directories.
8	**Microprocessors and microcontrollers**: 8085 Microprocessor , parallel data transfer using 8155 - DMA transfer using 8257 DMA controller, system design using interrupt 8259 controller - Floppy Disk Controller - CRT controller, microprocessor interfacing techniques
9	**Computer Network:** Data transmission concepts, OSI and TCP/IP architectures, data encoding, data link control, Medium Access Control, routing algorithms, transport layer(TCP and UDP), Application Layer (FTP,SMTP,SNMP,DNS,HTTP)
10	**Database Management System:** Relational data model, relational languages, file organization, query processing , query optimization, database design, concurrency control and recovery, parallel and distributed database, storage, querying and transformation of XML document schema, object databases, advanced transaction processing
11	**Software Engineering**: Software life cycle models, software requirements analysis and specification, software design, software testing and quality management, software project management
12	**Distributed Computing:** Architectural models, logical clocks, mutual exclusion, distributed deadlock detection, distributed objects and remote invocation, distributed transactions