

Syllabus for Computer Science Engineering

Computer Basics: Basic Architecture of computer, CPU (Central Processing Unit) functions, ALU (Arithmetic Logic unit) functions, CU (Control Unit) functions, RoM (Read Only Memory), RAM (Random Access Memory), Cache Memory & Caching, Secondary Storage, Booting, Disk Check and Disk Fragmentation, Computer accessories, Network Interface Cards (LAN and Wireless), Peripheral Storage devices, routers, switches, wired/wireless modems, Servers, LAN / WAN cables, Controllers and LED-LCD display devices, flow measuring techniques.

Programming Languages: C

C-language: Flow charts, Algorithms, C-Character Set, Identifiers and Keywords, variables, Data-Types(primitive and user defined), Expressions, Statements and Symbolic Constants, Input and Output Functions, Operators and their usage(arithmetic, logic, assignment & conditional), all kinds of looping & control statements, Functions, arrays, strings, structures, File structures, Static and Dynamic memory allocations and functions, pointers and unions, C-programmes.

Operating Systems: Computer and Operating Systems, Windows and Unix Commands to work with computers, System Structure, Process Management, Mutual Execution and Synchronization, Dead-Lock and Starvation, Memory Management, File System Interface and Implementation, Secondary storage and computer security, compilers and assemblers, Application Software's(Oracle, SQL, GIS Software's), Linux OS.


Data Base Management Systems (DBMS): Complete DBMS basic and Introduction, Entity-relationship model, Relational model and Relational Algebra.

SQL: Data definition and types, Specifying Constraints in SQL, Schema Change statements in SQL, Basic Queries in SQL, Complex SQL Queries using Insert, Delete and Update commands, Specifying constraints as triggers, Additional Features of SQL, Embedded and Dynamic SQL, Data base stored procedures, Data base design and PL/SQL, all combination of SQL queries.

Computer Networks: Introduction to Computer networks (classification and Network protocol stack), Physical Layer: Data Transmission Concepts, Digital Modulation Techniques (FDMA, TDMA, CDMA), Mobile Telephone Systems (1 G, 2 G, 3 G and 4 G), Error Detection and Correction, Data Link and sliding window. Medium Access Sub-layer: Ethernet, Wireless LAN, Broadband wireless and Bluetooth, switching, Routing and congestion algorithms. QoS, Internetworking in internet, IP Addresses with subnet masking, Transport service, Elements of transport protocols, Congestion Control, The internet transport protocol: UDP, TCP, FTP, SNMP, HTTP ModBus, DNS, Email, WWW(World Wide Web), Client-Server communications, Centralized and Distributed systems, GSM, GPRS, Mobile OS.

Web-Technologies: Internet, Web Browsers and Web Servers, URL's, MIME, Security, Web Search Engines, Java Script, HTML Documents, Introduction to XML and its Syntax-Semantics, Basics of Perl, GUI, .Net API's, basics OOP(Objects oriented Programming).

Data Structures & Logic Design: Introduction to Data Structures, all Data structures(Stack, Queues, Lists and Trees) Digital Principles Logic, Data Processing Circuits(Synchronous, Asynchronous and Sequential) , Clocks and Flop-Flops, Registers-Counters, D/A Conversion and A/D conversion, Basics of Finite Automata and Formal Languages(FAFL).


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