

Syllabus for Written Test -2020

Assistant Professor in

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING And INFORMATION TECHNOLOGY

UNIT-I:

Programming in c and Data Structures: Functions, Recursion, Parameter passing, Scope, Binding; Abstract data types, Arrays, Linked Lists, Stacks, Queues, Trees, Graphs, Sorting and searching algorithm

UNIT-II:

Computer Organization: Basic computer organization and Design :Machine instructions and addressing modes, Microprogrammed control CPU control design, Memory interface, I/O interface (Interrupt and DMA mode), computer arithmetic, Memory organization.

UNIT-III:

Operating System: Processes, Threads, Inter-process communication, Concurrency, Synchronization, Deadlock, CPU scheduling, Memory management and virtual memory, File systems, I/O systems, Protection and security.

Database Management Systems: ER-model, Relational model (relational algebra, tuple calculus), Database design (integrity constraints, normal forms), Query languages (SQL), File structures (sequential files, indexing, B and B+ trees), Transactions and concurrency control.

UNIT-IV:

Computer Networks : Reference Models(ISO-OSI, TCP/IP), Internetworking LAN technologies (Ethernet, Token ring), Flow and error control techniques, Routing algorithms, Congestion control, TCP/UDP and sockets, IP, Application layer protocols Network security – basic concepts of public key and private key cryptography.

UNIT-V:

Automata Languages and Computation: Regular languages and finite automata, Context free languages and Push-down automata, Recursively enumerable sets and Turing machines, Undecidability.

Software Engineering: information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project, design, coding, testing, implementation, maintenance.