

# **COMPUTER SCIENCE**

## **PAPER - I**

1. Formal Languages and Automata Theory  
Finite state machines, push down automata, Finite automata, context free language, context sensitive language, Turing machine, Decision question and undecided problems.
2. Computer Organisation  
Functional components, CPU design, Memory organisation and I/O organisation.
3. Operating Systems.  
Process management, Memory management, File management I/O management.
4. Software Engineering  
Life cycle model, function oriented design, object oriented design, User interface design, coding and Testing, software requirement, project management, software reliability and Maintenance.

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## **PAPER - II**

1. Data Structures  
Continuous and Non-continuous data structures, Dynamic storage allocations, File organisation techniques.
2. Principle of Programming Languages.  
Various programming paradigms, syntax, semantics, Block structure, Scoping, Binding, Object oriented programming, Functional programming, Logic and concurrent programming.
3. Database Management  
Concept, Data independence, Different models, storage organisation, query languages, Normal forms, Decomposition, Security, concurrency, Recovery.
4. Data communication and computer Networks  
Basics of digital communication, Network architecture, physical layer, Medium access protocols, Data-link layer, Network layer, Transport layer and Application layer.