

Computer Fundamentals and Emerging Technologies

UNIT - I

Introduction, Characteristics of Computers, Block diagram of computer, Types of computers and features: Mini Computers, Micro Computers, Mainframe Computers, Super Computers (03). Types of Programming Languages: Machine Languages, Assembly Languages, High Level Languages (03), Translators:- Assembler, Compiler, Interpreter and Linkers (02), Operating system concepts, Types of OS, Functions of OS (04).

Lectures: 12

UNIT - II

The Evolution of a computer program, computer program structure: the structured control flow constructs of selection (if/then/else) and repetition (while and for), block structures, and subroutines. (03) Memory concepts, Types of Memory (Primary and Secondary):- RAM, ROM and its types, Secondary Storage Devices (01), Types of variables: local variable, global variable, static variable, automatic variable, external variable, computer program functionality, how data processing works, standard I/O operations (03), Data Organization: Drives, Files, Directories (03).

Lectures: 10

UNIT - III

Basic elements of a communication system, Data transmission modes, Data Transmission speed, Data transmission media (04), Digital and Analog Transmission, Network topologies, Network Types (LAN, WAN and MAN), Client and Servers, Intranet, Extranet. (04) Internet: Introduction to Internet, Terminologies related to Internet: Protocol, Domain name, IP address, URL, World Wide Web, Connecting to the Internet (04).

Lectures: 12

UNIT - IV

Introduction to Big Data: Types of digital data, Big Data architecture and characteristics, Big Data technology components, Big Data importance and applications. (05) Introduction to Blockchain: Structure, Operational aspects of Bitcoin Block, Compare different types of Blockchains, Protocols, Payment mode code execution. (06)