

LESSON PLAN SESSION (2023-24) EXTENSION LECTURER – INDER JEET CLASS – BCA(1st, 3rd, 5th SEM)
SUBJECT: LOGICAL ORGANIZATION OF COMPUTER-I (1st SEM)

Month	Syllabus to be covered
24/07/2023 - 29/07/2023	Unit-I : Information Representation: Number Systems (binary, octal, hexadecimal)
31/07/2023 - 05/08/2023	Binary Arithmetic-Addition, Subtraction, Multiplication, division
07/08/2023 - 12/08/2023	Fixed-point and Floating point representation of numbers, BCD Codes
14/08/2023 - 19/08/2023	Error detecting and correcting codes (hamming code)
21/08/2023 - 26/08/2023	Character Representation – ASCII, EBCDIC, Unicode. Numerical Practice.
28/08/2023 - 02/09/2023	Unit 2: Binary Logic: Boolean Algebra, Boolean Theorems,
04/09/2023 - 09/09/2023	Boolean Functions and Truth Tables,
11/09/2023 - 16/09/2023	Canonical and Standard forms of Boolean functions, <u>Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps.</u>
18/09/2023 - 23/09/2023	Unit-3: Digital Logic: Introduction to digital signals, Basic Gates – AND, OR, NOT.
25/09/2023 - 30/09/2023	Universal Gates and their implementation – NAND, NOR, Other Gates – XOR, XNOR etc. NAND, NOR,
02/10/2023 - 07/10/2023	AND OR-INVERT and OR-AND-INVERT implementations of digital circuits
09/10/2023 - 14/10/2023	Combinational Logic – Characteristics, Design Procedures, analysis procedures, Multilevel NAND and NOR circuits.
16/10/2023 - 21/10/2023	Unit-4: Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor,
23/10/2023 - 28/10/2023	Parallel binary adder/subtractor Encoders, Decoders, Multiplexers, Demultiplexers,
30/10/2023 - 04/11/2023	Comparators, Code Converters, BCD to Seven-Segment Decoder
06/11/2023 - 09/11/2023	REVISION

Subject: COMPUTER & PROGRAMMING FUNDAMENTALS (Ist sem)

Month	Syllabus to be covered
24/07/2023 - 29/07/2023	Unit-III: Computer Languages: Analogy with natural language, machine language, assembly language, high-level languages, forth generation languages.
31/07/2023 - 05/08/2023	assembly language, high-level languages, forth generation languages,
07/08/2023 - 12/08/2023	compiler, interpreter, assembler, Linker, Loader ,
14/08/2023 - 19/08/2023	characteristics of a good programming language
21/08/2023 - 26/08/2023	Planning the Computer Program: Concept of problem solving,
28/08/2023 - 02/09/2023	Problem definition, Program design, Debugging,
04/09/2023 - 09/09/2023	Types of errors in programming, Documentation.
11/09/2023 - 16/09/2023	Structured programming concepts,
18/09/2023 - 23/09/2023	Programming methodologies viz. top-down and bottomup programming,
25/09/2023 - 30/09/2023	Advantages and disadvantages of Structured programming.
02/10/2023 - 07/10/2023	UNIT – IV: Overview of Networking: An introduction to computer networking,
09/10/2023 - 14/10/2023	Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission,
16/10/2023 - 21/10/2023	Forms of data transmission, Transmission channels(media), Introduction to internet and its uses,
23/10/2023 - 28/10/2023	Applications of internet, Hardware and Software requirements for internet, Intranet,
30/10/2023 - 04/11/2023	Applications of intranet
06/11/2023 - 09/11/2023	Practice Numericals & Revision

Subject: Data Structure - I (3rd sem)

Month	Syllabus to be covered
24/07/2023 - 29/07/2023	Unit-I: Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations,
31/07/2023 - 05/08/2023	Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notation
07/08/2023 - 12/08/2023	Strings: Introduction, Storing strings, String operations, Pattern matching algorithms.
14/08/2023 - 19/08/2023	UNIT II: Arrays: Introduction, Linear arrays, Representation of linear array in memory, address calculations, Traversal, Insertions, Deletion in an array, Multidimensional arrays,
21/08/2023 - 26/08/2023	Parallel arrays, Sparse arrays. Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion,
28/08/2023 - 02/09/2023	Searching in a linked list, Header linked list,
04/09/2023 - 09/09/2023	Circular linked list, Two-way linked list, Threaded lists,
11/09/2023 - 16/09/2023	Garbage collection, Applications of linked lists.
18/09/2023 - 23/09/2023	UNIT – III Stack: Introduction, Array and linked representation of stacks, Operations on stacks, Applications of stacks: Polish notation, Recursion
25/09/2023 - 30/09/2023	Queues: Introduction, Array and linked representation of queues,
02/10/2023 - 07/10/2023	Operations on queues, Deques, Priority Queues, Applications of queues;
09/10/2023 - 14/10/2023	UNIT – IV: Tree: Introduction, Definition,
16/10/2023 - 21/10/2023	Representing Binary tree in memory,
23/10/2023 - 28/10/2023	Traversing binary trees, Traversal algorithms using stacks.
30/10/2023 - 04/11/2023	Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs.
06/11/2023 - 09/11/2023	Practice Numericals & Revision

Subject: Data Communication & Networking (5th sem)

24/07/2023 - 29/07/2023	UNIT – I Introduction to Computer Communications and Networking Technologies; Uses of Computer Networks; Network Devices, Nodes, and Hosts;
31/07/2023 - 05/08/2023	Types of Computer Networks and their Topologies;
07/08/2023 - 12/08/2023	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services
14/08/2023 - 19/08/2023	Network Applications and Application Protocols; Computer Communications and Networking Models
21/08/2023 - 26/08/2023	Decentralized and Centralized Systems, Distributed Systems, Client/Server Model,
28/08/2023 - 02/09/2023	Peer-to-Peer Model, WebBased Model, Network Architecture and the OSI Reference Model,
04/09/2023 - 09/09/2023	TCP/IP reference model, Example Networks: The Internet, X.25, Frame Relay, ATM.
11/09/2023 - 16/09/2023	UNIT – II Analog and Digital Communications Concepts: Concept of data, signal, channel, bid-rate ,
18/09/2023 - 23/09/2023	maximum data-rate of channel, Representing Data as Analog Signals,
25/09/2023 - 30/09/2023	Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate
02/10/2023 - 07/10/2023	Asynchronous and synchronous transmission,
09/10/2023 - 14/10/2023	data encoding techniques, Modulation techniques ; Digital Carrier Systems;
16/10/2023 - 21/10/2023	Guided and Wireless Transmission Media
23/10/2023 - 28/10/2023	Communication Satellites; Switching and Multiplexing; Dialup Networking
30/10/2023 - 04/11/2023	Practice Numericals
06/11/2023 - 09/11/2023	Revision