**GOVT. P.G. COLLEGE FOR WOMEN, PANCHKULA**

**Session 2020-2021 (ODD SEMESTER)**

NAME OF PROFESSOR: ANJU DHULL

DESIGNATION: ASSISTANT PROFESSOR

SUBJECT/PAPER : DATA STRUCTURES

CLASS

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| SR. NO. | MONTH | TOPICS TO BE COVERED | REMARKS IF ANY |
| 1. | OCTOBER | Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notation. Strings: Introduction, String strings, String operations, Pattern matching algorithms. |  |
| 2. | NOVEMBER | Arrays: Introduction, Linear arrays, Representation of linear array in memory, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparce matrics. Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Garbage collection, Applications of linked lists. Algorithms for Insertion, deletion in array, Single linked list |  |
| 3. | DECEMBER | Stack: Introduction, Array and linked representation of stacks, Operations on stacks, Applications of stacks: Polish notation, Recursion. Queues: Introduction, Array and linked representation of queues, Operations on queues, Deques, Priority Queues, Applications of queues. | UNIT TEST |
| 4. | JANUARY | Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks and using recursion. Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs. |  |

**TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE**.

Signature of A/Prof .

**GOVT. P.G. COLLEGE FOR WOMEN, PANCHKULA**

**Session 2020-2021 (ODD SEMESTER)**

NAME OF PROFESSOR: ANJU DHULL

DESIGNATION: ASSISTANT PROFESSOR

SUBJECT/PAPER: LOGICAL ORGANIZATION OF COMPUTERS

CLASS

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| SR. NO. | MONTH | TOPICS TO BE COVERED | REMARKS IF ANY |
| 1. | NOVEMBER | Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating point representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASCII, EBCDIC. |  |
| 2. | DECEMBER | Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps. |  |
| 3. | JANUARY | Digital Logic: Basic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. implementations of digital circuits, Combinational Logic – Characteristics, Design Procedures, analysis procedures. | UNIT TEST |
| 4. | FEBRUARY | Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters. |  |

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