**SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL**

**LESSON-PLAN**

**Class: BCA-IInd  Year Semester: IIIth ODD /EVEN**

**Subject: Data Structure Session: 2020-21**

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| **Lecture Number** | **Topic** |
|  | **Unit-I** |
| **L-1** | **Introduction of Data Structure ,Elementary data organization**  |
| **L-2** | **Classification of data structure**  |
| **L-3** | **Memory Management Techniques** |
| **L-4** | **Data types Vs. data structure ,Categories of data structure** |
| **L-5** | **Data structure Operation, Applications of data structures,** |
| **L-6** | **Algorithms Complexity and time space tradeoff**  |
| **L-7** | **Revision** |
| **L-8** | **Revision**  |
| **L-9** | **Revision**  |
| **L-10** | **Big –O Notation** |
| **L-11** | **String: introduction ,string operations** |
| **L-12** | **Pattern Matching Algorithms** |
| **L-13** | **Revision** |
| **L-14** | **Revision** |
|  | **Unit-II** |
| **L-15** | **Array: introduction, linear arrays, representation of linear array in memory** |
| **L-16** | **Address Calculations, Traversal ,insertions,**  |
| **L-17** | **Deletion in an array** |
| **L-18** | **Multidimensional Arrays, Sparse arrays** |
| **L-19** | **Revision** |
| **L-20** | **Revision** |
| **L-21** | **Introduction of Linked list ,array vs linked list** |
| **L-22** | **Representation of linked lists in memory**  |
| **L-23** | **Traversal, insertion deletion searching in linked list** |
| **L-24** | **Header linked list circular linked list**  |
| **L-25** | **Two –way linked list** |
| **L-26** |  **Threaded lists Garbage collection**  |
| **L-27** | **Application of linked lists** |
| **L-28** | **Revision** |
| **L-29** | **Revision** |
| **L-30** | **Revision** |
|  | **Unit-III** |
| **L-31** | **Introduction of stack**  |
| **L-32** | **Array and linked list Representation of stack** |
| **L-33** |  **Operation on stacks ,applications of stacks** |
| **L-34** | **Polish notation ,recursion** |
| **L-35** | **Revision** |
| **L-36** | **Revision** |
| **L-37** | **Introduction of Queues** |
| **L-38** | **Array and linked representation of queues**  |
| **L-39** | **Operations on Queues** |
| **L-40** | **Deques priority Queues, Applications of queues** |
| **L-41** | **Revision**  |
| **L-42** | **Revision**  |
| **L-43** | **Revision** |
|  | **Unit-IV** |
| **L-44** | **Introduction and definition of Tree** |
| **L-45** | **Representing Binary tree in memory** |
| **L-46** | **Traversing binary trees** |
| **L-47** | **Traversal algorithms using stacks** |
| **L-48** | **Revision** |
| **L-49** | **Revision** |
| **L-50** | **Revision** |
| **L-51** | **Introduction of Graph** |
| **L-52** | **Graph theory terminology**  |
| **L-53** | **”** |
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| **L-55** | **Sequential and linked representation of graphs** |
| **L-56** | **Traversing A graph** |
| **L-57** | **Topological sort** |
| **L-58** | **Path matrix** |
| **L-59** | **Revision**  |
| **L-60** | **Revision**  |
| **L-61** | **Revision**  |
| **L-62** | **Revision**  |

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 **(Assistant Prof. in CS)**