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**Level 5 / 2nd. Sem. / DVOC**

**Software Development**

**Subject : Data Structure**

Time : 2 Hrs.

M.M. : 50

### **SECTION-A**

**Note:** Very short answer type questions. All questions are compulsory (10x1=10)

- Q.1 Write one advantage of flowchart.
- Q.2 List various types of queues.
- Q.3 Give one difference between stacks and queues.
- Q.4 \_\_\_\_\_ is an example of non linear data structure.
- Q.5 Define indegree and outdegree of a node.
- Q.6 Define edge.
- Q.7 Mention one limitation of simple queue.
- Q.8 Define path.
- Q.9 When the "Overflow" condition comes in any data structure.
- Q.10 Define the term sorting.

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### **SECTION-B**

**Note:** Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

- Q.11 Give differences between linear and non linear data structure.
- Q.12 Write short notes on following:-
  - a) Algorithm
  - b) Flowchart
- Q.13 What is a tree? What is the height and depth of a tree? Explain.
- Q.14 Differentiate between prefix and postfix expression.
- Q.15 What are the applications of linked lists?
- Q.16 Explain pre-order traversing using suitable example.
- Q.17 Explain merge sort in brief.
- Q.18 What are threaded binary trees and height balanced trees?

### **SECTION-C**

**Note:** Long answer type questions. Attempt any one questions out of two questions. (1x10=10)

- Q.19 Write an algorithm for traversing a doubly linked list.
- Q.20 Explain in detail the applications of stack.

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