

1129
B.E. (Electronics and Communication Engineering)
Fifth Semester
EC-507: Data Structure and Algorithms

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

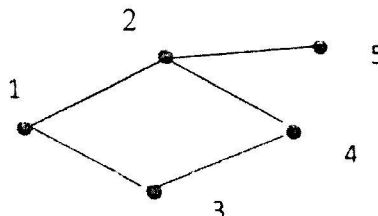
- What is the prefix form of the following expression? $A-B / (C * D E)$
- How does an array differ from an ordinary variable?
- Define Linked List.
- For an undirected graph with n vertices and e edges, what will be the sum of the degree of each vertex?
- What is the significance of pointer in linked list? (5x2)

UNIT – I

- Can a Queue be represented by circular linked list with only one pointer pointing to the tail of the queue? Substantiate your answer using an example. (10)
- What is a binary search tree? Draw the binary search tree for the following input:
14, 5, 6, 2, 18, 20, 16, 18, 9, 21 (10)
- Write an operation to delete n nodes after m nodes of a linked list.
 - Give the syntax of searching a specific element in an array. (2x5)

UNIT – II

- What are the different ways to represent the graph? Represent the given graph using any two Methods



Build a procedure for adding two polynomials stored in linked lists. Verify steps of your procedure for the above two polynomials. (10)

P.T.O.

(2)

VI. Convert the binary tree for the given expressions:

i) Pre-order: / + * \$ 2 3 4 5

A B D G C E H I F

ii) In-order: 1 + 2 * 3 \$ 4 - 5

D G B A H E I C F

(10)

VII. Explain the collision resolution techniques in hashing.

(10)

x-x-x