SECTION-C

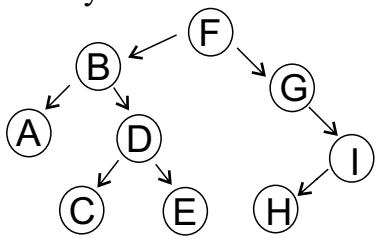
Note: Long answer type questions. Attempt any one question out of two questions. (10x1=10)

Q.19 a) Define priority Queue. List the applications of priority Queues. 1+2

b) If a = 20, b = 4 and c = 3, then evaluate the postfix expression and find its value ab+c/ 3

c) What is the disadvantages of linear queue, How is it removed. 4

Q.20 a) Write in order, pre order and post order traversal for the given binary tree: 7



b) Differentiate between linear and non linear data structure. 3

No. of Printed Pages : 4
Roll No. .....

189062

DVOC (Level 5)
Sem 2nd / DVOC (Software Development)
Subject : Data Structure

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short answer type questions . Attempt all ten question (10x1=10)

Q.1 The purpose of the Deployment phase in PDLC is to :

a) Analyze user requirement.
b) Develop new features.
c) Distribute the software to users
d) Write code

Q.2 Part of algorithm which is the repeated for fixed number of times is classified as

a) Iteration b) Selection
c) Sequence d) Reverse action

Q.3 Which statement is correct with respect to stack?

a) It is a non linear data structure
b) Stack is a LIFO data structure
c) Stack is a FIFO data structure
d) ALL of the above

Q.4 In which data structure, element is inserted at one end called Rear and deleted at other end called Front.

a) Stack b) Queue
c) Both d) Binary tree

Q.5 Linked list implementation of a queue, what does a new element be inserted

a) At the head of linked list
b) At the tail of linked list
c) At the centre of the linked list.
d) Any where in the linked list.

Q.6 Which of the following c code is used to create new node?

a) ptr=(NODE*)malloc (size of (NODE));
b) ptr=(NODE*)malloc(NODE);
c) ptr=(NODE*)malloc (size of (NODE*));
d) ptr = (NODE*)malloc (size of (NODE));

Q.7 What is a full binary tree ?

a) Each node has exactly zero or two children
b) Each node has exactly two children
c) All the leaves are at the same level.
d) Each node has exactly one or two children

Q.8 Which of the following properties are obeyed by all three tree - traversals?

a) Left subtrees are visited before right subtrees
b) Right subtrees are visited before left subtrees
c) Root node is visited before left subtree.
d) Root node is visited before right subtree.

Q.9 Which of the following statement is true in case if binary search?

a) The given list must be in sorted order
b) Binary search can be performed on unstored list
c) Both of the above
d) None of the above

Q.10 A connected planar graph having 6 vertices 7 edges contains_____regions.

a) 15 b) 3
c) 1 d) 11

SECTION-B

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

Q.11 a) Write a short note on pseudo code. 2
b) Give the various symbols involved in flow chart. Give function of each. 3

Q.12 a) Give algorithm to insert an element into the stack 3
b) Give two application of stack. 2

Q.13 Give the five advantages of linked list over array. 5

Q.14 a) What are the differences between a singly linked list and a doubly linked list? 2
b) Write a C-function to count the numbers of nodes in a singly linked list. 3

Q.15 Construct a binary tree for the given in order and postorder traversals; 5
Inorder traversal : BDAECF
Postorder traversal : DBEFCA

Q.16 Define the terms : 5

a) degree of a node
b) dqueue
c) queue
d) sorting
e) graph

Q.17 Write down about the steps of bubble sort (ascending order) for the list given below, 7 , 4 , 3 , 5 , 8 , 6 , 1.

Q.18 Explain the BFS graph traversal algorithm.