4008-4   Printed Pages : 4

Degree (Part-II) (Vocational)
Examination, 2020

(Honours)

BCA

[PPU-D II(V) (H)-BCA-4]

Time : Three Hours| |Maximum Marks : 75

Note : Candidates are required to give their answers in their own words as far as practicable. Attempt any five questions in all. All the questions are of equal value.
Question No. 1 is compulsory

Write short notes on the following terms / keywords

(a) Circular Queue

(b) Doubly Linked List

(c) Threaded Binary Tree

(d) Weighted Graph

(e) ROBOCAD

4008-4/1500   (1)   [P.T.O.]

2   (a) What do you mean by Performance analysis ? What are the criteria for judging a program ?

(b) Suppose you have an array of number denoted by num [ ] Write the recursive procedure to find the sum of 1000 elements

3   (a) What is a Circular list ? Write an algorithm for inserting a node at the front of circular list.

(b) Differentiate between a linked list and an array What are the disadvantages of a linked list ?

4   (a) What is a Binary tree ? Write down different properties of a binary tree.

(b) Write down the iterative algorithm for in-order traversal of a binary tree. What will be the performance analysis of the algorithm ?

5   (a) Write the algorithm of sorting a set of numbers in descending order using Straight Selection Sort Analyze the algorithm

(b) Show the steps of sorting the following sequence in ascending order using quick sort method
25, 57, 43, 37, 12, 92, 86, 33

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6. (a) What is Hashing ? Give the characteristics of Hash function.

(b) What are the different methods of handling overflow in hashing ?

7. (a) What do you mean by Graph Traversal ? Compare and contrast Depth First Traversal (DFS) and Breadth First Traversal (BFS).

(b) Write an algorithm of non-recursive Depth First Traversal (DFS) of a graph.

8. (a) Write the different operations that can be performed on a stack. Give array implementation of a stack.

(b) Illustrate with the help of an example, how an arithmetic expression can be evaluated by using a stack.

9. (a) What is a Queue ? Give linked list implementation of a queue.

(b) Insert the following keys into a B-Tree of order 3 : 10, 24, 23, 11, 31, 16, 26, 35, 29, 20, 46, 28.

10. (a) What is AUTOCAD ? Describe few advanced features of AUTOCAD.

(b) Describe analysis features of AUTOCAD. How to draw floor plan of a building using AUTOCAD ?

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