

4008-04

Total Pages : 4

Degree (Part-II) (Vocational)  
Examination, 2022

(Honours)

**COMPUTER APPLICATION**

[ Paper : Fourth ]

[ PPU-D-II-(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. The questions are of equal value. Attempt **any five** questions.

1. (a) Define Data Structure and Operations perform on it.

(b) Define Time and Space Complexities analysis of an Algorithm.

2. (a) Define the singly linked list. Also write a program to create singly linked list.

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(b) Define circular singly and doubly linked list.

~~3~~

(a) Write an algorithm to convert an infix expression into postfix expression.

(b) Write a program to implement a stack using a array.

~~4~~

(a) Define linear queue. How circular queue is better than linear queue.

(b) Write a function to delete a number in circular queue.

~~5~~

(a) Define binary tree and its types.

(b) Define the traverse of a Binary tree with an example.

6. (a) Define the Expression tree. Create the expression tree of the following expressions :

(i)  $(a - b) + (c \times d)$

(i)  $a + b / c \times d - e$

(b) Write a function to insert a number into a Binary search tree.

7. (a) Define the threaded Binary tree.
- (b) Define the AVL tree and also discuss the advantages of it.
8. (a) Discuss the representation of Graph.
- (b) Define the depth first search Algorithm.
9. Define the AUTOCAD with its features.
10. Write short notes on **any three** of the following :
- (a) Binary search
- (b) Bubble sort
- (c) Selection sort
- (d) Minimum spanning tree

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