

4005-03

Total Pages : 4

**Degree (Part-II) (Vocational)
Examination, 2023**

(Honours)

INFORMATION TECHNOLOGY

[Paper : Third]

[PPU-D-II (V)-(H)-IT-3]

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. Answer **any five** questions selecting at least one from each group.

Group-A

1. Write short notes on the following terms/keywords :

- (a) Array
- (b) Stack
- (c) Queue

2. (a) What is a Binary Search Tree ? Write down different properties of a Binary Search Tree.
- (b) What is STACK ? Write a function using array in stack operation PUSH, POP.
3. (a) Explain Single Linked List. Write a function to create Single Linked List.
- (b) What do you mean by Graph Traversal ? Compare and contrast : Depth-First Traversal (DFS) and Breadth-First Traversal (BFS).

Group-B

4. Write short notes on the following terms/keywords :
- (a) Decoder
- (b) Karnaugh Map
- (c) Universal NAND GATE
5. (a) Explain Multiplexer with diagram.
- (b) Draw and explain a 4-bit Adder-subtractor circuit.

6. (a) Find out the simplified equation for the function $f(a, b, c)$ using "sum of products" from the following truth table.

a	b	c	f
0	0	0	1
0	1	0	1
0	1	0	0
0	0	1	0
1	1	0	1
1	0	1	0
1	1	0	0
1	1	1	1

- (b) Explain Flip-Flops with suitable example.

Group-C

7. Write short notes on the following terms/keywords :
- (a) Kernel
 - (b) Super Block
 - (c) PS
8. (a) What is a process ? How are you able to get complete information about all currently scheduled processes ?

- ✓(b) Write the basic features and advantages of LINUX.
9. (a) How do you change File Access Permissions in Linux through command ? Explain with example.
- ✓(b) Write any five file related commands of UNIX/LINUX.
- ✓(c) Write steps to LINUX system startup and shut-down process.

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