

4005-3

Printed Pages : 4

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

(Honours)

INFORMATION TECHNOLOGY

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

Time : Three Hours]

[Maximum Marks : 75

104

Note : All the questions are of equal value. Answer five questions, selecting at least one from each group.



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GROUP-A

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

~~(a)~~ Stack

~~(b)~~ Doubly Linked List

~~(c)~~ AVL Tree

2. ~~(a)~~ What is a Circular Queue ? Write a program (using array implementation) for inserting and deleting elements in a Circular Queue.

4005-3/300

(1)

[P.T.O.]

- ~~(b)~~ What is a Binary Search Tree ? Write down different properties of a Binary Search Tree.
3. (a) What do you mean by Graph Traversal ? Compare and contrast : Depth-First Traversal (DFS) and Breadth-First Traversal (BFS).
- (b) Illustrate with the help of an example, how an infix expression is converted into postfix using a Stack ?

GROUP-B

~~4.~~ Write short notes on the following terms/Keywords :

~~(a)~~ Karnaugh Map

~~(b)~~ Decoder

~~(c)~~ Flip-Flop

~~5.~~ (a) Draw and explain a 4bit Adder-subtractor circuit.

~~(b)~~ What is Multiplexer ? What are the functions of multiplexer inputs ? Draw the logic diagram of 4 to 1 line Multiplexer and give its function table also.

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6. (a) Convert the Boolean formula $(A + (B \times (C + D))) \times E$ to "sum of products" form, showing each step clearly.
- (b) 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	1	1	0
1	1	0	1
1	0	1	0
1	1	0	0
1	1	1	1


GROUP-C

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

(a) Super Block

(b) Inode Table

(c) Kernel

8. (a) What task does "init" perform ? In this context also mention in detail the roles performed by related processes.
- (b) What is a process ? How are you able to get complete information about all currently scheduled processes ?
9. (a) How could you use the "cat" command to behave as an editor ?
- (d) What does the command "grep" do ? What are the various options ? Give the syntax of the command.
- (c)  PPU Learn.com How do you change File Access Permissions in Linux through command ? Explain with example.

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