

**B.C.A. DEGREE EXAMINATION –
DECEMBER, 2018.**

First year

C PROGRAMMING AND DATA STRUCTURE

Time : 3 hours

Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Write note scanf and printf of statement with suitable example.
2. Find the values of e, f, and g in the following program

```
int a = 20;
```

```
int b = 10;
```

```
int c = 15;
```

```
int d = 5;
```

```
int e,f,g;
```

```
e = (a+b)* c/d;
```

```
f = ((a+b)*c)/d;
```

```
g = a+(b*c)/d;
```

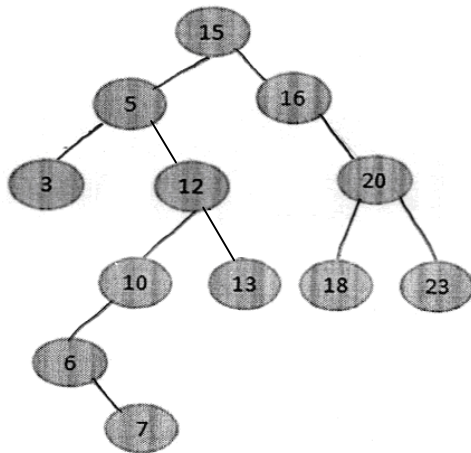
3. Explain switch statement with suitable example.
4. Write the short note about unions in C.
5. Explain briefly about queues.
6. Explain sequential file organizations with its advantages and disadvantages.
7. Write a program to perform a linear search.

PART B — ($5 \times 10 = 50$ marks)

Answer any FIVE questions.

8. (a) Write a C program to find the maximum number in single dimensional array using pointer. (5)
(b) Write a program to swap two numbers using functions. (5)
9. Give elaborate discussion on arrays.
10. Discuss about file input output operations with an example.
11. What is Circular linked list? Explain the operations of circular linked list with algorithms.
12. Explain the following:
 - (a) DFS (5)
 - (b) BFS. (5)

13. (a) Find the inorder, preorder and postorder binary tree traversal for the following graph. (5)



- (b) Construct the AVL tree for the following values 20,15,19,25,23,24. (5)
14. Explain the following.
- (a) 2 way merge sort. (5)
- (b) Heap sort. (5)
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