

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

**PROGRAMMING IN C**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Write C statement equivalent to the following mathematical expression :

$$d = \frac{b^2 - 4ac}{2a}$$

2. Name four storage classes.
3. Write C statement to declare an array to store marks of 50 students in English.
4. Write C statement to declare a structure to store employee id, name and basic pay.
5. Re-write the following statement using conditional operator :

```
if(a>b) c=a;
else
c=b;
```

(5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Explain rules for creating variable name.
2. Compare call by value and call by reference.
3. Write a C statement block to copy a two dimensional array into another.
4. Distinguish between array and structure.
5. Explain storage class.
6. Write a function to store N names in an array of pointers.
7. Explain the working of for loop with an example.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

III (a) Explain do-while loop. 5

(b) Explain the working of the following set of statements :

```
(i) int a;
    a=10;
    while(a<10)
    {
    printf (" % d " ,a);
    a--;
    }
```

5

```
(ii) int a;
    a=10;
    do {
        printf (" % d " ,a);
        a--;
    }while(a<10);
```

5

OR

IV (a) Explain if - else statement with the help of an example. 6

(b) Compare the working of the following two for loops.

```
(i) for(i=1;i<=10;i++)
    {
    if (i==5)
        break;
    printf("% d " , i);
    }
```

```
(ii) for(i=1; i<10;i++)
    {
    if (i==5)
        continue;
    printf("%d" , i);
    }
```

9

## UNIT — II

- V (a) Write a macro to find the cube of a given number. 5  
(b) Write a recursive function to find the value of  $X^N$ . 5  
(c) Distinguish between macro and function. 5

OR

- VI (a) Explain passing values between functions with the help of an example. 8  
(b) Explain recursion. Give an example. 7

## UNIT — III

- VII (a) Illustrate accessing two dimensional array using pointers. 7  
(b) Write a function to accept two matrices, as arguments and find the sum of the matrices. 8

OR

- VIII (a) Demonstrate declaration and accessing arrays with the help of an example. 7  
(b) Write a function to accept a one dimensional array as an argument and find the sum of the elements. 8

## UNIT — IV

- IX (a) Explain any three standard library string functions with examples. 9  
(b) Write a user defined function to compare two strings. 6  
(Do not use the standard library string functions for string comparison)

OR

- X (a) Demonstrate declaration and accessing of structures with the help of an example. 8  
(b) Given that a structure contains Reg No., Name and CGPA. Write a function to create an array of the above structure and read the details of N students. 7
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