

**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--;
```

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;
```

```
(ii) for(i=1; i<10;i++)
    {
    if (i= =5)
        continue;
```

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.
 (Do not use the standard library string functions for string comparison) 6

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