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)

[13]

Marks

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

Marks

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

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