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

PROGRAMMING METHODOLOGY

[*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. Define an algorithm ?

2. If the variable Hours = 10, what is the value of the variable Salary after the following instruction has been executed: Set Salary = Hours * 8.

3. How many times "Good Morning" is get printed ?

    for (i=2;i<10;i++)

        write "Good Morning"

    endfor

4. Declare a one dimensional array to store marks of 50 students.

5. What is recursion ?   (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain six relational operators.

2. Write a pseudo code to read a number and print whether it is divisible by 10 or not.

3. Explain CASE structure.

4. Write a pseudo code to print the multiplication table of a given number.

5. Write a pseudo code to declare a matrix having 5 rows and 6 columns and read the elements to the matrix.

6. Write a pseudo code to read 10 elements to an array and display it.

7. With an example explain how values can be passed from a main program to a subprogram.   (5×6 = 30)

[93]   [P.T.O.

PART — C

(Maximum marks : 60)

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

Unit — I

III (a) Write an algorithm to read principal amount (P), interest rate (R), number of years (N) and print the interest. (Interest I=PNR)   4

(b) Draw the flow chart for the above problem.   6

(c) Write a pseudo code for the above problem.   5

Or

IV (a) Explain any 3 flow chart symbols.   6

(b) List the steps in program development cycles.   Explain.   9

Unit — II

V (a) Differentiate pre-test and post-test loop.   6

(b) Write a pseudo code to read a month number (from 1 to 12) and print the corresponding month (1-January, 2-February.....).   9

Or

VI (a) Explain the syntax of while ... loop with the help of a block diagram.   6

(b) Write a pseudo code to read two numbers and find sum all the numbers divisible by 5 between them (both numbers - limits- are excluded).   9

Unit — III

VII (a) Explain linear search with the help of an example.   7

(b) Write a pseudo code to find the sum of the first row of a 3 × 3 matrix.   8

Or

VIII (a) What is a string ? Explain.   6

(b) Write a pseudo code to find the largest number in an array.   9

Unit — IV

IX (a) Explain scope of variable.   6

(b) Write a pseudo code to read sides of a rectangle (b and h). By using a subprogram, find the area of the rectangle.(Area A = b×h)   9

Or

X (a) Write a short note on subprogram.   6

(b) Write a pseudo code to find the factorial of a number using recursion.   9

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