

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

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. State a Constant.
2. Define Pointer.
3. Index of an array a[10] starts from ..... and ends with .....
4. What is mean by a String ?
5. Define a structure.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

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

1. Write the rules for forming variable names with two valid and invalid examples.
2. Explain the syntax of while loop with example.
3. Describe the syntax of a function with one example.
4. Explain the different argument passing methods in functions.
5. Describe one dimensional and two dimensional arrays with example declarations.
6. Write a C program to find out the smallest element from an array of "N" elements.
7. Write a function to copy a string to another without using strcpy(). Also write the main program to call the function.

(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 the different types operators in C with suitable examples. 9  
 (b) Write a C program to find out the sum of even numbers from 1 to N. 6

OR

- IV (a) Write a C program to display a given number in words (Eg. 325 - Three Two Five). 9  
 (b) Describe the syntax of nested if statement with an example. 6

## UNIT — II

- V (a) Explain recursion and also write a recursive function to find out the factorial of a given number. Also write the main program to call the function. 9  
 (b) Differentiate between Macro and a function. 6

OR

- VI (a) Write a function to reverse a given number. Also write the main program to call the function. 7  
 (b) Describe the different data types in C. 8

## UNIT — III

- VII (a) Write a C program to print the transpose of an MxN matrix. 9  
 (b) Write a C program to count the number of Odd and Even numbers in an Array of N numbers. 6

OR

- VIII (a) Write a C program to check whether the given element is in the array or not; if it is in the array print its position also. 9  
 (b) Write a function to find out the average of an array of N numbers. Also write the main program to call the function. 6

## UNIT — IV

- IX (a) Explain the string functions with a suitable example - strlen(), strcpy() and strcat(). 9  
 (b) Describe the syntax with example of a structure and also describe how to refer its members in a program. 6

OR

- X Write a program using an array of structure to read Register number, name, mark1, mark2 and mark3 of "M" students in a class and print the Register number, name, mark1, mark2, mark3 and total mark of each student. 15