

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/
COMMERCIAL PRACTICE - APRIL - 2022**

PROGRAMMING IN C

[Maximum marks: 100]

(Time: 3 Hours)

PART – A
(Maximum Marks: 10)

Marks

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

1. Show how a single line and multi-line comments can be included in a C program.
2. Give two examples for derived data types.
3. Give the syntax of a one dimensional array declaration.
4. List any two built-in library functions along with their purpose.
5. List the two different forms of return statement.

(5 x 2 = 10)

PART – B
(Maximum Marks: 30)

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

1. Make note on operator precedence in C.
2. Differentiate between nested if-else and else if ladder structures in C.
3. Explain how a 2-dimensional array can be read in from the keyboard.
4. Illustrate the 'while' looping structure with an example.
5. Explain how the value of a variable can be accessed through pointer using an example.
6. What are user defined functions? Illustrate how a user defined function can be included in a program.
7. Differentiate between call by value' and call by reference' methods of passing parameters to a function.

(5 x 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 type of constants supported by C language. (8)

(b) Write a C program to get the time in seconds as integer (interactively through key board) as input and convert it into hours: minutes: seconds. For example, an input 3845 seconds should get expressed as 1 hour: 4 minutes: 5 seconds. (7)

OR

- IV. (a) Which are the arithmetic, relational and logical operators in C? Illustrate each with example. (8)
- (b) Write a C program to find the largest of three numbers. The numbers are to be obtained interactively through the keyboard. (7)

UNIT-II

- V. (a) Write C program to illustrate element deletion and searching an element as applied to a one-dimensional array. (8)
- (b) Give the syntax of while and do...while loop. Illustrate with suitable examples. (7)

OR

- VI. (a) Write a C program to get to matrices through keyboard and multiply them. (8)
- (b) Write a C program that sorts a given 1-dimensional array with N elements in ascending order. Get the array interactively through the keyboard. (7)

UNIT-III

- VII. (a) Illustrate the methods of reading a string using (a) scanf (b) getchar (c) gets functions. (8)
- (b) Write a C program to read a 10 element array and print the array elements along with their addresses on screen. (7)

OR

- VIII. (a) Write a C program to check whether a given string is Palindrome or not without using built-in library functions for comparison. (8)
- (b) Write a C program to swap two given numbers using pointers. (7)

UNIT-IV

- IX. (a) List and explain the types of functions in C based on the number of arguments passed and return values. (8)
- (b) Write a C program to swap values of two variables, through user defined function using the method of call by reference. (7)

OR

- X. (a) Explain the concept of function recursion along with an appropriate example. (8)
- (b) Write a C program to sort an array of integers in ascending order using function. (7)
