

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

PROGRAMMING METHODOLOGY

[Maximum Marks: 100]

[Time: 3 Hours]

PART-A

[Maximum Marks: 10]

(Answer **all** questions in one or two sentences. Each question carries 2 marks)

- I. 1. What is Pseudocode.
2. Evaluate the expression : $(20/5) + (5*(4-3))\%2$
3. How can declare to store the height of 20 students in an array.
4. State one difference between procedure and a function.
5. What is meant by scope of a variable? (5 x 2 = 10)

PART-B

[Maximum Marks: 30]

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

- II 1. Discuss the difference between character constant and string constants with an example.
2. Discuss the rules to form variable names.
3. Explain the select-case statement with syntax and suitable examples.
4. Write pseudo code to find the roots of quadratic equation of the form $ax^2+bx+c=0$.
5. Write short notes on subprograms.
6. Write a program segment to find the smallest number in an array.
7. Explain about local and global variable. (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) Write an algorithm to find out the area of a Triangle. (9)
(b) Write an algorithm to convert length in Centimeter to Length in Inch
(Hint : one inch = 2.54 Centimeter). (6)

OR

- IV (a) Write an algorithm to find out the simple interest ($I = PNR$). (9)
(b) Discuss about the program development cycle. (6)

UNIT – II

- V (a) Explain dual and multiple alternative structures using flow chart. (7)
(b) Write an algorithm to find out the largest number from the given three numbers. (8)

OR

- VI (a) Write an algorithm to print odd number from "X" to "Y". (8)
(b) Explain defensive programming. (7)

UNIT- III

- VII (a) Write an algorithm to find out the average of "N" numbers from an array. (8)
(b) Write an algorithm to Sort an array of "N" Numbers. (7)

OR

- VIII (a) Explain the concept of multi-dimensional array. (8)
(b) Write an algorithm to print the transpose of a matrix (Two dimensional array). (7)

UNIT - IV

- IX (a) Explain about different types of files. (8)
(b) What is recursion ? Explain with a suitable example. (7)

OR

- X (a) Write pseudo code using recursion to find the factorial of a number. (8)
(b) Discuss the modes of parameter passing. (7)
