

S.D.E.
M.C.A. SEM - I : SUMMER - 2018
SUBJECT: ELEMENTARY ALGORITHMICS

Day: **Monday**
Date: **28/05/2018**

S-2018-4603

Time: **10.00 A.M. TO 1.00 P.M.**
Max. Marks: 80

N.B.:

- 1) Attempt any **FIVE** question from Section –I and any **TWO** questions from Section–II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

- Q.1** Write a Pseudocode for finding sum of given 10 numbers. **(10)**
- Q.2** Write an algorithm to check whether given number is prime or not. **(10)**
- Q.3** Explain the concept of program and structure of procedure oriented program. **(10)**
- Q.4** What is recursion? Write a recursive algorithm to find GCD of given two integers. **(10)**
- Q.5** Draw a flow chart to search a given number in any array of n numbers. **(10)**
- Q.6** Discuss an program verification and validation with appropriate example. **(10)**
- Q.7** Write short notes on any **TWO** of the following: **(10)**
- a) Time complexity
 - b) Rules to draw flowchart
 - c) Modularization

SECTION-II

- Q.8** Write an algorithm to sort given list of n integers in ascending order using bubble sort. Trace the same for list given below: **(15)**
25, 37, 12, 58, 43, 78, 64
- Q.9** Write an algorithm to display following pyramid implement it using C language. **(15)**
- ```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```
- Q.10** Write an algorithm to accept n integers, store those in an array and partition it such that element will be grouped as even numbers and odd numbers. **(15)**

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