

S.D.E.

M.C.A. Sem - I (Old Course) : SUMMER - 2019

SUBJECT: ELEMENTARY ALGORITHMICS

Day: Thursday
Date: 02/05/2019

S-2019-5250

Time: 10.00 AM TO 1.00 PM
Max. Marks: 80

N.B.:

- 1) Attempt any **FIVE** questions 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 **SAME** answer book.

SECTION –I

- Q.1** What is pseudo code? Explain its significance in procedure oriented programming. (10)
- Q.2** Write an algorithm to convert decimal number to binary number. (10)
- Q.3** Define an array? Write pseudo code for removing duplicate elements in given array. (10)
- Q.4** What is recursion? Write recursive function to find n^{th} term in Fibonacci series. (10)
- Q.5** Draw a flowchart to find sum and average of given integer numbers. (10)
- Q.6** State characteristics of good algorithm. Explain significance of good algorithm towards performance of program. (10)
- Q.7** Write short notes on Any **TWO**: (10)
- a) Algorithm verification and validation
 - b) Modularization
 - c) Selection construct of program

SECTION-II

- Q.8** Write an algorithm for sorting the given list of integers using bubbles sort techniques. Trace the algorithm for following data: (15)
32, 85, 68, 82, 45, 56, 26, 75.
- Q.9** Write a pseudo code to display following pyramid implement it using C. (15)
- ```

 1
 2 2
 3 3 3
 4 4 4 4
 5 5 5 5 5
```
- Q.10** Write algorithm to find prime factors of given integer. (15)

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