

S.D.E.
M.C.A. Sem - I (Old Course) : WINTER - 2018
SUBJECT: ELEMENTARY ALGORITHMICS

Day: Wednesday
Date: 28/11/2018

W-2018-4791

Time: 10.00 AM TO 1.00 PM
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** Explain rules to represent an algorithm in a flow chart. Illustrate it with an example. (10)
- Q.2** Write Pseudocode or algorithm to find n^{th} term in Fibonacci series. (10)
- Q.3** Write an algorithm to find prime factors of given number. (10)
- Q.4** Write an recursive algorithm to check whether given string is palindrome or not. (10)
- Q.5** Draw a flow chart to find smallest and largest number among given n numbers. (10)
- Q.6** What an algorithm to convert given binary number to a decimal number. (10)
- Q.7** Write short notes on any **TWO** of the following: (10)
- a) Space complexity
 - b) Procedure oriented program
 - c) Characteristics of an algorithm

SECTION-II

- Q.8** Write an algorithm to sort given list of integers using selection sort. Trace the same for given list. (15)
15 38, 24, 47, 62, 55, 32, 78.
- Q.9** Write a flow chart for binary search. Trace it for searching 35 in given list. (15)
18 26, 35, 42, 58, 67, 74, 82, 88, 35
- Q.10** Explain concept partitioning of an array. Illustrate its usage in merge sort. (15)

* * * *