

**S.D.E.**

**B.C.A. (2004 COURSE SEM- I : SUMMER - 2018**

**SUBJECT : ALGORITHM AND PROGRAM DESIGN**

Day : **Wednesday**  
Date : **30/05/2018**

**S-2018-4339**

Time : **02.00 PM TO 05.00 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 the **SEPARATE** answer books.

**SECTION - I**

- Q.1** What is an array? Write the types of array with the manipulation of array with example. **(10)**
- Q.2** Write an algorithm to calculate factorial of given number. (Assume appropriate data) **(10)**
- Q.3** What is sorting? Write the types of various sorting techniques. **(10)**
- Q.4** Write an algorithm to find smallest number in given three numbers. Trace the algorithm. **(10)**
- Q.5** What is structured programming? Write the benefits of structured programming. **(10)**
- Q.6** Explain the terms : **(10)**
- a) Searching
  - b) Pointers
- Q.7** Write short note on : **(10)**
- a) Flow Chart
  - b) Pseudo-code

**SECTION - II**

- Q.8** Write an algorithm to read first ten numbers and display **(15)**
- a) Odd numbers and trace the algorithms.
  - b) Even numbers and trace the algorithm.
- Q.9** What is function? Explain call by value and call by reference with examples. **(15)**
- Q.10** Design an algorithm and write a C program to display  $2^n$ . Where  $n=1$  to 3. **(15)**

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