

S.D.E.
B.C.A. (2004 Course Sem- I : WINTER - 2018
SUBJECT : ALGORITHM AND PROGRAM DESIGN

Day : Thursday
Date : 29/11/2018

W-2018-4501

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.
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SECTION - I

- Q.1** What is structured programming? Write the advantages of structured programming. (10)
- Q.2** Write pseudo code and draw flow chart to print all odd numbers between 1 to 20. (10)
- Q.3** Write a program in C to calculate GCD of given numbers. (Assume required numbers). (10)
- Q.4** What is array? Explain the importance of array for the manipulation and partitioning of an array. Illustrate with an example. (10)
- Q.5** Write a program in C to read three numbers and display the largest and smallest number among them? (10)
- Q.6** What is sorting? Write various types of sorting techniques and describe them. (10)
- Q.7** Write short notes on : (10)
- a) Array operations
 - b) Features of 'C' language

SECTION - II

- Q.8** Design an algorithm to read string in lower case and convert it into uppercase. Trace the algorithm. (15)
- Q.9** Read the first five numbers and calculate the square of each number and print them. Also calculate the sum of squares. Design the Algorithm. (15)
(e.g. $1^2 + 2^2 + 3^2 + 4^2 + 5^2$)
- Q.10** What is function? Illustrate function with call by value and call by reference in brief. (15)

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