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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-I : WINTER- 2022
SUBJECT : ALGORITHM & PROGRAM DESIGN

Day : Saturday

Time : 10:00 AM-01:00 PM

Date : 10/12/2022

W-18752-2022

Max. Marks : 60

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N.B.:

- 1) Attempt any **FOUR** questions from Section-I.
 - 2) Attempt any **TWO** questions from Section-II.
 - 3) Figures to the right indicate **FULL** marks.
 - 4) Answer to Both the sections should be written in **SEPARATE** answer book.
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SECTION-I

- Q.1** What is structured programming? Explain the benefits of structured and procedure oriented programming. (10)
- Q.2** What is a flow chart? Draw a flowchart for finding the maximum element in a given list. (10)
- Q.3** What is pseudo-code? Explain the different characteristics of pseudo-code. (10)
- Q.4** Explain the control structures for loop statements with the help of an example. (10)
- Q.5** Define array. Explain the advantages of using array in programming. (10)
- Q.6** Write Short Notes on Any **TWO** of the following: (10)
- a) Search and merge problem
 - b) Swapping two numbers
 - c) Tracing an algorithm
 - d) Factorial of a number.

SECTION-II

- Q.7** What is Fibonacci sequence? Write an algorithm to find n^{th} term of Fibonacci sequence. (10)
- Q.8** What are various sorting algorithms? Explain Bubble sort with the help of an example. Write an algorithm for bubble sort. (16)
- Q.9** Write algorithm for Binary search. Search a variable using binary search in following data list: (16)
- 20, 50, 80, 85, 90, 105, 110.

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