

BACHELOR OF SCIENCE (COMPUTER SCIENCE) (CBCS - 2018 COURSE)
F.Y.B.Sc.(Computer Science) Sem-I : WINTER :- 2021
SUBJECT: ELEMENTARY ALGORITHMICS

Day : Thursday
Date 3/2/2022

W-20077-2021

Time : 10:00 AM-01:00 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagrams **WHEREVER** necessary.
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Q.1 Attempt any **TWO** of the following: **(12)**

- a) Describe the insertion sort algorithm with an example.
- b) Draw and explain flowchart symbols with an example.
- c) Write a pseudo code to find LCM of two numbers.

Q.2 Attempt any **TWO** of the following: **(12)**

- a) Explain Binary Search algorithm with an example.
- b) Write an algorithm and flowchart to find given number is palindrom or not.
- c) Explain merge sort algorithm with an example.

Q.3 Attempt any **TWO** of the following: **(12)**

- a) Write a pseudo code to calculate net salary of an employee.
- b) Write an algorithm and draw flowchart for finding average of n numbers.
- c) Write a pseudo code for counting each vowel separately in the given string.

Q.4 Attempt any **THREE** of the following: **(12)**

- a) Explain features of an algorithm.
- b) Write an algorithm to find maximum number using an array.
- c) Draw a flowchart to find out even numbers and display sum of first 20 even numbers.
- d) Draw a flowchart to print first 5 terms of the Fibonacci series.

Q.5 Attempt any **FOUR** of the following: **(12)**

- a) Write an algorithm to find area of triangle and rectangle.
- b) Draw a flowchart to find simple interest.
- c) Explain structure of procedure oriented languages.
- d) Explain recursive algorithm with an example.
- e) Write an algorithm to convert degree Celsius temperature to degree Fahrenheit.
- f) Explain the features of pseudo code.

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