

F.Y. B. SC. (Computer Science) SEM – I (CBCS 2018 COURSE) :
SUMMER - 2019

SUBJECT: 3) ELEMENTARY ALGORITHMICS

Day: Tuesday
Date: 07/05/2019

Time: 03.00 PM To 06.00 PM
Max Marks. 60

S-2019-1059

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

Q.1 Answer any **TWO** of the following: **(12)**

- a) Describe bubble sort algorithm with suitable example.
- b) Write a Pseudo code and draw flowchart to check whether given number is Armstrong or not.
- c) Write an algorithm and draw flowchart to find sum of five given numbers using an array concept.

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

- a) Define Recursion. Explain an algorithm to find factorial of a number using recursion concept.
- b) Describe insertion sort algorithm with suitable example.
- c) What is a flowchart? Explain various symbols used in flowchart with suitable example.

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

- a) Write a Pseudo code for finding LCM (Least Common Multiple) of two numbers.
- b) Draw a flowchart and write an algorithm to calculate gross salary of an employee.
- c) Write a Pseudo code which counts number of vowels in given string.

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

- a) Write an algorithm and draw flowchart to find sum of first five odd numbers.
- b) Explain characteristics of an algorithm.
- c) Describe merge sort algorithm with an example.
- d) Draw a flowchart and write an algorithm to calculate the simple interest on the given amount.

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

- a) Write an algorithm to find area of circle.
- b) Draw a flowchart to calculate square and cube of a given number.
- c) Write an algorithm to find first 10 terms of Fibonacci series.
- d) Write a Pseudo code to find maximum number between two numbers.
- e) Describe program development life cycle.
- f) What is problem? Explain problem solving steps in detail.