

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER INTEGRATED M.C.A DEGREE EXAMINATION (R), DECEMBER 2022 (2020 SCHEME)

Course Code: 20IMCAT105

Course Name: Introduction to Programming

Max. Marks: 60

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

1. Define computer program. How is it different from an algorithm?
2. Differentiate data and information with an example.
3. Define Pseudo Code. Give an example.
4. Write an algorithm to swap values in two variables without using a third variable.
5. With an example, write note on *if-else* structure.
6. Draw a flowchart to find whether a number is negative, zero or positive.
7. Differentiate *while* and *for* loops with an example.
8. Write an algorithm to find the sum of squares of first N positive integers.
9. Write about one-dimensional arrays with an example.
10. Write an algorithm to find the second largest element in an array.

PART B

(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. Explain the functional units of a computer. (6)

OR

12. What is a flowchart? Explain different symbols used in flowcharts. (6)

MODULE II

13. a) What are variables? Explain the different types of variables. (3)
b) Explain about the different operators used in programming. (3)

OR

14. With an example, define an algorithm. What are the properties of an algorithm? (6)

MODULE III

15. Explain nested *If* structure with an example. (6)

OR

16. Write an algorithm to find the prime numbers between 50 and 100. (6)

MODULE IV

17. Explain the iterative control structures used in programming. Give examples. (6)

OR

18. Draw a flowchart to print the following pattern for N rows. Here N=5.

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

(6)

MODULE V

19. Write an algorithm to search an element in an array. If the element is present, print the location of the element. (6)

OR

20. Write an algorithm to split an array into two based on a subscript and append the first array portion towards the end of the second portion. (6)
