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SAINTGITS COLLEGE OF ENGINEERING
KOTTAYAM, KERALA

(AN AUTONOMOUS COLLEGE AFFILIATED TO
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER INTEGRATED M.C.A DEGREE EXAMINATION(S), JULY 2021

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. List the advantages of flowchart.
2. Draw a flowchart to find the radius of a circle.
3. What is pseudocode?
4. Design an algorithm that make the following changes.
   B=A, C=B, D=C, A=D
5. Differentiate between sequence structure and decision structure.
6. Write an algorithm to convert the temperature in Celsius to Fahrenheit.
7. Define nested loops with an example.
8. Write an algorithm to print the even numbers between 10 and 50.
9. How a subscripted variable is defined?
10. Write an algorithm to find the average of an array.

PART B

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

MODULE I

11. a) Distinguish between system flowcharts and program flowcharts. (3)

    b) List the various symbols used in flowcharts. (3)

OR

12. a) Explain the general rules for flowcharting. (3)

    b) Construct a flowchart to find the largest of given three numbers. (3)

MODULE II

13. a) Explain the different types of operators used in an algorithm. (3)

    b) Differentiate between a constant and a variable. (3)

OR

14. a) Write short notes on algorithm. Illustrate the properties of an algorithm. (3)

b) Evaluate the following expressions for R=6.0, S=4.0, T=8.0. (3)

i. R+T/S+3.5
ii. T*R+S**2
iii. R*3+(T*S)/3

MODULE III

15. Design an algorithm to find the sum of digits of a given number. Construct a flowchart to depict the actions of the algorithm. (6)

OR

16. Describe the various decision-making structures used in an algorithm with suitable examples. (6)

MODULE IV

17. Create an algorithm to compute the sum of series 1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/n. (6)

OR

18. Write the pseudocode and flowchart to calculate the sum of prime numbers between 1 and 50. (6)

MODULE V

19. Design an algorithm to find the maximum and minimum of an array. Explain with an example. (6)

OR

20. Create an algorithm and draw the flowchart to search an element from an array using sequential search. (6)

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