

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER INTEGRATED M.C.A DEGREE EXAMINATION (S), December 2021

Course Code: 20IMCAT108

Course Name: PROBLEM SOLVING AND STRUCTURED PROGRAMMING

Max. Marks: 60

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

	CO	
1. Define keyword, constant and variable.	[1]	
2. Define goto statement with an example.	[2]	
3. Write a program to read and display the elements using 1-D array.	[3]	
4. Explain the syntax of “for” loop.	[2]	
5. What is multi-dimensional array?	[3]	
6. What is the purpose of scanf() and printf() statement ?	[1]	
7. Define Structure. How a Structure is initialized?	[5]	
8. What is a function? Write the types of functions.	[4]	
9. What are the different file operations?	[5]	
10. What is meant by call-by-value?	[4]	

PART B

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

MODULE I

	CO	Marks
11. a) What is an identifier? What are the rules to construct identifier?	[1]	(3)
b) Classify the following as valid/invalid identifiers. i) num2 ii) \$num1 iii) +add iv) a_2 v) 199_space vi) _apple	[1]	(3)

OR

	CO	Marks
12. List all conditional control statements used in C. Explain any two with syntax and example.	[1]	(6)

MODULE II

	CO	Marks
13. a) Explain with syntax, if, if-else and nested if-else statements in C.	[2]	(4)
b) Write a program to check whether the person is eligible to vote.	[2]	(2)

OR

- | | CO | Marks |
|---|-----------|--------------|
| 14. List the differences between while loop and do-while loop. write a C program to find sum of natural numbers from 1 to N using for loop. | [2] | (6) |

MODULE III

- | | CO | Marks |
|---|-----------|--------------|
| 15. Define a string. Explain any 4 string library functions with syntax and example | [3] | (6) |

OR

- | | CO | Marks |
|---|-----------|--------------|
| 16. a) Illustrate multidimensional arrays with example. | [3] | (3) |
| b) Write a C program to find the largest element given in an array of elements. | [3] | (3) |

MODULE IV

- | | CO | Marks |
|---|-----------|--------------|
| 17. a) What is meant by the storage class of a variable? Compare the external and the automatic storage class variable with an example. | [4] | (2) |
| b) Write a program in C using functions to swap two numbers. | [4] | (4) |

OR

- | | CO | Marks |
|---|-----------|--------------|
| 18. a) What is structure? Explain the syntax of structure declaration with example. | [4] | (3) |
| b) Write a program using structure, to read and print the rank list of n students (Name, Roll no, 3 Marks and Total). | [4] | (3) |

MODULE V

- | | CO | Marks |
|--|-----------|--------------|
| 19. Discuss in detail, the files and file operations in C. | [5] | (6) |

OR

- | | CO | Marks |
|---|-----------|--------------|
| 20. a) What are the features of pointers? Write a C program to print address of a variable. | [5] | (4) |
| b) Explain the declaration of pointers and pointer to pointer with examples. | [5] | (2) |
