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## GIET UNIVERSITY, GUNUPUR – 765022

M. Sc. (First Semester) Examinations, March – 2023

### 22MTPC105 - Programming in C

(Mathematics)

Time: 3 hrs

Maximum: 70 Marks

**(The figures in the right hand margin indicate marks.)**

#### PART – A

**(2 x 10 = 20 Marks)**

- a. What are the different storage classes in C?
- b. What is a pointer variable?
- c. What is recursion? Explain its advantages.
- d. What are the characteristics of array in C?
- e. What is the use of typedef?
- f. What is the difference between the types int and unsigned int?
- g. What information is returned by strlen()?
- h. What is the difference between call by value and call by reference?
- i. Differentiate between a for loop and a while loop? What are its uses?
- j. What are actual and formal arguments?

#### PART – B

**(10 x 5 = 50 Marks)**

Answer ANY FIVE questions

Marks

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| 2. a. Write a c program to check whether given number is Armstrong number or not.   | 6 |
| b. Discuss the various operators available in C with the help of example.   | 4 |
| 3.a. Write a c program to find factorial of a given integer using recursive function.   | 6 |
| b. What is an array? How a single dimension and two dimension arrays are declared and initialized?  | 4 |
| 4. a. Write a c program to perform addition of two matrices.  | 6 |
| b. Differentiate between gets() and scanf() with examples.  | 4 |
| 5.a. Write a C program to define a structure for a hotel that has the member's name, address, grade, number of numbers, and room charges write a function to print the names of the hotels in a particular grade. | 6 |
| b. Explain basic data types available in C with the help of example.  | 4 |
| 6. a. Write a C program to accept 10 integers in to an array and find largest and smallest integers present in them.  | 6 |
| b. Explain with an example how an array of string is stored in main memory?   | 4 |
| 7.a. Write a C program to enter a string and find out the number of characters, integers, and symbols.  | 6 |
| b. Show how break and continue statements are used in a C-program, with example.  | 4 |
| 8. a. Write a C program to swap to the value of two variables using call by reference.  | 6 |
| b. What is a token? What are different types of tokens available in C language? Explain.  | 4 |

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