

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER I- EXAMINATION- WINTER-2022

Subject Code: 2618603**Date: 09/02/2023****Subject Name: Fundamental of Programming–I****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a)** Answer the following questions:-
- (i) Write a flowchart to find maximum among three numbers. **04**
 - (ii) Differentiate between compiler and interpreter. **03**
- (b)** Define following terms with example
- (i) Identifiers **02**
 - (ii) L-value and R-Value **02**
 - (iii) Linker and loader **03**
- Q.2 (a)** Write down algorithm or pseudo code to find whether the given number is prime or not. **07**
- (b)** Differentiate between following :
- (i) break and continue **03**
 - (ii) entry control loop and exit control loop **04**
- OR**
- (b)** Write a program to print all Armstrong numbers between 1 and 1000 using user define function (if sum of cube of individual digit of a number is equal to the number then it is called Armstrong number e.g. $153 = 1^3 + 5^3 + 3^3$). **07**
- Q.3 (a)** Compare all storage classes. **07**
- (b)** Write a recursive function to print conversion of decimal number into binary number. **07**
- OR**
- Q.3 (a)** Write a program to sort an array of n elements in ascending order using user define function. **07**
- (b)** Answer the following questions
- (i) Write down drawbacks of goto statement. **03**
 - (ii) Explain any four bitwise operator with the help of suitable example **04**
- Q.4 (a)** Explain following string functions with suitable example. **07**
- (i) strrev() (ii) strcpy() (iii) strstr()
- (b)** Answer the following questions
- (i) Differentiate between following **04**
 - (a) Typcasting and type conversion.
 - (b) Initialization of one dimensional array and two dimensional array.
 - (ii) Differentiate between function prototype, formal parameter and actual parameter. **03**

OR

- Q.4** (a) Explain various escape sequence and format Specifiers with their usage. **07**
(b) Write a program to whether the given matrix is magic matrix or not using user define function. (If sum of all the row, column and diagonal are same then it is called magic matrix.) **07**
- Q.5** (a) Write a C program to find whether the given string is palindrome or not (e.g. palindrome string: **MADAM**). **07**
(b) Answer the following questions
(i) Write down usage of sizeof,?, ^ and ~ operators. **04**
(ii) Differentiate between signed int and unsigned int. **03**
- OR**
- Q.5** (a) Write a C program to create user define function called “Delete” to remove specified string in the given string (e.g. Given String: **This is a miss**; String to be deleted: is; output: **Th a mi**) **07**
(b) Explain following terms with example.
(i) Constant **02**
(ii) keyword **02**
(iii) variable **01**
(iv) object file **02**
