

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-I • EXAMINATION – SUMMER 2016

Subject code: 610001**Date: 04-05-2016****Subject Name: Fundamentals of Programming****Time: 02.30pm to 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain various Iteration control statements. Write one appropriate example program to demonstrate working of Nested loop. **07**
- (b) What is escape sequence? Explain each escape sequence with example and state its usage. **07**

- Q.2** (a) What are C tokens? State all the tokens available in C. Explain operators in detail. **07**
- (b) Define algorithm. Explain basics and usefulness of writing algorithm. Write an algorithm for generating Fibonacci series. **07**

OR

- (b) What is a flowchart? State and explain various symbols of flowchart. Draw a flow chart to find the largest of three numbers A,B, and C. **07**

- Q.3** (a) What is an Array? Define string. Discuss two dimensional array of characters to store more than one strings. Give suitable example. **07**
- (b) Write a note on “Storage Classes” available in C. **07**

OR

- Q.3** (a) Explain following functions. **07**
- 1) printf()
 - 2) scanf()
 - 3) gets()
 - 4) puts()
- (b) Write a note on **07**
- I) getchar (), II) getch (), III) getche(), IV) putchar (),
V) putch (), VI) putche ()

- Q.4** (a) What is recursion? Explain with example. **04**
- (b) Explain call by value and call by reference with example. **05**
- (c) What is a pointer? What are the differences between pointer variable and ordinary variable? State the usage of pointer variable. **05**

OR

- Q.4** (a) Justify the significance of global and local variables by giving suitable example. **05**

- (b) Define structure and union. Differentiate between both. Give example program to demonstrate usage of both. **06**
- (c) How we can pass pointer as function argument? Give example. **03**

- Q.5** (a) State and explain various file opening modes available in C. **07**
- (b) What is command line argument? Write a program to pass two file names from command line to copy first file to second file. **07**

OR

- Q.5** (a) What is dynamic memory allocation? How it is performed in C. Explain with example. Differentiate it with static memory allocation. **07**
- (b) Explain all the preprocessor directives. **07**
