Seat No.: _____                                    Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY
## MCA Integrated - SEMESTER–I • EXAMINATION – SUMMER • 2015

**Subject Code: 4410603**                              **Date: 07-05-2015**

**Subject Name: Fundamentals of Programming - I**

**Time: 10:30 am - 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.**

**Q.1** **(a)** **Fill in the blanks**                                                                07
1. An array of character terminated by null character is called _____.
2. _____is graphical and symbolic representation of process.
3. C was developed by_____
4. Return type of function that does not have any return type is declared as _____.
5. _____data type has range  -128 to +127.
6. Function called itself is known as _____.
7. _____loop will definitely execute at least once even if condition is not satisfied.

**(b)** **State true or false**                                                                  07
1. Array is collection of mixed data type.
2. Source program is a program written in machine language.
3. Infinite loop can be prevented by continue statement.
4. A compiler translate high level language program into very high level language.
5. A function cannot return more than one value at a time.
6. PSEUDOCODE is mixture of English and programming language.
7. An assembly language referred as second generation programming language is a high level language.

**Q.2** **(a)** Explain types of files in C.                                                        07
**(b)** (i) Explain machine level language                                                         03
(ii) Explain different type specifier of printf() function.                                        04

**OR**

**(b)** (i) Explain symbols of flow chart.                                                         03
(ii) Write a short note on data types in c.                                                        04

**Q.3** **(a)** What is operator? List types of operator in C. Explain any two in detail.           07
**(b)** List out various form of looping statement. Explain syntax and flowchart of while loop.    07

**OR**

**Q.3** **(a)** Explain conditional statement ifí  else if. Write a program to input number and check number is even or odd or zero.  07
**(b)** Explain any two of following.                                                              07
(i)  Break statement  (ii) Continue statement  (iii) Goto statement

**Q.4** **(a)** (i) Write difference between call by value and call by reference.                   04
(ii) Explain purpose of global variable.                                                           03
**(b)** What function prototype, function definition and function call? Explain with example.       07

**OR**

1

**Q.4** **(a)** (i) What is recursive function? Write a program to calculate factorial of even number using recursive function. **04**

(ii) Explain purpose of block scope variable. **03**

**(b)** Explain storage class in C. **07**

**Q.5** **(a)** Explain sparse metrices. Write a program to calculate sum of diagonal element in 3x3 matrix. **07**

**(b)** What is string? Explain any three Character function in C with syntax and example. **07**

**OR**

**Q.5** **(a)** Explain declaration and initialization of one dimension array. Write a program to input n elements in array and display largest element. **07**

**(b)** Explain gets() function. Write a program to accept a string(one word) from user and display triangle. e.g. APPLE will display triangle as below. **07**

A
AP
APP
APPL
APPLE

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