Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–I • EXAMINATION – WINTER 2013

Subject Code: 610001 **Date: 20-12-2013**

Subject Name: Fundamentals of Programming

Time: 02:30 pm 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)** Do as directed.

1) What is static variable? **02**
2) What is break and continue? Where they are used? **02**
3) Explain strcmp and strcat function in short. **03**

(b) Explain the various symbol used in the flow chart. **07**

Q.2 **(a)** Explain the following operators with example. **07**

1) Bitwise OR
2) Conditional Operator
3) Post Fix Operator

(b) What is the difference between while do and do while loop? Explain with example. **07**

OR

(b) Write a programme which will count number of character and word from the given line. Programme will also find the word which occurs maximum in the given line. Input should be taken from the command line. **07**

Q.3 **(a)** What is the switch statement? Explain with diagram. **07**

(b) Write a programme to print the following output using loops. **07**

1
2 1
3 2 1
4 3 2 1
5 4 3 2 1

OR

Q.3 **(a)** What is recursion? Explain with example. **07**

(b) Write a programme to do the matrix multiplication on 3 X3 matrixes. **07**

Q.4 **(a)** What is the function? Explain various categories of the functions on the basis of the argument and return type. **07**

(b) What is the link list? Write a programme to create a singly linked list of character. **07**

OR

Q.4 **(a)** Explain malloc(), calloc(), realloc() and free(). **07**

Q.4 **(b)** Create a structure named as EMP which will store the id,name, age and salary of the employee. Create three variables of this structure. Take the data from the user and find the employee with highest salary. **07**

Q.5 **(a)** Explain fseek(), ftell() and rewind() in detail. **07**

(b) Write a programme to merge two given files in to the new file. **07**

OR

Q.5 **(a)** What is structure? What is structure inside structure? Explain. **07**

(b) What is union? How can we create union inside structure? Explain. **07**

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