Seat No.:	Enrolment No.

Subject Name: Fundamentals of Programming

Time: 02:30 pm – 05:00 pm

Instructions:

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA- Ist SEMESTER-EXAMINATION – MAY/JUNE - 2012 Subject code: 610001 Date: 29

Date: 29/05/2012

Total Marks: 70

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2.	Mal	empt all questions. ke suitable assumptions wherever necessary. ares to the right indicate full marks.	
Q.1	(a)	Define algorithm and flowchart. Explain features of good algorithm. Write an algorithm and draw the flowchart to evaluate following series. Sum = $X - X^2/_{2!} + X^3/_{3!} - X^4/_{4!} + \pm X^N/_{N!}$	07
	(b)	What do you mean by looping? Compare and Contrast the while(), dowhile() and for() loops with their flowcharts and examples.	07
Q.2	(a)	How strings are managed in C? Explain various string manipulation functions with syntax and example.	07
	(b)	Write a detailed note on the data types available in C, with their memory requirements and ranges.	07
		OR	
	(b)	Explain all the possibilities of format specifications in printf() function.	07
Q.3	(a)	What is the need of UDF? Explain various storage classes available in C.	07
Q.S	(b)	How pointer works? Explain "Array of Pointers" and "Pointer to an Array" with examples.	07
		OR	
Q.3	(a)	What is recursion? Describe the mechanism of recursion with suitable example. Write a recursive function of binary search.	07
	(b)	Explain "Function Pointers" with suitable examples.	07
Q.4	(a) (b)	Write a detailed note on Array of Structures and Nested Structures. What is file? Describe various types of files. Explain fopen() and fseek() functions in detail.	07 07
		OR	
Q.4	(a)	Write a program to enter N records of Employee (empcode, name, designation, salary), and sort these records as per employee names and print the result.	07
	(b)	Write a program to copy one file to another file using command-line arguments.	07
Q.5	(a)	Write a program to convert given Decimal value to its Hexadecimal equivalent.	07
	(b)	Write a menu-driven program to Create singly linked list, Add a node after given node, Delete a given node and Display the list. OR	07
Q.5	(a)	Write a program to evaluate the following series using Nested Recursive function, $F(x) = X - X^3/_{3!} + X^5/_{5!} - X^7/_{7!} + \pm X^N/_{N!}$	07
	(b)	What is the difference between Array and the Linked-List? Describe various operations on singly linked list using diagrams. ***********************************	07