Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA Integrated - SEMESTER–II • EXAMINATION – WINTER • 2014

Subject Code: 4420602 **Date: 02-12-2014**

Subject Name: Advanced C Programming

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) The _____ operator informs the compiler that the variable is a pointer variable.
2) The function malloc() is declared in _____ header file.
3) Structure is a _____ data type.
4) _____ permits sharing of memory among different types of data.
5) _____ function can be used to move the file marker at the beginning of the file.
6) Pointer to pointer stores _____ .
7) _____ node has zero degree.

(b) Explain function pointer by giving an example. **07**

Q.2 **(a)** **State True or False** **07**

1) Array name can be used as a pointer.
2) An array can be assigned to another array.
3) Memory is allocated for a structure only when we declare variable of the structure.
4) A union can be a member of a structure.
5) You can use file without opening it.
6) Binary files are slower than text files.
7) The preprocessor directives are only one line long.

(b) Explain the followings: **07**

a) Null Pointer
b) Void Pointer
c) Pointer to pointer

OR

(b) What is structure? Explain how to declare a structure and how can we initialize it? **07**

Q.3 **(a)** Write a program to reverse a string using pointer(s). **07**

(b) I) Differentiate between union and structure. **04**

II) Why should you close a file after it is used? **03**

OR

Q.3 **(a)** Write a program to count the number of characters and number of lines in a file. **07**

(b) How can we pass a whole structure to a function in C? Explain with example. **07**

Q.4 **(a)** Write a short note on functions used to read data from a file. **07**

(b) Explain followings by given appropriate code: **07**

I) perror()
II) clearerr()

OR

Q.4 **(a)** Why fseek() is used? Explain it with all possible argument values. **07**

(b) Explain followings: **07**

I) rename()

II) tmpfile()

Q.5 **(a)** Explain object-like macro using an example. **07**

(b) What are pragma directives? Explain in details **07**

OR

Q.5 **(a)** What is stack? Explain different operations on stack. **07**

(b) Define followings: **07**

I) Adjacent node

II) Degree of a node

III) Path

IV) Loop

V) Size of the graph

VI) Out degree of a node and In degree of a node

VII) Sink

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