DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER II [IT/EC/CE]
SUBJECT: (CT-215) C Programming - II

Examination	: Third Sessional	**Seat No.**	: _____
Date	: 19/04/2018	**Day**	: Thursday
Time	: 2:00 p.m. to 3:15 p.m.	**Max. Marks**	: 36

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed.

(a) Fill in the blanks to give statements technical meaning with respect to files: **[2]**
 (I) The mode string _____ is used to open the existing file to the beginning for both reading and writing.
 (II) The mode string _____ is used to insert data, from last point onward (if exist) otherwise create.

(b) Mention any one advantage of using files? Also, mention file operations available for random access. **[2]**

(c) Describe the purpose of following functions: feof(), ferror() **[2]**

(d) Explain from below, which one is a better practice and why? **[2]**
 #define MULTIPLY(a,b) a * b | #define MULTIPLY (a,b) ((a) * (b))

(e) What is the functional difference between below mentioned macro definitions? **[2]**
 #include <filename> | #include "filename"

(f) Debugging and testing are done to detect errors in the program. How to use control directives for debugging/testing purpose? **[2]**

Q.2 Attempt *Any TWO* of the following questions. **[12]**

(a) (I) Which functions can handle a group of mixed data simultaneously with respect to files I/O? Can the same functions also be used with standard I/O? Provide syntax about how to use them? **[3+3]**
 (II) Discuss linked list Vs Compile time (Static) array. (any three points)

(b) (I) What are command line arguments? How can they be used by a C Program, explain using code snippet. **[3+3]**
 (II) Discuss types of linked lists with pros or cons of each. (any three)

(c) Define a structure to represent node of a linked list containing age in years. **[6]**
 Provide functionality as mentioned below:
  Menu: Press 1, to create/insert linked list and store age of people who participated in the survey.
   Press 2, to display the count for categories of people:
    Total number of teenagers (13 to 19 years): _____
    Others: _____

Q.3 (a) Write a program that uses a table of integers whose size will be specified interactively at run time. Use dynamic memory allocation to create the table. Print table data into a reverse order. De-allocate memory appropriately. **[6]**

(b) **Given** a file named EVEN.DAT containing even integer numbers (binary format). **Given** another file named ODD.DAT containing odd integer numbers (binary format). Develop a program to read both type of numbers (first from even then from odd) and write to file named ALL.TXT (text format). **[6]**

OR

Q.3 (a) Write a program to store a character string in a block of memory space created by malloc and then modify the same to store a larger string. De-allocate memory appropriately. **[6]**

(b) Develop an user defined function void filecopy(FILE *destFilePointer, FILE * srcFilePointer). The 'filecopy' function copies content of source file (pointed by srcFilePointer) to destination file (pointed by destFilePointer). Also, show that how to use filecopy function in main function to copy content of "s.txt" to "d.txt". **[6]**