Enrollment No. _____

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous)
Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION APRIL – 2017

Bachelor of Computer Application / B.Sc. Information Technology

16UCACC05 /16UITCC05 - ADVANCED C AND DATA STRUCTURE

Duration of Exam – 3 hrs ***Semester – II*** ***Max. Marks – 70***

***Part A** (10x1= 10 marks)*
Answer **ALL** questions

1. A function that calls itself is known as a _____ function.
2. A variable declared inside the function is called _____.
3. Write Syntax of fopen().
4. To set a file position at a beginning which function is used?
5. _____ is also known as Sequential Search.
6. Which sorting techniques are uses divide and conquer strategy.
7. The operation of removing an element from a stack is known as _____.
8. Stack is also called FIFO. [True or False]
9. _____ node is the last node of the tree.
10. A singly linked list traverse in _____ direction.

***Part B** (5x5= 25 marks)*
Answer **ALL** questions

11a. What is Recursion? Explain it with example.

OR

11b. Explain call by reference with example.

12a. Explain fgetc() and fputc() function with example.

OR

12b. Write down different mods in file handling with their meaning.

13a. Explain bubble sort with example.

OR

13b. Write a program for insertion sort.

14a Write an algorithm to perform Insert & Delete operation on Queue.

OR

14b What is data structure? Explain primitive & non- primitive data structure.

15a Write a program that implements doubly linked list with following operations.
i) Create ii) Delete by position

OR

15b Write a program that implements singly circular linked list with following operations.
i) Insert before ii) Count

Part C (5x7= 35 marks)

Answer **ALL** questions

16a. Explain pointer to array with example.

OR

16b. What is dynamic memory allocation? Explain malloc( ) and calloc( ) in brief.

17a. Write a Program to read the content of a file and display the same on screen.

OR

17b. Explain fscanf() and fprintf() function with example.

18a. Write a program for selection sort.

OR

18b. Write a program for binary search.

19a. Write algorithm to perform Insert & Delete operation on Circular Queue.

OR

19b. Write a program to perform PUSH & POP operation on stack.

20a. Write a program of singly linked list with following operation.
i) create ii) display iii) append (Insert at last)

OR

20b. Create a binary search tree for following 10,5,1,7,6,40,30,35,20,25,8,15 and find out inorder, pre-order, and post-order.