C.U.SHAH UNIVERSITY
Summer Examination-2016

Subject Name : Advanced C & Data Structure

Subject Code : 4CS02IDS1   **Branch : B.Sc.IT.**

Semester : 2   Date : 09/05/2016   Time : 10:30 To 1:30   Marks : 70

Instructions:
1. Use of Programmable calculator & any other electronic instrument is prohibited.
2. Instructions written on main answer book are strictly to be obeyed.
3. Draw neat diagrams and figures (if necessary) at right places.
4. Assume suitable data if needed.

Q-1. Attempt the following questions: **(14)**

1. Recursion is implemented using……..
   - (a) Queue
   - (b) Stack
   - (c) Tree
   - (d) none of these

2. FIFO algorithm is followed in…………
   - (a) Stack
   - (b) Queue
   - (c) Tree
   - (d) Linklist

3. Which of the following is not type of linked list ?
   - (a) Binary
   - (b) Doubly
   - (c) Circular
   - (d) Header

4. In which case the malloc() or calloc() will return NULL ?
   - (a) Memory overflow
   - (b) memory underflow
   - (c) Memory reallocation
   - (d) none of these

5. The process of arranging data in logical order is called…….
   - (a) Sorting
   - (b) searching
   - (c) Organization
   - (d) none

6. There are ………….. types of files available.
   (a) 2   (b) 3
   (c) 4   (d) 7

7. If we have a pointer declare as double *p; then p will occupy……………..Bytes
   (a) 8   (b) 4
   (c) 2   (d) 10

8. Two dimensional arrays are also called?
   (a) table array   (b) Matrix array
   (c) Both a and b   (d) none

9. Which of the following data structures is non-linear type?
   (a) Strings   (b) Lists
   (c) Stacks   (d) none

10. Which of the following sorting algorithms is divided of conquer type?
    (a) Bubble sort   (b) Insertion sort
    (c) Quick sort   (d) All of Above

11. An algorithm that calls itself directly or indirectly is known as……………
    (a) sub algorithm   (b) recursion
    (c) publish notation   (d) traversal

12. ………. Function is used to get the position of file pointer.
    (a) fseek()   (b) fopen()
    (c) ftell()   (d) fclosed()

13. Which of the following name does not relate of stack?
    (a) FIFO List   (b) LIFO List
    (c) Files   (d) Push down

14. Free() is used to ……………..
    (a) Stack   (b) Heap
    (c) Permanent Memory   (d) release memory

Attempt any four questions from Q-2 to Q-8

Q-2. Attempt all questions.

    a)   Explain Binary search with example.   (07)

    b)   Explain insertion sort in details.   (07)

Q-3. Attempt all questions.

    a)   Explain Bubble sort with example.   (07)

    b)   Explain Linear search.   (07)

Q-4. Attempt all questions.

    a)   Explain deletion process of node from doubly linked list.   (07)

    b)   Explain stack with push & pop operations.   (07)

Q-5. Attempt all questions.

    a)   Explain doubly linked list with insert operation.   (07)

    b)   Explain Linear and non-linear data structure.   (07)

Q-6. Attempt all questions.

    a)   Explain Queue with insert and delete operations.   (07)

    b)   What is graph? Explain adjacency matrix in details.   (07)

Q-7. Attempt all questions.

    a)   Write a C program of binary tree with any Post traversal method. (07)

    b)   Write a C Program of merge sort.   (07)

Q-8. Attempt all questions.

    a)   Write a C program of Quick search.   (07)

    b)   Write a C Program to create and display doubly linked list.   (07)