B. C. A. (Sem. - II) (CBCS) Examination

April / May – 2015

CS - 7 : Advanced C & Data Structure

(Old)

Faculty Code : 003
Subject Code : 003201

Time : $2\frac{1}{2}$ Hours]   [Total Marks :70

Q. 1 MCQ Answer the following questions: **20**

1) When we create pointer to structure, _____ operator is useful to access member variable of structure.

   (A) *   (B) ->

   (C) .   (D) &

2) Give the output of following instructions.
   int i=8,*j=&i; *j=9; printf("i = %d", i);

   (A) i = 8   (B) j = 9

   (C) i = 9   (D) i = 0

3) Which one does not follow divide and conquer technique for algorithm.

   (A) Quick Sort   (B) Merge Sort

   (C) Insertion Sort   (D) None of these

4) In which memory area our dynamically allocated variable will be stored.

   (A) Stack   (B) Permanent storage area

   (C) Heap   (D) None of these

5) To insert element at start, the previous pointer of newly added node would point to ___

   (A) NULL   (B) Next

   (C) New Node   (D) Head Node

6) Which is the correct type to allocate array to hold 10 elements?

   (A) int *ptr=(int *)malloc(10,sizeof(int))   (B) int *ptr=(int *)calloc(10,sizeof(int))

   (C) int *ptr=(int *)calloc(10*sizeof(int))   (D) None of these

7) When the push operation is performed on stack the value of TOS will be _____

   (A) Decrement   (B) Increment

   (C) one   (D) None of these

8) To set a file position at a beginning which function is used?

   (A) rewind()   (B) ftell()

   (C) fread()   (D) read()

9) A double linked list contains reference to _____
(A) Previous Node (B) Next Node
(C) Current Node (D) Both (A) & (B)

10) _____ is also known as Recursive Sort.
(A) Binary sort (B) Insertion sort
(C) Quick sort (D) Merge sort

11) Data structures that are created by user as per their requirement are known as _____
(A) Primitive Data structure (B) Non-primitive data structure
(C) Both A & B (D) None of these

12) Which sort is also known as comparison sort?
(A) Bubble sort (B) Merge sort
(C) Insertion sort (D) Selection sort

13) To set a position at a desired place which function is used?
(A) ftell() (B) fseek()
(C) ftrim() (D) seek()

14) If we have a pointer declared as double *p then p will occupy _____ bytes.
(A) 8 (B) 10
(C) 4 (D) 2

15) In tree construction which is the suitable efficient data structure?
(A) Linked List (B) Stack
(C) Array (D) Queue

16) In linked list implementation, a node carries information regarding
(A) The Data (B) The Link
(C) Both (A) & (B) (D) None of these

17) Which of the following data structure is linear type?
(A) Strings (B) Stack
(C) Queue (D) All of these

18) _____ node is the last/bottom node of the tree.
(A) Parent (B) Leaf
(C) Inner (D) Root

19) The degree of a node in a binary tree can be
(A) Maximum two (B) two
(C) one (D) three

20) _____ searching technique works by finding elements in a particular direction.
(A) Binary Search (B) Sequential Search
(C) Linear search (D) Both (A) & (B)

Que. 2 (a) Attempt any three   06

1) What is sorting? List out various sorting techniques.

2) Explain : fwrite()

3) Explain : fgets()

4) Explain pointer with suitable example.

5) Explain : fgetc()

6) Explain : fread()

(b) Attempt any three   09

1) Explain pointer to array with appropriate example.

2) Write a program that delete an element from simple queue.

3) differentiate: Text file Vs. Binary file

4) Write an algorithm that implements insert operation of simple queue.

5) Write push() and pop() operation of stack.

6) Explain call by reference with example.

(c) Attempt any two   10

1) Write a program for Quick Sort.

2) Write a program to copy one file to another file using command line arguments.

3) What is data structure? Explain primitive and non primitive data structure.

4) Write a program for doubly link list which perform create(), append() and display() operations.

5) Write a program for circular queue.

Que. 3 (a) Explain any three function   06

1) Explain : fseek()

2) Explain : fopen() and fclose()

3) Explain storage structure of array.

4) Exaplain : fprintf()

5) Explain : malloc() and free()

6) Explain application of stack.

(b) Attempt any three   09

1) Write a program for linear search.

2) Explain array as function argument with example.

3) Explain structure as function arguments with example.

4) Write a program for bubble sort.

5) Explain recursion with suitable example.

6) Differentiate :Static array Vs. Dynamic array.

(c) Attempt any two   10

1) Write a program for singly circular link list which perform insert_before(), create() and count() operations.

2) Write a program for insertion sort.

3) Explain merge sort with example program.

4) Write a program of tree with insert(), inorder(),preorder() and postorder().

5) Write a program for singly link list which perform insert_after(), delete_by_value() and modify() operations.