MODEL QUESTION PAPER

DSCO2

III Semester DIPLOMA Examination, August 2011
C AND DATA STRUCTURES

Time: 3 Hours   Max. Marks: 75

GROUP A : Answer any three questions.

Q.1   List different searching and sorting techniques?
Q.2   Define structure and union. Explain with example. What is the difference between structure and union?
Q.3   Explain linear data structure.
Q.4   Explain file as a data structure.
Q.5   Define Function. Explain Function with example.

GROUP B : Answer any three questions.

Q.6   Write a program in C to implement Depth first search using linked representation of graph.
Q.7   What is pointer? Explain in brief.
Q.8   Explain tree. Give and discuss types of splay tree.
Q.9   Explain Stack? And describe different operations used in stack with suitable example.
Q.10   What are different types of link list? Explain each in brief.

GROUP C: All Questions are Compulsory.

Q.11 Fill in the blanks

(i)   Stack is _____ memory.
(ii)   Dynamic memory gets allocated to particular variable during the time of program _____.
(iii)   First element of array always starts from _____ index.
(iv)   _____ is queue.
(v)   A character of array is called _____.

Q.12 Multiple choice question.

(i)   Best case time complexity of binary search is _____.
        (a) O (n*n)   (b) O (n)
        (c) O (1)   (d) None of these

(ii)   Dynamic memory of allocated during _____.
        (a) Compilation   (b) Execution
        (c) Loading   (d) Program writin

(iii)   Linked lists are best suitable _____.
          (a) Dynamic data storage   (b) Compile time data storage
          (c) For both of above situation   (d) for none of above
(iv)   A data structure in which elements are added and removed only at one end is
          known as _____.
          (a) Queue   (b) Stack
          (c) Array   (d) None of above
(v)   Which of the following is not the required condition for binary search
          algorithm?
          (a) The list must be sorted.
          (b) There should be the direct access to the middle element in any sub list.
          (c) There must be mechanism to delete and/or insert elements in list.
          (d) None of above.

Q.13 True or false

(i)   Free is used for exception handling.
(ii)   Structure is object.
(iii)   Time complexity of linear search in worst case in O (n).
(iv)   Stack works on FIFO principle.
(v)   Root node of a tree always has in degree 0.

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