

01755

**DIPLOMA-VIEP-COMPUTER SCIENCE  
ENGINEERING - II (DCSVI)/ADVANCED  
LEVEL CERTIFICATE COURSE IN CSE  
(ACCSVI)**

**Term-End Examination**

**June, 2012**

**OICS-001 : DATA STRUCTURES AND FILES**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Question No. 1 is compulsory. Attempt any four questions from the remaining. All questions carry equal marks.*

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**1. Choose the correct answer :**

- (a) A function is a \_\_\_\_\_ 2  
(i) Self contained block of statements  
(ii) Set of programs  
(iii) a Algorithm  
(iv) None of the above
- (b) A function which call itself, called main 2  
function.  
(i) True (ii) False
- (c) All the elements stored in a stack are : 2  
(i) in FIFO Manner  
(ii) in LIFO manner  
(iii) Both  
(iv) None

- (d) In binary search the data is in : 2  
 (i) Sorted form (ii) Unsorted form  
 (iii) Mixed (iv) None
- (e) Array is a collection of : 2  
 (i) Similar data elements  
 (ii) Different data elements  
 (iii) Integer data elements only  
 (iv) None
- (f) Quick sort is better than merge sort 2  
 (i) True (ii) False
- (g) Pointers are used to hold the address of another variable 2  
 (i) True (ii) False
2. (a) Write and explain binary search algorithm with the help of example. 8  
 (b) Write a program to swap two number using pointer. 6
3. (a) Differentiate the random access and sequential files. 7  
 (b) What is file ? What are the various types of file ? Explain various file opening modes. 7
4. (a) Write a C program to sort the following data - 7  
 20, 12, 10, 25, 30, 29, 40,  
 (b) Write a algorithm to count number of nodes in a binary tree. 7

5. (a) What is link list ? Write a C program to create a link list. 7
- (b) What are the various advantages of using stack. Write a C program to insert a element in a stack. 7
6. (a) What is array ? How vector is different from multidimensional array ? Explain by a giving a suitable example. 7
- (b) How bubble sort differs from quick sort ? Explain with example. 7
7. (a) Write and explain Depth - first algorithm with the help of example. 7
- (b) Write a C program to count number of lines in a file. 7
8. Write short notes on (*any four*) : 3.5x4=14
- (a) Queue
- (b) Doubly Link List
- (c) Record
- (d) AVL Tree
- (e) Circular Link List
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