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OICS-001

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

Term-End Examination

December, 2012

OICS-001 : DATA STRUCTURES AND FILES

Time : 2 hours *Maximum Marks : 70*

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

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1. Choose the correct choice :

(a) An AVL tree is balanced tree **2**

(i) True (ii) False

(b) Vector is a one dimensional array : **2**

(i) True (ii) False

(c) Insertion sort is better than selection sort. **2**

(i) True (ii) False

(d) File is a collection of : **2**

(i) related records

(ii) related database

(iii) Both

(iv) None

(e) What is the efficiency of quick sort algorithm : 2

(i) O (n log n)

(ii) O (n^2 log n)

(iii) O (n log n^2)

(iv) O (n log n^3)

(f) Scope of a variable refers to : 2

(i) Life time of variable

(ii) Visibility of variable

(iii) Both

(iv) None

(g) An algorithm is a : 2

(i) Set of programs

(ii) Computational Steps

(iii) Both

(iv) None

2. (a) Write insertion sort algorithm and explain it with the help of example. 7

(b) What is array ? Draw a memory allocation chart to store a matrix. Also explain it. 7

3. (a) What is record ? How a record is differ from a file ? Explain. 7

(b) Write a C program to pop a element from a stack. 7

4. (a) Write a C program to delete a node from a Link List. 7

(b) How Link List is differ from array on the basis of Memory allocation ? Explain by giving a suitable example. 7

5. (a) Write a algorithm to evaluate the postfix expression. Also explain it. 7

(b) What is hashing ? How can resolve hash clashes by open address ? 7

6. (a) Write and explain the algorithm for minimum spanning tree. 7

(b) Write a C program to display all the records of a file. 7

7. (a) How binary search is differ from linear search ? Explain with example. 7

(b) Explain various parameter passing techniques. 7

8. Write short notes on *(Any four)* **3.5x4=14**

(a) Multidimensional Array

(b) Binary search tree

(c) Selection sort

(d) STACK

(e) Queue

(f) Recursion