BCG-2358    Seat No.________

M. Sc. (CA & IT) (Sem. III) Examination
April / May - 2014

303 : Introduction to Algorithm

Time : 3 Hours] [Total Marks : 70

1 Answer the following questions. (Any two) 14

1 What is Algorithm? Explain Basic Efficiency Classes in detail.

2 What is flowchart? Describe various symbols used in the flowchart with example.

3 What is Array? Explain difference between Array, structure and Union.

2 Answer the following questions. (Any two) 14

1 Explain mathematical analysis of recursive algorithm with example.

2 Write an algorithm to find Fibonacci Numbers of a given number using recursive algorithm.

3 Describe the concept: Empirical analysis of algorithm? Write a short note on Algorithm Visualization.

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3 Answer the following questions. (Any two)

1. What is searching? Explain Binary Search Techniques with example.
2. What is sorting? Discuss the difference between Bubble Sort and Selection Sort.

4 Answer the following questions. (Any two)

1. What is Data Structure? Describe Simple, Linear and Non Linear Data structure in detail.
2. Explain Stack with example. Also write various Real Time Application of stack.
3. What is Queue? Write an algorithm for insert and delete operation of Queue.

5 Answer the following questions. (Any two)

1. What is pointer? Discuss Pointer to array and array of pointer with example.
2. Differentiate Double and Circular Queue. Write an algorithm to various operation of Stack.
3. Trace the Quick Sort Algorithm for the following list of numbers.

5 3 1 9 8 2 4 7