BCG-2358-R

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.
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.
3 Explain Merge Sort? Write an algorithm for Radix 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