



BCG-2358-R 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.

- 3 Answer the following questions. (Any two) **14**
- 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) **14**
- 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) **14**
- 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
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