Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

BMCI (2014 & Onwards) (Sem.–3)

DATA STRUCTURES

Subject Code : BSBC-302

M.Code : 72583

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTIONA

1. Answer briefly :

a) What is Garbage collection?

b) What is linear search?

c) Write a recursive definition for generating a Fibonacci number.

d) What is Big-O notation?

e) What do you mean by sorting?

f) Write any four applications of trees.

g) What is difference between Stacks and Queues.

h) Difference between FIFO and LIFO.

i) Write chacterstics of algorithm.

j) What is recursion?

SECTION-B

2. Explain Linked List with help of an example.

3. Discuss traversal operation on binary tree: A) Preorder B) Postorder C) Inorder

4. Write the algorithm to sort a list using Selection sort and also discuss the complexity.

5. What is Garbage collection? Write down different advantages and disadvantages of garbage collection.

6. Define stack. Write down steps to insert and delete elements from a stack.

SECTION-C

7. What is data structure and explain its different classification with example?

8. What are the different steps of Big O notation and time trade off?

9. Explain Trees. How trees are sorted in memory?