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.

SECTION-A

1. Answer briefly :

a) What is Big-O notation?

b) What do you mean by sorting?

c) What is space time trade-off?

d) Write characteristics of algorithm.

e) What is recursion?

f) Define advantages of circular queues.

g) What is data structure?

h) Define doubly linked lists.

i) What is difference between underflow and overflow?

j) Describe linear and non-linear data structure.

SECTION-B

2. Explain Stack. Write down steps to insert and delete elements from a stack.

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

4. What are the different types of data structure available and what are the points to be considered before choosing a data structure.

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

6. Define queue. How insertion and deletion operations are performed over a queue? Explain.

SECTION-C

7. What is recursion ? Explain in detail with example.

8. Write notes on :

   a) Linked List

   b) Bubble Sort

   c) Linear Search

9. What is a binary tree? Discuss the tree traversal approaches.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student..