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Total No. of Pages : 02

Total No. of Questions : 16

BCA (2014 to 2018) (Sem.-3)

**DATA STRUCTURES**

Subject Code : BSBC-302

M.Code : 10058

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 **SIX** questions carrying **TEN** marks each and students have to attempt any **FOUR** questions.

**SECTION-A****Answer briefly :**

1. Define Big O notation.
2. What is meant by an array?
3. Name any two operations performed on stacks.
4. List two benefits of linked lists over array.
5. What is meant by record?
6. Name the complexity of binary search.
7. Define Polish notation.
8. What is Recursion?
9. What is meant by binary tree?
10. Comment on dynamic storage management.

**SECTION-B**

11. a) What is meant by problem analysis? Explain.  
b) Explain the term “Time Space Trade-off”.
12. a) Discuss the steps for linear search algorithm.  
b) Write an algorithm for insertion sort.
13. What is meant by stack data structure? Write a C program to demonstrate Push and Pop operations.
14. Explain the concept of recursion by taking some suitable examples.
15. a) Discuss the insertion and deletion for circular linked list.  
b) What are priority queues? Explain.
16. a) Explain the inorder traversal of binary tree.  
b) Discuss different applications of tree data structures.

**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.**