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

Total No. of Questions : 07

BCA (2013 & Onward)   (Sem.–3)
DATA STRUCTURES
Subject Code : BSBC-302
M.Code : 10058

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION 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 a student has to attempt any FOUR questions.**

SECTION-A

Q1   **Answer briefly :**

a) What is algorithm analysis in data structure?

b) What is pointer, give example?

c) Write about sectors in storage devices.

d) How time complexity of an algorithm is computed?

e) What is generalized list in data structure?

f) What is the purpose of garbage collection?

g) Write advantages of circular queues.

h) What is the concept of recursion?

i) How does bubble sort work?

j) Give some applications of stack.

SECTION-B

Q2   How queues are represented in memory? Write their applications.

Q3   Discuss the steps of Big O notation and time trade off.

Q4   What is Stack? Why it is known as LIFO? Write an algorithm using PUSH and POP.

Q5   What do you mean by Link list? Write an algorithm to insert a node in Singly Linked List.

Q6   Explain Inorder, Preorder and Postorder Traversal operation on Binary tree with example.

Q7   How does a linear search algorithm work? Give the syntax by taking an example.

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.