



**Biyani Girls College**  
**Mid Term Examination 2025-26**  
**BCA III Sem.**

**Subject- Data Structures and Algorithms (BCA-63T-201)**

**Time: 3 Hrs.**

**MM: 80**

**[I]Very short answer questions.**

**(10 \* 2 = 20)**

- Q1. What do you mean by Algorithm?
- Q2. What do you mean by siblings?
- Q3. What do you mean by Data Structure?
- Q4. What do you mean by DEQUE?
- Q5. List name of linear data structures.
- Q6. What are efficiency measures of an algorithm?
- Q7. Write name of matrices by which we can represent a graph?
- Q8. Find number of maximum nodes in a binary tree up to level number 8?
- Q9. What do you mean by transitive closure of a graph?
- Q10. Solve the expression:  $a \ b \ c \ * \ + \ d \ e \ / \ f \ \% \ -$  (a=4, b=5, c=2, d=6, e=4, f=3)

**[II]Long questions.**

**(4 \* 15 = 60)**

- Q1. What do you mean by Stack? Explain Stack operations with algorithms. Also explain both Graph traversal methods with an example.
- Q2. What do you mean by Circular Queue? Explain operations on Circular Queue with Algorithm.
- Q3. Explain single source shortest path problem with suitable example and also write Algorithm for it.
- Q4. What do you mean by Binary Search Tree. Explain with examples. Draw a BST for 4,7,9,1,2,9,4,0,8,7,4,6,7. Also write search and insertion algorithms for binary search tree.