**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

## Summer Examination (Supplementary) – 2023

**Course: B. Tech.    Branch: Electronics & Computer Engg./Electronics & Computer Science Engg.**

**Semester: III**

**Subject Code & Name: (BTECPC303) Programming, Data Structure & Algorithm Using C**

**Max Marks: 60**          **Date:14/08/2023**          **Duration: 3  Hr.**

*Instructions to the Students:*
1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) onwhich the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

|  |  | Marks |
|---|---|---|
| **Q.1: Solve Any Two of the following.** | | **12** |
| | | |
| **A.** | **Define Data Structure & Explain its types.** | **6** |
| **B.** | **Explain different operations on Data structure.** | **6** |
| **C.** | **What is Linked List & types?** | **6** |
| | | |
| **Q.2: Solve Any Two of the following.** | | **12** |
| | | |
| **A.** | **Explain Stack & it's representation.** | **6** |
| **B.** | **What are the operations of Stack?** | **6** |
| **C.** | **Applications of Stack.** | **6** |
| | | |
| **Q.3: Solve Any Two of the following.** | | **12** |
| | | |
| **A.** | **Describe Queue & it's types.** | **6** |
| **B.** | **Explain Queue Operations.** | **6** |
| **C.** | **Define tree and its terminologies.** | **6** |
| | | |
| **Q.4: Solve Any Two of the following.** | | **12** |
| | | |
| **A.** | **Explain Binary Tree traversal.** | **6** |
| **B.** | **Write Binary Tree Properties.** | **6** |
| **C.** | **Define Graph & it's Five Types.** | **6** |
| | | |
| **Q.5: Solve Any Two of the following.** | | **12** |
| | | |
| **A.** | **Explain Adjacency Matrix.** | **6** |
| **B.** | **Describe Algorithm Analysis.** | **6** |
| **C.** | **Explain Algorithm Complexity.** | **6** |