

**J.C. Bose University of Science and Technology, YMCA Faridabad**

**Subject: Programming for Problem Solving (PPS 2<sup>nd</sup> Sessional)**

**B.Tech. 2<sup>nd</sup> Sem (M21 & M22)**

**Max. Marks: 30**

**Time: 90 mins**

**All Questions are compulsory.**

Q1. Differentiate between 1-D & 2-D array. Write a C program to sort  $n$  elements using bubble sort. **CO3 (5)**

Q2. Differentiate between call by value and call by reference with the help of a suitable example. **CO4 (5)**

Q3. Define recursion. Write a C program to find factorial of a number using recursion. **CO3 (5)**

Q4. Define dereference pointer in C with example. Also, write a C program for self-referential structures with multiple links by using pointers in C. **CO5(5)**

Q5. Differentiate between arrays & structures. Write a program for storing students record with three fields (name, roll number, marks) using array of structures in C. **CO5 (5)**

Q6. Write a C program for 2-D matrix multiplication in C. **CO6 (5)**

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