**ST.JOSEPH’S UNIVERSITY, BENGALURU -27**

**M.Sc. BOTANY – II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2023**

**(Examination conducted in May 2023)**

**BO 8422 – Tools and Techniques in Plant Sciences**

**Time: 2 Hours Max Marks: 50**

**This paper contains 1 printed page and 3 parts**

**Draw labelled diagrams and give examples where required**

**Part A**

**Answer Any Five of Following Questions 2 x 5 = 10 Marks**

1. Numerical aperture
2. Ocular lens
3. Ionic bonds
4. Bioluminescence
5. Cryopreservation
6. Freeze etching
7. Bragg’s law

**Part B**

**Answer Any Five of Following Questions 6 x 5 = 30 Marks**

1. Nanotechnology
2. Classification of colloids
3. Phase Contrast Microscope
4. Describe any three types of microtomes
5. Instrumentation of Infra-Red Spectrophotometry
6. Types of Paper Chromatography
7. Types of Centrifugation Techniques

**Part C**

**Answer Any One of Following Questions 10 x 1 = 10 Marks**

1. Principle, Procedure and Instrumentation of 2D SDS-PAGE (Isoelectric focusing)
2. Principle, Instrumentation and Applications of TEM