

This question paper contains 2 printed pages]

**WT—60—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**M.Sc. (First Year) (Second Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**BOTANY**

**Paper VI**

**(Bioinstrumentation and Methods in Biology)**

**(Wednesday, 11-12-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :— (i) Attempt all questions.*

*(ii) All questions carry equal marks.*

*(iii) Illustrate your answers with suitable diagram, scheme etc.*

1. Describe working and application of scanning and transmission electron microscope.

*Or*

Describe working and application of Microtomy.

2. Describe the principles, working and applications of Autoclave and Incubator.

*Or*

Describe the principle and applications of Thin layer chromatography.

P.T.O.

3. Describe the principles and techniques of Atomic absorption spectrometry.

*Or*

Describe the effect of radiations on biological systems and uses of radioisotopes in life sciences and biotechnology.

4. Describe the method of southern and northern blotting techniques. Add a note on applications in life sciences.

*Or*

Describe the principle and applications of cooling and ultracentrifuge.

5. Write short notes on (any *three*) :

- (i) Simple microscope
- (ii) Sterilization by filtration
- (iii) Half life of isotopes
- (iv) RAPD techniques.