

D 131299

(Pages : 2)

Name.....

Reg. No.....

**FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2025**

(CBCSS)

Forensic Science

FSC 1C 03—INSTRUMENTAL TECHNIQUES

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

I. Answer any *four* of the following. Short Answer Type Questions. Weightage 2 :

- 1 Write a note on interaction of Electromagnetic Rays with matter.
- 2 Give a brief on molecular vibrations.
- 3 What are electron multipliers ?
- 4 Give the principle of Size Exclusion Chromatography.
- 5 Give the structure of Polarizing Microscope.
- 6 Give any *two* applications of X-Ray Spectroscopy.
- 7 Write any *two* samples amenable to be examined by Stereoscopic Microscope.

(4 × 2 = 8 weightage)

II. Answer any *four* of the following. Short Essay Type Questions. Weightage 3 :

- 8 What are Instrumentational Internal Standards ? Why are they important in a laboratory ?
- 9 Write the applications of Atomic Fluorescence Spectrometry.
- 10 Elucidate on the theory of Mass Spectroscopy.
- 11 Write a note on Horizontal Electrophoreses.
- 12 Give a brief on the importance of pH and buffers in biochemical analysis.
- 13 Give the differences of magnification and resolution in microscopy.
- 14 What are the applications of IR Microscopy ?

(4 × 3 = 12 weightage)

Turn over

III. Answer any *two* of the following. Long Essay Type Questions. Weightage 5 :

- 15 Describe the instrumentation and application of Ultraviolet Visible Spectroscopy ?
- 16 Elucidate on the instrumentation of FT-Raman Spectroscopy. Add a note on the samples amenable for testing using it.
- 17 Write a note on GC-MS-MS (Tandem) technique as a revolutionary tool in forensic analysis.
- 18 Give the instrumentation and application of Transmission Electron Microscopy.

(2 × 5 = 10 weightage)