

D 114569

(Pages : 2)

Name.....

Reg. No.....

**FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)  
EXAMINATION, NOVEMBER 2024**

(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 quantum mechanical properties of Electromagnetic radiations.
- 2 What are the different sources of IR radiation ?
- 3 Discuss different applications of X-Ray spectroscopy.
- 4 Give different types of Chromatography.
- 5 What is LC-MS.
- 6 Define Isoelectric focusing.
- 7 Describe the working of polarizing microscope.

(4 × 2 = 8 weightage)

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

- 8 What are the different factors affecting Electrophoresis ?
- 9 Differentiate between Horizontal and Vertical Electrophoresis.
- 10 Explain the working of Inductively coupled plasma-Mass Spectroscopy.
- 11 Discuss the general principle of Electrophoresis.
- 12 Write a note on Preparative Centrifugation.
- 13 Describe the working of High-Performance Liquid Chromatography.
- 14 Explain the working of Fluorescence microscopy.

(4 × 3 = 12 weightage)

**Turn over**

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

- 15 Differentiate between SEM and TEM.
- 16 Explain the working and applications of Raman spectroscopy.
- 17 Write a note on forensic applications of Chromatography.
- 18 Explain the instrumentation of UV-Visible spectroscopy using block diagram.

(2 × 5 = 10 weightage)