

S.No. 5400

19 SCCFS 6

(For candidates admitted from 2019-2020 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Forensic Science — Major

INSTRUMENTATION

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. Define phosphorescence.
2. What do you mean by electromagnetic radiation?
3. Write the principle of SEM.
4. Write the forensic application of comparison microscope.
5. Define Lambert's Law.
6. Draw the ray diagram of UV spectroscopy.
7. Write the principle of TLC.
8. What are the applications of HPLC?

9. What do you mean by cross-over electrophoresis?
10. What is horizontal and vertical electrophoresis?

PART B — ($5 \times 5 = 25$)

Answer ALL questions choosing either (a) or (b).

11. (a) Write a detailed note on transition of electrons in atom.

Or

- (b) Write a note on centrifuge.

12. (a) Write working and principle of dark field microscope.

Or

- (b) Write a note on polarized light microscope.

13. (a) Write the principle and application of Raman Spectroscopy.

Or

- (b) Write the forensic applications of X-Ray spectroscopy.

14. (a) Write the working of column chromatography.

Or

- (b) Write the principle and working of Liquid chromatography.

15. (a) Write the forensic applications of electrophoresis.

Or

- (b) Write the principle and working of Capillary Electrophoresis.

PART C — ($3 \times 10 = 30$)

Answer any THREE out of five questions.

16. Write the forensic application of Microscopy.

17. Write a note on sample preparation and forensic application of comparison microscope.

18. Write the principle and working of FTIR.

19. Write the principle and working of GC-MS with diagram.

20. Write a note on SDS PAGE.