

S.No. 5091

16 SMBEBT 1

(For candidates admitted from 2016–2017 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Biotechnology — Major Based Elective

BIOINSTRUMENTS

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

Define the following :

1. pH
2. Radioactive half life
3. Confocal microscopy
4. TEM
5. Spectral line.
6. Resonance.
7. Analyte

8. Differential centrifugation

9. SDS in Electrophoresis

10. Isoelectrofocusing

PART B — ($5 \times 5 = 25$)

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

11. (a) Discuss the working mechanism of ECG.

Or

(b) Explain the principle and applications of the pH meter.

12. (a) Write about the features of light microscopy and its applications.

Or

(b) Describe about fluorescent microscope and its applications.

13. (a) Write a short note on ELISA method in disease diagnosis.

Or

(b) Sketch an outline on the principle of UV visible spectrometer.

14. (a) Write a brief essay on HPLC.

Or

(b) Explain about the density gradient centrifugation.

15. (a) Discuss isotachopheresis and its importance.

Or

(b) Outline about the native gel electrophoresis.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Explain in detail about the polarography.

17. Enumerate the principle, instrumentation and applications of TEM.

18. Explain the flame photometer and its applications in detail.

19. Enumerate column chromatography and its importance

20. Discuss the principle, instrumentation and applications of MALDI-TOF.