

S.No. 5086

16 SACBT 2

(For candidates admitted from 2016-2017 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Allied

APPLIED BIOCHEMISTRY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What is ultracentrifuge? Mention its two types.
2. Define sedimentation equilibrium.
3. List out some applications of paper chromatography.
4. What is the full form of HPTLC and its basic principle?
5. What is the principle behind electrophoresis technique?
6. Mention the uses of 2D-gel electrophoresis.
7. What do you mean by optical rotatory dispersion?

8. List out the components of flame photometry.
9. Define miller indices. Represent with crystallographic structure.
10. What are the applications of X-ray crystallography?

PART B — ($5 \times 5 = 25$)

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

11. (a) Write the basic principles of centrifugation.
Or
(b) Explain density gradient centrifugation and its types in detail.

12. (a) Explain the principle and working procedure of TLC technique.

Or

- (b) Write the techniques involved in gel permeation chromatography.

13. (a) Give a brief note on agarose gel electrophoresis.

Or

- (b) Explain the methodology of SDS-PAGE.

14. (a) Write any five applications of UV-visible spectroscopy.

Or

- (b) Explain the principle behind ESR with block diagram.

15. (a) Give a detailed account on X-ray crystallography instrumentation.

Or

- (b) Explain the concept of rotating crystal method.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Elaborate analytical and preparative centrifugation.

17. Explain the principle, working and uses of affinity chromatography.

18. Discuss PAGE in detail.

19. Give a detailed account on principle and instrumentation of NMR.

20. Explain the concept of different crystal structure.