APRIL 2018 **1709322/UBYM53A**

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer any TEN questions.

Each questions carries 2 marks.

1. Define pH.

2. What is meant by tonicity?

3. Define RCF.

4. Differentiate between preparative and analytical centrifugation.

5. Give the principle of partition chromatography.

6. Define chromatography.

7. Name few common buffers used in electrophoresis.

8. What are the advantages of cellulose acetate electrophoresis?

9. What is molar extinction coefficient?

10. Differentiate between spectrophotometer and colorimeter.

11. Write the structure of double beam spectrophotometer.

12. List the different types of rotors used in centrifugation techniques.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each questions carries 5 marks.

13. Define buffer. Explain bicarbonate buffer system.

14. What is density gradient centrifugation? Explain rate zonal centrifugation.

15. Give an account on the principle and applications of affinity chromatography.

16. How is the concentration of antigen determined by rocket immunoelectrophoresis?

17. Explain the basic principles of electromagnetic radiation.

18. Comment on the various factors that affect electrophoretic mobility.

19. Explain the principle, procedure of ISO electric focusing.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

Each questions carries 10 marks.

20. Explain a glass electrode and how is it employed to determine pH.

21. Explain the major components of analytical ultracentrifuge. Add a note on the molecular weight determination by sedimentation velocity method.

22. Discuss in detail the principle and procedure involved in column chromatography.

23. Explain SDS-PAGE with special reference to protein molecular weight determination.

24. Discuss the applications of flame photometry in the determination of trace elements.

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