II B.Sc .,BIOCHEMISTRY AND

ALLIED BIOCHEMISTRY

S.NO	SEMESTER	ODD/ EVEN	TITLE OF THE PAPER
1	III	ODD	ANALYTICAL BIOCHEMISTRY
2	III	ODD	SKILL BASED – MEDICAL LABORATORY TECHNOLOGY – I
3	III	ODD	NON MAJOR – DIAGNOSTIC BIOCHEMISTRY-I
4	IV	EVEN	ANALYTICAL BIOCHEMISTRY AND COMPUTER APPLICATIONS
5	IV	EVEN	SKILL BASED – MEDICAL LABORATORY TECHNOLOGY – II
6	IV	EVEN	NON MAJOR – DIAGNOSTIC BIOCHEMISTRY II
7	IV	ODD	ALLIED – BIOCHEMISTRY (II B.Sc FOODS AND NUTRITION)

D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1.

II B.Sc Biochemistry

Semester : III

Tile of the paper: Analytical Biochemistry

Subject Code : 15CBC3A

SECTION-A 2-Marks

1. Define Normality?
2. Define Molality?
3. Define Molarity?
4. Define Milliosmol?
5. Define Ionic strength?
6. What is Hypotonic solution?
7. Define Hypertonic solution?
8. What is Isotonic solution?
9. What is osmosis?
10. Define osmotic pressure?
11. Define osmolarity?
12. What is sonication?
13. What is Ultrafiltration?
14. Define P^H
15. Write Henderson-Hasselbalch equation
16. Define Buffer? Give example?
17. Define Buffer capacity?
18. What is electrode?
19. What are indicators?
20. Define chromatography?
21. Add a note on paper used in paper chromatography?
22. Define mobile phase?
23. Define stationary phase?

24. Define Rf value?
25. Define Retention time?
26. What is chromatography?
27. Differentiate effluent volume and void volume?
28. What are Ion exchangers?
29. What is a cation exchanger? Give example?
30. What is an anion exchanger? Give example?
31. Give example for Ion exchangers?
32. What is Sephadex?
33. Define Relative Retention Time(RRT)
34. What are ligands
35. Add a note on principle of electrophoresis?
36. What are Ampholyte?
37. What is Zone electrophoresis?
38. What are solubilizer?
39. What is SDS?
40. What are solubilizer? Give two example?
41. Write a short note on immunoelectrophoresis
42. What is centrifuge?
43. What are the two major centrifugation techniques?
44. Write any two difference between preparative and Analytical centrifugation
45. What is Svedberg unit?
46. What is sedimentation co-efficient
47. Add a note gradient centrifugation
48. Mention some of the uses of Analytical centrifuge

SECTION-B 5-Marks

1. Define osmosis and its application?
2. Explain the principle of sonication
3. Add a note on ultrafiltration

4. Add a note on dialysis
5. Define Henderson-Hesselbalch equation
6. Write a short notes on Buffers in body fluids?
7. Write short notes on Hydrogen- Calomel electrode
8. Explain the measurement of pH using indicator
9. Explain the principle of oxygen electrode
10. Explain Clark electrode?
11. Write notes on paper chromatography and its applications?
12. Write a short note on principle and application of thin layer chromatography?
13. Discuss the different method of application of the sample in a column chromatography?
14. Discuss the factors that affect the efficiency of column chromatography?
15. Discuss different elution techniques used in column chromatography?
16. Explain ion exchange chromatography?
17. Explain gel filtration and its applications
18. How is the molecule weight of a protein assessed by gel filtration technique
19. Describe gas-liquid chromatography
20. Discuss various factors that affect electrophoretic mobility?
21. Give an account on Tiselius moving boundary electrophoresis
22. Write about different support materials used in electrophoresis
23. Explain the principle and application of paper chromatography?
24. Give a brief note of starch gel electrophoresis
25. Write the application of disc gel electrophoresis in the study of Isoenzyme
26. Explain the principle of Isoelectric foucusing
27. Discuss different types of centrifuges
28. Explain relative centrifugal force(RCF)
29. Explain density gradient centrifugation
30. Enumerate different type of rotors and their purposes

31. Describe Rate-Zonal centrifugation techniques
32. Differentiate rate zonal and isopycnic centrifugation
33. Write about differential centrifugation and its application
34. What are the major components of Ultracentrifuge?

SECTION-C 10 Marks

1. Explain i) Osmosis and its application (5) ii)Osmotic pressure(5)?
2. Explain Sonication and Dialysis?
3. Derive Henderson-Hesselbalch equation?
4. Elaborate different types of electrodes
5. Explain the principle and application of oxygen electrode
6. Discuss the different types of paper chromatography techniques
7. Explain the concept of Thin layer chromatography
8. Give an account of the uses of a ion-exchange chromatography
9. Give an account of adsorption chromatography and its application
10. Discuss gel permeation chromatography and its application in the molecular determination of protein
11. Explain the principle, operation of GLC
12. Explain the affinity chromatography and its applications
13. Explain the principle and method of paper chromatography with its application
14. Explain how is SDS-PAGE done for the determination of molecular weight of protein
15. Explain the method of gel electrophoresis
16. Explain the principle methodology and application of density gradient centrifugation
17. Explain analytical centrifuge in the determination of molecular weight of protein?
18. Explain Immuno electrophoresis
19. Explain Agarose gel electrophoresis