ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)
CUDDALORE – 607 001

PG & RESEARCH DEPARTMENT OF BIOCHEMISTRY

Subject Name: Analytical Biochemistry – II
Subject Code: BC406S
Class: II B.Sc Biochemistry
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SECTION A

I. Answer in one sentences

1. What is polyacrylamide?
2. Define Rf.
3. What are counter ions?
4. Affinity elution.
5. Retention time.
6. What is the principle of electrophoresis.
7. What are the principle of paper chromatography.
8. Write the application of Immuno electrophoresis.
9. What is the mobile phase in GLC.
10. Define solution.
11. What are amino acids.
12. List few adsorbents of TLC.
13. What is a gas chromatography.
14. Write the application of gel filtration chromatography.
15. Expand SDS-PAGE.
16. What is the role of beta – mercapto ethanol in SDS PAGE.
17. State the difference between adsorption and absorption.
18. What type of exchanger is DEAE cellulose.
19. What are dextrans?
20. What is major application of GLC?
21. Define activity Co-efficient
22. What are Zwitter ions?
23. List the ideal properties of solvent reservoirs.
24. What are Styragel?
25. Define relative retention time of GLC
26. List any two common absorbents of absorption chromatography.
27. What is the role of TEMED in electrophoresis
28. Name the material used in packing the column chromatography?

29. Give any two application of GLC
30. Define electrophoresis
31. Give some example of absorbents used in TLC
32. Write the application of Immuno electrophoresis.
33. Mention the factors affecting the migration rate in electrophoresis.
34. Half life.
35. Emission spectra.
36. N:P
37. Roentgen.
38. List any two applications of Western blotting.
39. Mention the radio isotopes used in the determination of iron uptake.
40. Mention the relationship between decay constant and half life.
41. What is the significance of probe in blotting techniques.
42. Name the particle detector that measure ionizing radiation.
43. Define Curie.
44. Define isotope.
45. What is RIA?
46. What is meant by northern blotting?
47. Define Radiation half life.
48. Give one use of RIA
49. What is meant by quenching?
50. What is Scintillation cocktail?
51. Define Rad.
52. What is radio dating?
53. PVDF.

SECTION B

II. Answer the following

1. Give an account on Tiselius moving boundary electrophoresis.
2. What are ion exchangers? Classify.
3. Describe the role of sephadex in column chromatography.
4. Write the principle and workingof affinity chromatography.
5. Write a note on cellulose acetate electrophoresis.
6. Discuss the purification of enzymes by affinity chromatography.
7. Describe the separation procedure and application of thin layer chromatography.
8. Explain in detail about the factors that affect electrophoretic migration.
9. Give a brief account on partition chromatography.
10. Bring out the procedure and application of molecular sieve chromatography.
11. Explain in brief the process of immunoelectrophoresis.
12. Give a brief account on column chromatography.

13. Bring out the procedure and application of affinity chromatography.
14. Give a short account on reverse phase chromatography.
15. List out the factors affecting electrophoretic mobility of biomolecules.
16. Give a brief account on thin layer chromatography.
17. List the factors affecting the rate of migration in electrophoresis.
18. List an account on the principle of ion exchange chromatography. Add a note on its application.
19. List the factors affecting migration rate.
20. Write down the principle involved in partition chromatography.
21. Describe in brief the detection methodologies involved in GLC.
22. Write a note on gel electrophoresis.
23. Discuss the principle and application on gas liquid chromatography.
24. Discuss the steps in blotting technique
25. What is meant by radiodating?
26. Write the applications of isotopes dilution analysis.
27. Comment on northern blotting.
28. Explain the structure and operation of Geiger – Muller counter.
29. Give a brief account of radio immunoassay.
30. Write a briefly about Southern Blotting.
31. Describe about radioactive decay.
32. Write short notes on application of radio isotopes in radiodating.
33. Describe briefly about autoradiography.
34. Give an account on Scintillation counter.
35. How do you separate DNA molecule by Southern Blotting.
36. What is electro blotting?
37. Describe the different types of radioactive decay.

SECTION C

III. Answer the following

1. How is SDS-PAGE done for the determination of molecular weight of proteins?
2. Explain the steps involved in the separation of amino acids by paper chromatography.
3. Discuss affinity chromatography and its application.
4. Describe the separation procedure and application of ion-exchange chromatography.
5. Discuss the separation of protein by SDS-PAGE.
6. Discuss the separation of protein by molecular sieve chromatography.
7. Explain in detail the principle and procedure of HPLC.
8. Explain in detail the principle and procedure of native gel electrophoresis.
9. Describe partition and adsorption chromatography.
10. Explain in detail the principle and procedure of GLC.
11. Describe the principle and procedure concerned with Affinity chromatography.
12. Describe the principle, procedure and application of PAGE.
13. Explain the principle, working and application of gel filtration chromatography.
14. What is the principle, procedure and application of TLC.

15. What are the factors affecting the electrophoresis.
16. Write a note on immunoelectrophoresis.
17. Explain the separation of antigen and antibodies by immunoelectrophoresis.
18. Describe GM counter and its application.
19. Elaborate on Radio immunoassay.
20. Describe in detail the methodology concerned with Western blotting.
21. Explain the biological application of radioisotopes.
22. Describe in detail the different types of radioactive decay.
23. Briefly describe about scintillation counter.
24. Write briefly about biological hazards of radiation and its safety aspects.
25. How do you analyze proteins expression in eukaryotic cell by Western blot?
26. Write an account of measurements of radioactivity.
27. Give the importance of autoradiography in clinical diagnosis.
28. Describe in detail the detection of DNA by Southern blotting.