

**SDCCB401****IV Semester B.Sc. Degree Examination, June/July - 2026****(SEP Scheme)****BIOCHEMISTRY****Analytical Biochemistry****Paper : IV****Time : 3 Hours****Maximum Marks : 80****Instructions:**

- 1) The question paper has Three sections
- 2) Section-A, Answer any Five questions
- 3) Section-B, Answer any Six questions
- 4) Section-C, Answer any Four questions

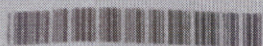
SECTION - A**Answer any Five of the following****(5×2=10)**

1. a) Give an account on liquid - solid sample preparation method.
- b) Write the principle of ultra centrifugation.
- c) Give an account of UPLC?
- d) Write the principle of electrophoresis?
- e) What is decay constants?
- f) Write the principle of Fluorimeter.
- g) What are radioisotopes? Give an example.
- h) Define Beer's law.

**SECTION - B****Answer any Six of the following****(6×5=30)**

2. Explain the principle and applications of differential centrifugation.
3. Explain the principle and applications of Thin layer chromatography.
4. Discuss in detail about principle and applications of paper electrophoresis.
5. Discuss in detail about detection of Radioactivity using GM counter.

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6. Explain the principle and application of Flame photometer.
7. Classify the chromatography techniques.
8. Write a note on sedimentation co-efficient and Relative centrifugal field.
9. Write the principle and applications of 2D electrophoresis.

SECTION - C**Answer any Four of the following****(4×10=40)**

10. a) Explain the principle and applications of Density gradient centrifugation.
b) Discuss principle and applications of paper electrophoresis. **(5+5)**
11. Explain the principle and applications of agarose gel electrophoresis. **(10)**
12. Explain the types, principle and applications of paper chromatography. **(10)**
13. Mention the applications of the following radioisotopes
 I^{13} , H^3 , C^{60} , C^{14} and P^{32} . **(10)**
14. Write in detail about the principle, design and applications of UV - visible spectrophotometer. **(10)**
15. a) Explain the principle and applications of ESR spectroscopy.
b) Write the principle and applications of ISO electric focusing **(5+5)**

