

QP CODE: 25050606



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION, DECEMBER 2025

First Semester

M Sc BIOCHEMISTRY

Core Courses - BC010102 - ANALYTICAL BIOCHEMISTRY AND BIOINFORMATICS

2019 Admission Onwards

1EDDB28D

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. What is ESR frequency?
2. What is TOF analyser in MALDI-TOF-MS?
3. Define Partition Chromatography.
4. Recall the working principle of LC-MS.
5. What is the working principle of Ultra-Centrifuge?
6. How are nucleic acids detected in Agarose gel electrophoresis?
7. What is protein blotting?
8. What is Radioimmuno assay ?Mention its uses?
9. What is NCBI?
10. Explain the applications of multiple sequence alignment.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Discuss the application of UV Visible spectroscopy in quantitative and qualitative analysis of compounds.
12. Explain the basic steps of X ray crystallography.
13. Discuss about different types of gels used in Gel Filtration Chromatography.
14. Explain the types of Ion Exchange Chromatography.





15. Name the electrophoretic technique used for separating proteins only based only on their size. Explain.
16. Explain the principle and method of separation in Southern blotting.
17. Distinguish between solid scintillation and liquid scintillation.
18. What are the major branches of bioinformatics?

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Discuss the instrumental set up and advantages of flow cytometry.
20. Explain Differential and Density Gradient Centrifugation.
21. Describe Pulse Field Gel Electrophoresis and its applications.
22. Discuss on the types of radiation and explain the units of radioactivity.

(2×5=10 weightage)

