



QP CODE: 25050556



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

M Sc BIOTECHNOLOGY

Core Courses - BT020103 - INSTRUMENTATION AND BIOSTATISTICS

2019 Admission Onwards

2DD2C65B

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Which are the parts of SEM?
2. Define absorbance.
3. What is the advantage of Forward Scattering of light in flowcytometry?
4. List out the applications of electron diffraction in biology.
5. What is a biosensor?
6. Differentiate between anion exchange and cation exchange resins.
7. What is a potentiometer?
8. Differentiate between qualitative and quantitative data.
9. Define coefficient of variation.
10. What is meant by abstract of a report.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Summarise the advantages and disadvantages of light microscopy.
12. Write a brief note on ESR spectroscopy.
13. Write a brief note on fluidic system of flowcytometry.
14. Explain the instrumentation and working of GM counter.
15. What is capillary electrophoresis?





16. What are ion sensitive electrodes?
17. Write notes on: Geometric mean and Harmonic mean.
18. What is chi square test?

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Write on the designs of: Charged coupled Device and Confocal microscopy.
20. Write notes on: TLC and IonExchange chromatography.
21. Comment on statistical software packages.
22. Discuss the types of research designs. Add a note on significance of research design.

(2×5=10 weightage)

