



QP CODE: 25047379



Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, NOVEMBER 2025
Third Semester
M Sc PLANT BIOTECHNOLOGY
Core Course - BS010303 - GENOMICS AND PROTEOMICS
2019 ADMISSION ONWARDS
48F11216

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Explain the principle of reversible terminator sequencing.
2. Based on the function, how the entire collection of genes in a genome is classified?
3. What is the role of RNAseq in omics era?
4. What is ultrafiltration?
5. What is the principle of SILAC?
6. Define chemical modifications of proteins.
7. Define protein sequence analysis.
8. List out the applications of tissue microarray.
9. What are hydrophobic proteins?
10. What is microfluidics?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What are the advantages and limitations of ORF scanning and homology search method of gene identification.
12. Explain the chemical mutagenesis for gene knock out in plants.
13. What is proteome? What are the major characteristics of proteome?
14. What are the techniques used to remove interfering compounds during protein extraction?





15. How do you analyze a protein sequence?
16. Illustrate sequence analysis algorithms. What are the applications of data analysis algorithms?
17. How biomarkers can be used for body fluid profiling?
18. Explain the application of biomarkers in clinical studies.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain in detail the significance of metagenomics.
20. Explain the important protein extraction and protein fractionation methods.
21. Explain the following: a) X-ray crystallography b) X-ray tomography c) NMR.
22. Illustrate the important high throughput techniques to identify protein molecules in sample.

(2×5=10 weightage)

