



QP CODE: 25024470



Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, APRIL 2025

Fourth Semester

M Sc BOTANY

**ELECTIVE - BY800403 - GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND
BIOINFORMATICS**

2019 ADMISSION ONWARDS

84399150

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Define the terms: a) linkage map, b) interference, c) crossing over and d) recombination frequency.
2. Write a short note on RFLP.
3. Write a short note on EST.
4. What are the significant findings of E. coli genome project?
5. What is comparative genomics?
6. What is protein profiling?
7. Differentiate primary and secondary database.
8. Identify the similarity searching tool with which ungapped alignments can be performed.
9. Outline the Lipinsky's Rule of five
10. What is a phylogenetic tree?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Define genome mapping. Explain its significance in genomics.
12. Give a comparative account of the whole genome and heirarchy method of genome sequencing.
13. Comment on the significance of annotating a sequence.
14. Describe the methods used for transcriptome analysis.





15. Comment on the significance of molecular visualisation.
16. Describe the use of homology modelling in protein structure prediction.
17. Briefly explain the methods used for tree drawing.
18. What is meant by transgenics? What are the major problems associated with patenting of transgenic organisms?

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Comment on the role of markers in genetic mapping and the various types used.
20. Comment on the next-generation strategies for genome sequencing.
21. Give an account of protein sequencing and protein expression analysis.
22. Discuss and compare the different gene prediction methods.

(2×5=10 weightage)

