QP CODE: 22001843

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Reg No : .....

Name : .....

M Sc DEGREE (CSS) EXAMINATION, AUGUST 2022

Fourth Semester

M Sc BOTANY

Elective - BY800403 - GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND BIOINFORMATICS

2019 ADMISSION ONWARDS

9F5D2A7B

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Elucidate the significance of genome mapping in genomics.
2. What is recombination frequency? How can it be obtained from a linkage map?
3. Write a short note on biochemical markers.
4. Mention the principle behind pyrosequencing.
5. Comment on the application of metagenomics.
6. What is the significance of transcriptome analysis?
7. Give a short note on SRS.
8. What is PROSITE?
9. Explain how sequences are aligned and scored.
10. What is GRAIL?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. How is physical mapping different from genetic mapping? Explain the techniques used in physical mapping.

12. Discuss the advantages and disadvantages of the whole genome and heirarchy method.

13. Briefly discuss the computer based methods of functional annotation.

14. Describe protein profiling and its significance.

15. Explain how Clustal can be used to identify a conserved region.

16. Explain phylogenetic tree with special reference to gene and species tree.

17. Briefly discuss and compare the different types of phylogenetic trees.

18. What are the major problems associated with the public availability of genome data?

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Give a comparative account of the various molecular markers used in genetic mapping.

20. Discuss the different genome projects and their findings.

21. Briefly explain a) protein sequencing b) protein expression analysis c) protein localization.

22. Give a detailed account of computer aided drug designing.

(2×5=10 weightage)