Reg. No ..... Name **19P4020**

MSc DEGREE END SEMESTER EXAMINATION - MARCH/APRIL 2019

SEMESTER 4 : BOTANY

COURSE : **16P4BOTT14: GENOMICS, PROTEOMICS AND BIOINFORMATICS**

(For Regular - 2017 Admission and Supplementary - 2016 Admission)

Time : Three Hours Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. What is shot gun sequencing?
2. Give a short note on RAPD and SNP.
3. Write a note on (a) RFLP (b) AFLP.
4. What is physical mapping of genome?
5. Briefly describe the two classes of repeat elements in eukaryote genome.
6. What is gene over expression?
7. What is meant by knock out mutants?
8. Write a short note on paralogs with examples.
9. What is meant by KEGG? How it is useful?
10. Differentiate primary and secondary databases.
11. Describe any two versions of BLAST.
12. What is Rasmol?

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Write a note on restriction mapping using STS
14. Differentiate sequence alignment and sequence assembly.
15. Write a brief note on mRNA profiling.
16. Briefly explain the procedure and applications of chromatin immunoprecipitation sequencing.
17. Differentiate function driven and sequence driven metagenomics.
18. Briefly describe the chromatographic technique for protein separation.
19. Describe the dot matrix method.
20. What is sequence alignment? Add a note on pair wise sequence alignment.
21. Discuss the protein visualization tool, Rasmol.
22. Give an accout on different types of Phylogenetic trees.

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. Describe the importance of bioinformatics in structural, functional and comparative genomics.

OR

24. Discuss about various techniques used for the determination of gene functions.

25. Write an essay on protein structure and function prediction using bioinformatic tools. Add a note on enzyme and protein design.

OR

26. Describe the procedure and applications of computer assisted drug design.

(12 x 2 = 24)