D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

II M.Sc Biochemistry

Semester : IV

Tile of the paper: BIOTECHNOLOGY AND BIOINFORMATICS

Subject Code : 15CPBC4B

SECTION-A 6 MARKS

1. Write a note on recombinant DNA technology.
2. What are the scope and importance of biotechnology?
3. Write a short note on linkers and adaptors.
4. Give a note on DNA ligase.
5. Give a note on cosmids
6. Add a note on M13 vectors.
7. A short note on pUC 18.
8. A short note on plasmids.
9. Write a short note on phage.
10. Add a note on PBR 322.
11. Write about restriction endonucleases.
12. Write a note on Ti plasmids.
13. Write a note on Ri plasmids.
14. How genes are transferred using Agrobacterium.
15. Add a note on herbicide resistance plants.
16. Add a note on pest resistance plants.
17. Add a account on stress tolerance plants.
18. How delayed fruit ripening plants are produced.
19. How antibodies are produced using plants.
20. How viral antigens are produced using plants.
21. Explain cell and organ culture technique in animal biotechnology.

22. Explain *invitro* fertilization in animals.
23. Describe the embryo transfer method.
24. What are the applications of transgenic animals?
25. Explain Scope and objectives of bioinformatics.
26. Write the application of bioinformatics.
27. Explain Protein database.
28. Explain Nucleotide database.
29. Discuss Pair wise Sequence alignment.
30. Describe Multiple Sequence Alignment.
31. Explain Primary Structure analysis of Protein.
32. Discuss Secondary Analysis of Protein.
33. Describe Tertiary analysis of Protein.
34. How will you predict protein function?
35. Write in detail about sequence based protein prediction methods.

SECTION-B 15 MARKS

1. How clones were selected by immunological tests.
2. Explain the nucleic acid hybridization methods used to assay DNA.
3. Describe the Maximum and Gilbert methods of DNA sequencing.
4. Describe in detail about the Sanger's method of DNA sequencing.
5. Define c DNA and write in detail about the production of c DNA.
6. Define gene libraries and explain the steps involved in production of it.
7. Explain in detail about PCR techniques and its types with application.
8. Describe in detail about the steps involved in plant tissue culture.
9. Explain the genetic manipulation of nitrogen fixation in plants.
10. Justify how genes were transferred into animal cells with example.
11. Write in detail about Biological database.
12. Explain in detail about Sequence Analysis.
13. Explain in detail about three levels of protein structure.
14. Write in detail about Protein function prediction.
15. Discuss multiple sequence alignment.