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

BIOTECHNOLOGY AND BIOINFORMATICS (16CPZO2C)

UNIT-I SECTION-A 6 Marks

1. Give an account on the construction of cDNA.
2. Discuss about the chemical synthesis of oligonucleotides.
3. Explain - DNA finger printing technique.
4. Describe about the PCR technique.
5. Explain Southern blotting technique.
6. What are the various types of restriction enzymes? Explain.

SECTION-B 15 Marks

1. Define Gene cloning? Explain the various steps involved in gene cloning.
2. What is blotting techniques? Explain any two.

UNIT-II SECTION-A 6 Marks

1. Explain the organ culture with suitable examples.
2. Give a brief account on the IVF – Dolly.
3. Discuss about the transgenic animals.
4. Write in detail about the cryopreservation.
5. Give an account on Cell culture.

SECTION-B 15 Marks

1. Give a detailed account on the human gene therapy.
2. Give a detailed account on IVF – Dolly and embryo transfer in human.

UNIT-III SECTION-A 6 Marks

1. What is bioremediation? Explain the bioremediation of hydrocarbons.
2. Explain –Heavy metals and xenobiotics.
3. Write a short notes on bioleaching.
4. Write an account on biomining.
5. Discuss in detail about the biofuels.

6. Describe -IPR.
7. List out the bio safety guidelines and regulations for release of genetically engineered microorganisms.

SECTION-B 15 Marks

1. List out the applications of biotechnology in agriculture, medicine and food science.
2. Give a detailed account on genetically modified organism and GM food.

UNIT-IV SECTION-A 6 Marks

1 Write a short note on NCBI.
2 Give a brief account on data mining.
3 Explain in detail about the genomics.
4 Write a short note on Genomnet.
5 Write a short note on EBI.
6 Describe about the data warehousing.

SECTION-B 15 Marks

1. Write a detailed account on the biological database.
2. Discuss in detail about the proteomics.

UNIT-V SECTION-A 6 Marks

1. Discuss about the genetic algorithm.
2. Give an account on algorithm and tool sequence analysis.
3. Write a short note on phylogenetic analysis.
4. Explain protein prediction.
5. Explain the Chou-Fasman method of secondary structure prediction.

SECTION-B 15 Marks

1. Write an essay on drug designing.
2. What are phylogenetic trees? Describe various methods available to construct phylogenetic trees.