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

SEMESTER - II

(EVEN SEMESTER)

GENETICS (16CPZO2A)

UNIT-I **SECTION-A** **6 Marks**

1. Describe the structure and properties of DNA .
2. Discuss about the transcription of RNA.
3. Explain about the bacterial transformation with reference to Griffith's experiment.
4. Describe the sexduction process in bacteria.

SECTION-B **15 Marks**

1. Explain in detail about the types and replication of DNA .
2. Describe about one gene one polypeptide concept.

UNIT-II **SECTION-A** **6 Marks**

1. Give an account on Lac operon system
2. Describe the Gene regulation of gene action in Prokaryotes
3. Write short notes on Genes and metabolism
4. Give an account on Inborn error of lipid metabolism.

SECTION-B **15 Marks**

1. Discuss in detail about Inborn error of metabolism in man with reference to protein metabolism.

UNIT-III **SECTION-A** **6 Marks**

1. Describe the evolution of sex chromosome in man.
2. Explain about the dosage compensation in drosophila.

3. Give a brief account on X-inactivation with examples.
4. Describe the autosomal and sex chromosomal karyotypes in human.
5. Discuss about the principles and methods of pedigree analysis.
6. Give a brief account on genetic counseling.

SECTION-B 15 Marks

1. Explain in detail about the genomic imprinting in Drosophila and man.
2. Explain the chromosome structure and chromosomal disorders.

UNIT-IV SECTION-A 6 Marks

1. Describe the mechanism of chromosomal breakage.
2. Discuss the factors affecting Hardy Weinberg Law of equilibrium.
3. Mutagens and mutagenesis – Discuss.
4. Describe the sex linked genes.

SECTION-B 15 Marks

1. Describe the Hardy-Weinberg Law of genetic equilibrium with factors.
2. Describe the genetic changes in Neoplasia in man.

UNIT-V SECTION-A 6 Marks

1. Write a short notes on restriction enzymes.
2. Discuss about the genetics in Crime and Law.
3. Explain in brief about rDNA technology.
4. Write a short note on “Studies on twins”
5. List out the applications of rDNA technology.

SECTION-B 15 Marks

1. Write a detailed account on the DNA finger printing.
2. Write a detailed account on the applications of genetics in Crime and Law.
3. Write a detailed account on the applications of genetics in animal breeding.