

SYLLABUS :-

Mendelian inheritance, physical basis of inheritance, gene interaction, multiple alleles, complementation, linkage, recombination and chromosome mapping, extrachromosomal inheritance, sex determination, special types of chromosomes. Chromosomal variations: numerical - euploidy and aneuploidy; structural - deletion, duplication, inversion and translocation. Genes at the population level. Bacterial and viral genetic systems: genomes of E.coli, lambda, and other DNA and RNA viruses. Molecular mechanisms of recombination; mutagenesis; and transposable elements. Molecular basis of genetic diseases and genetic counseling. Application of molecular genetic techniques.