Chromosomal Basis of Inheritance Summary

- Chromosomal theory of inheritance states that Mendelian factors have specific locus on chromosomes and they carry information from one generation to the next generation.
- Genes located close together on the same chromosome and inherited together are called linked genes the phenomenon is called Linkage.
- Two types of linkage are complete linkage and incomplete linkage.
- The groups of linearly arranged linked genes are called Linkage groups.
- Crossing over is biological a process that produces new combination of genes by inter-changing the corresponding segments between non-sister chromatids of homologous pair of chromosomes. In this segment of DNA are broken and recombined to produce new combinations of alleles a process is called Recombination.

- The diagrammatic representation of distances between the adjacent genes which is directly proportional to the frequency of recombination between them is called genetic mapping.
- When any of the three or more allelic forms of a gene occupy the same locus in a given pair of homologous chromosomes, they are said to be multiple alleles.
- Papaya sex determination is controlled by three alleles.They are m, M1 and M2 of a single gene.
- Mutational events that take place within individual genes are called gene mutations or point mutation, whereas the changes occur in structure and number of chromosomes is called chromosomal mutation.
- The agents which are responsible for mutation is called mutagens.