**Lecture No.:24** **Date:** 29th May, 2020

**CORE CONCEPT OF** **SUB./GEN. - PART 1**

**Group B - Genetics**

# *LINKAGE - II*

Numerous examples of linkage are known in **Drosophila** and **mammals.**

**Linkage group -** The group of genes which are inherited together enblock constitute a linkage group.

A. The linkage groups in an organism are normally equal to the number of pairs of chromosomes.

B. For instance, maize (2n= 20) having 10 pairs of chromosomes has 10 linkage group, similarly, Drosophila (2n = 8) with 4 pairs of chromosomes possesses 4 linkage groups, man has 23 pairs of chromosomes and 23 linkage groups etc.

**Character of linked genes :**

A. The degree of linkage is determined by the distance

between or among the genes.

B. Closer will be the genes, more stronger will be the tendency of linkage.

C. Normally crossing over is suppressed within closely linked genes but it may occur.

D. Linked genes do not obey mendel's third law of independent assortment.

E. The dihybrid testcross ratio of linked genes is not 1 : 1 : 1 : 1 but it is 1 : 1.

**Significance -** Linkage reduces the chances of variability until crossing over takes place.

**Cis and Trans arrangement -** The coupling phase of genes is otherwise also known as Cis arrangement of genes while repulsion phase is called trans arrangement.