



**ST. LAWRENCE HIGH SCHOOL**



**A JESUIT CHRISTIAN MINORITY INSTITUTION**

**SOLUTIONS – 16**

**Class: XII**

**Sub: Biological Science**

**Date: 18.06.2020**

**Topic: Chapter 5 (part 5) Non-Mendelism (Part C) –**

**Linkage Chromosomal mapping and Crossing over**

**F.M. : 15**

**Choose the correct option:**

**(1x15=15)**

1. Who coined the link linkage ?  
a) Sutton and Boveri b) T.H. Morgan c) H. Sturtevant d) None of these  
**Answer : T.H. Morgan (b)**
2. The phenomenon where two or more genes are inherited en bloc generation after generation is called :-  
a) Pleiotrophy b) Incomplete dominance c) Linkage d) Cross over  
**Answer : Linkage (c)**
3. The genes present in the same chromosome are often referred to as :-  
a) Linked Genes b) Multiple genes c) Linkage group d) Both linkage group and linked genes  
**Answer : Both linkage group and linked genes (d)**
4. The number linkage group is equal to the number of \_\_\_\_\_.  
a) Chromosomes in haploid cells b) Chromosomes in a diploid cell c) Chromatids in haploid cell d) None of these  
**Answer : Chromosomes in haploid cells (a)**
5. The phenomenon where 0 % recombination occurs is :-  
a) Crossing over b) Complete linkage c) Incomplete linkage d) Linkage  
**Answer : Complete linkage (c)**
6. In a cross between blue flowers and long pollens male and red flower round pollen recessive female the phenomenon of incomplete exhibited. The ratio of test cross progeny in  $F_2$  is :-  
a) 7:1:1:7 b) 1:1:1:1 c) 2:1:2:3 d) 1:2:3:4  
**Answer : 7:1:1:7 (a)**
7. Significance of linkage is :-  
a) Variety of gametes are produced b) Reduced variation in progeny c) Intermediate Phenotype d) All of these  
**Answer : Reduced variation in progeny (b)**

8. Mutual exchange of \_\_\_\_\_ between a pair of homologous chromosome is called crossing over.

- a) Non-sister chromatid b) Sister chromatid c) Chromonema d) All of these

**Answer : Non-sister chromatid (a)**

9. The point of contact where homologues are held together for exchange during crossing over is called :-

- a) Synapsis b) Bivalence c) Chiasmata d) Pairing

**Answer : Chiasmata (c)**

10. The following is a type of crossing over :-

- a) Single crossing over b) Double crossing over c) Multiple crossing over d) All of these

**Answer : All of these (d)**

11. In double crossing over the numbers of chiasmata observed is :-

- a) Two b) One c) Three d) many

**Answer : Two (a)**

12. Chromosomal mapping represents :-

- a) Address of the gene in a cell b) Relative number of genes c) Relative position of genes in a chromosome d) All of these

**Answer : Relative position of genes in a chromosomes (c)**

13. The distance between two genes is measured in :-

- a) Map units b) Centimetre c) Centi Morgan d) Both map unit and centi morgan

**Answer : Both map unit and centi morgan (d)**

14. Mathematically 1 map unit is equal to \_\_\_\_\_ recombination percent.

- a) 1% b) 2% c) 4% d) 5%

**Answer : 1% (a)**

15. Significance of chromosome mapping :-

- a) Give number of Chromosomes b) Numbers of linkage groups c) Exact sequence of genes on a chromosome d) All of these

**Answer : All of these (d)**

