

**CELL BIOLOGY, GENETICS & DEVELOPMENTAL BIOLOGY**

**SEMESTER-IV, INTERNAL-II**

1. The word genetics was coined by [a]  
a) Bateson                      b) Punnett                      c) Cramer                      d) Steve
2. Mendel conducted experiment in [b]  
a) Pulse                      b) Pea                      c) Green plant                      d) None
3. Non Mendelian inheritance is also called \_\_\_\_ interaction [c]  
a) Genetic                      b) Phenotypic                      c) Genic                      d) Hybrid
4. Complementary genes produce a different [d]  
a) Genes                      b) Inheritance                      c) Generalization                      d) Phenotype
5. Ratio of supplementary genes is \_\_\_\_ [a]  
a) 9:3:4                      b) 9:1:6                      c) 9:4:3                      d) 1:9:5
6. The tendency of 2 or more genes together is called [b]  
a) Crossing over                      b) Linkage                      c) Epistasis                      d) Dihybrid cross
7. Crossing over occurs during \_\_\_\_ [c]  
a) Cell division                      b) Mitosis                      c) Meiosis                      d) b & c
8. The paired homologous chromosomes are called [d]  
a) Tetrads                      b) Chromatid                      c) Allele                      d) Bivalents
9. Chiasmata means [a]  
a) Cross                      b) Link                      c) Ligation                      d) b & c
10. Strain or torsion theory was proposed by [b]  
a) Muller                      b) Darlington                      c) Serebravsky                      d) Betting
11. Chromosomes are the carriers of \_\_\_\_ [c]  
a) Characters                      b) Cells                      c) Genes                      d) None
12. Developmental biology is otherwise called as [d]  
a) Gametology                      b) Oogenology                      c) a & b                      d) Embryology
13. The process of spermatogenesis occurs in \_\_\_\_ [a]  
a) Males                      b) Females                      c) Free martin                      d) Gynandromorphs
14. The egg contains on its surface a chemical substance called [b]  
a) Antifertilin                      b) Ferlizin                      c) Gel                      d) Pellicle
15. The eggs without yolk are called \_\_\_\_ egg [c]  
a) Lecithal                      b) Megalecithal                      c) Alecithal                      d) Microlecithal
16. Cleavage results in the division of entire egg is [d]  
a) Bilateral                      b) Radial                      c) Spiral                      d) Holoblastic
17. Indeterminate cleavage is seen in [a]

- a)Vertebrates                      b)Invertebrates                      c)Annelids                      d)Mollusca
18. Gastrulation results in formation of \_\_\_ germ layers [b]  
 a)4                      b)3                      c)5                      d)2
19. The amnion & chorion develop from \_\_\_ [c]  
 a)Ectoderm                      b)Endoderm                      c)Somatopleure                      d)None
20. Example of ruminant ungulate [d]  
 a)man                      b)Rabbit                      c)Lemurs                      d)Sheep

1. **Crossing over** leads to genetic variation
2. Percentage of **crossing over** is directly proportional to distance between two genes
3. Linkage was discovered by **T.H Morgan**
4. Ratio of recessive epistasis is **9:3:4**
5. Both dominant alleles present together, complement each other are called **complementary genes**
6. Law of **independent assortment** is formulated based on the dihybrid experiment
7. **Genetics** is the study of heredity and variation
8. **Gregor Johann Mendel** was the father of genetics
9. The number of chromosomes in a basic set is called **haploidy** represented singly by (N)
10. LMN DEF OPQRST is **Interstitial** duplication
11. Changes in the number of chromosomes is called **ploidy**
12. **Ultraviolet** light is non ionizing radiation
13. Chorion is also called as **serosa**
14. The presence of amnion membrane in animals are said to be **amniota**
15. Cleavage process is also called as **segmentation**
16. Mixing up of both nuclei of spermatozoan and an oocyte is called **Amphimixis**
17. Diploid cells have **23 pairs** of chromosomes
18. The germinal epithelial cells are separated by **Sertoli** cells
19. The production of gametes is called **gametogenesis**
20. In sickle cell haemoglobin the 6<sup>th</sup> amino acid is **valine**

1. Variation

Ans: The differences shown by the individuals of a species and also by the offspring of same parents

2. Give a demonstration of monohybrid cross

|      |          |            |   |        |
|------|----------|------------|---|--------|
| Ans: | Parents: | Male       | x | Female |
|      |          | Tall       |   | Dwarf  |
|      | Gametes: | T          |   | t      |
|      |          | F=Tt(Tall) |   |        |

3. Epistasis

Ans: The prevention of the expression of one pair of genes by another pair

4. Ratio of duplicating genes

Ans: 15:1

5. Who formulated coupling and repulsion hypothesis

Ans: Bateson and Punnett

6. Free martin

Ans: In cattle when dizygotic twins are born the male is normal but female is sterile

7. Example of X-linked inheritance

Ans: colour blindness

8. Haemophilia was discovered by

Ans: John Cotto in 1803

9. Blastula

Ans: Cleavage produces an embryonic stage

10. Yolk sac placenta

Ans: Primitive and also called as chorio vitelline placenta