Chapter- 4

Worksheet-3

1. What is Genetics?

   a. Study of life

   b. Study of life forms

   c. Study of fertility

   d. Study of heredity & variation

2. A Mendialian experiment consisted of breeding of tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers but almost half of it were short. This suggests that the genetic make up of tall parent can be depicted as :
   a. TTWW
   b. TTww
   c. TtWW
   d. TtWw

3. Which is the causes of variation?

   a. Vegetative propagation

   b. Contraception

   c. Different combination of genetic material, gene mutation

   d. Fertility

4. In evolutionary terms , we have more in common with _____.
   a. A chinese boy

b. A chimpanzee
c. A spider
d. A bacteria

5. Which of the following is pure or homozygous condition?

   a. Abcc

   b. Tt

   c. gG

   d. tt

6. Which section of DNA provides information for one protein

   a. Nucleus

   b. Chromosomes

   c. Trait

   d. Gene

7. Parental (P) generation: RRYY cross with rryy gives in F1 Generation is?

   a. Round,yellow seeds

   b. Round, green seeds

   c. wrinkled, yellow seeds

   d. wrinkled, green seeds

8. What is the probability that the male progeny will be a boy?

   a. 50%

   b. 56%

   c. 47.43%

   d. It varies

9. Assertion(A): The sex of a child is determined by the mother.
   Reason (R): Humans have two types of sex chromosomes. XX and XY.

   a. Both A and R are true and R is the correct explanation of A.

   b. Both A and R are true but R is not the correct explanation of A.

   c. A is true but R is false.

   d. A is false but R is true.

10. Define the term variation.

11. Define F_1 and F_2 generation.

12. Define the term offspring.

13. What is genotype and phenotype.

14. Explain the terms:

   (i) monohybrid cross
   (ii) dihybrid cross
   (iii) monohybrid ratio
   (iv) dihybrid ratio.

15. State Mendel's (a) law of segregation (b) law of independent assortment.

16. Explain how did life originate on earth?

17. Define heredity and evolution.

18. Comment on the various evidences of evolution.

19. The human beings who look so different from each other in terms of colour, size and looks are said to belong to the same species. Why? Justify your answer.

20. In pea plant found seed is dominant over the wrinkled. If a cross is carried between these two plants, give answer to the following questions.
    (a) Mention the genes for the traits of parents.
    (b) State the trait of F_1 hybrids.
    (c) Write the ratio of F_2 progeny obtained from this cross. What is the name of the cross?