

Q. between plants
parents alleles where
one trait is



**ASSIGN
BUSTER**

Q.

1. Name the process by which the traits (characters) are passed on from parent to progeny. Ans. Inheritance. Q. 2. Define variation. Ans.

It is the degree by which progeny differs from their parents. Q. 3.

Give one example to state that humans knew as early as 8000-1. 000 BC the causes of variation and exploited it. Ans.

Sahiwal cows in Punjab. Q. 4. What is a true-breeding line? Ans.

A true-breeding line is that, which has undergone continuous self pollination (e. g. pea plant) i. e. it is pure and does not have any cross pollination/contamination. Q. 5. What is the phenotypic ratio of monohybrid cross in F₂? Ans.

3: 1. Q. 6. What is the removal of anthers from a flower called? Ans.

Emasculation. Q. 7. Where do you think that information required to be expressed for a particular trait is stored? Ans.

Genes. Q. 8. Distinguish between— genotype and phenotype. Ans. The genetic representation (e. g.

TT) for a trait is called genotype and descriptive terms (e. g. Tall) for a trait is called phenotype.

Q. 9. Which type of cross is termed as monohybrid cross? Ans. A cross between plants/parents alleles where one trait is studied is called monohybrid cross. Q.

10. Under which condition you will recommend a test cross? Ans. To determine the unknown genotype of a dominant phenotype. Q. 11. State the 1st law of inheritance. Ans.

The law of dominance states that the expression of only one of the parental characters in the F₁, and expression of both in F₂, (in case of monohybrid cross) in a ratio of 3: 1 in F₂. Q. 12. A monohybrid cross produced similar ratios of phenotype and genotype in F₂.

The genotype ratio is similar to monohybrid Mendelian cross. Name the phenomenon. Ans. Incomplete dominance. Q. 13. Give an example of multiple alleles in human. Ans.

ABO blood grouping. Q. 14. Name the scientists who used chromosome movement to explain Mendel's Laws. Ans.

Walter Sutton and Theodour Bovesi. Q. 15. Who had proposed the chromosomal theory of the inheritance? Ans. Walter Sutton. Q.

16. Briefly mention the contribution of T. H.

Morgan in genetics. Ans. Experimental verification of chromosomal theory of inheritance was done by T.

H. Morgan which led to discovery of the basis of the variation due to sexual reproduction. Q. 17. Which type of sex determination is present in grasshopper? Mention the chromosomes of male and female grasshopper.

Ans. XO type sex determination. Male grasshopper has XO and female grasshopper has XX.

Q. 18. Name a phenomenon that results in alternation of DNA sequences.

Ans. Mutation (or also recombination). Q.

19. What is point mutation? Give one example. Ans. The change in a single base pair of DNA is called point mutation e. g.

Sickle cell anemia. Q. 20.

Mention the significance of pedigree study in human genetics. Ans. It provides a strong tool, which is utilized to trace the inheritance of a specific trait, disease or abnormality of an individual. Q.

21. A diploid organism is heterozygous for 4 loci, how many types of gametes can be produced? Ans. 4 types of gametes. Q.

22. When a cross is made between tall plant with yellow seeds (Tt Yy) and tall plant with green seed (Tt yy), what proportions of phenotype in the offspring could be expected to be— (a) tall and green (b) dwarf and green

Ans. (a) 50% (b) 25 %