

## Biology - 12th Class Biology Chapter 22 Short Questions Preparation

Q1. What do you know about protanopia and tritanopia?

**Ans 1:** Protanopia is red colour blindness while tritanopia is blue color blindness.

Q2. Differentiate between homozygous and heterozygous.

**Ans 1: Homozygous:** If alleles of a gene pair are similar from they are called homozygous.

**Ans 2: Heterozygous:** If the alleles of a gene pair are different from they are called heterozygous.

Q3. What is Mody? Write its causes.

**Ans 1:** About 2 to 5% of type II diabetics get the disease early in the life before 25 year of age. It is called maturity onset diabetes of the young (Mody). Mody can be inherited as an autosomal dominant trait.

Q4. How sex is determined in yeast?

**Ans 1:** Sex determination in yeast depends upon genic system. In this system the sexes are determined by simple allelic difference at a small number of gene loci e.g.,  $a$  and  $A$  are the two mating types or sexes of yeast controlled by  $MAT a$  and  $MAT A$  alleles respectively.

Q5. Define gene and locus.

**Ans 1:** Gene is unit of inheritance. Or it may be defined as

**Ans 2:** The sequence of nucleotides which determines the amino acid sequence of a protein is called gene and the position of a gene on the chromosomes is known as locus.

Q6. Define co-dominance.

**Ans 1:** Different alleles of a gene that are both expressed in a heterozygous condition are called co-dominance e.g. MN blood group system.

Q7. Differentiate between multiple alleles and polygenes..

**Ans 1: Multiple alleles:** If a gene has more than two alternate forms these are called multiple alleles. For example alleles for ABO blood group. E.g., alleles for ABO blood group.

**Ans 2: Polygenes:** When a continuously varying trait is controlled by alleles for two or more than two different gene pairs found at different loci, all influencing the same trait in an additive way, such genes are called polygenes, e.g. genes for controlling skin and eye colour in human.

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Q8. What do you know about co-dominance?

**Ans 1:** Different alleles of a gene that are both expressed in a heterozygous condition is called co-dominance.

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Q9. What is test cross? Who devised it?

**Ans 1:** Mendel devised test cross.

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Q10. Explain gene and allele.

**Ans 1:** Gene is a part of DNA which can provide instruction for the synthesis of a protein. It is a unit of inheritance.

**Ans 2:** Allele is an alternate form of gene.

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