Practice Challenge - Objective

Subject: Biology

Topic : Heredity and Evolution
Exam Prep Session 01

Class: X

Time: 00:20 hrs

---

1. Homozygous condition for a particular trait exists when

   A. 2-alleles for a trait are identical

   B. 2-alleles for a trait are different

   C. When X and Y chromosomes pair up

   D. Genes of all chromosomes are identical

2. In living organisms, expression of traits are controlled by _____.

   A. chromosomes

   B. hormones

   C. genes

   D. nervous system

3. Which of the following are transferred from parents to offspring because of which they look like their parents?

   A. Ribosomes

   B. Nucleolus

   C. Chromosomes

   D. Mitochondria

Practice Challenge - Objective

4. Monohybrid cross parents should always:

   A. be hybrid

   B. have same allelic pair

   C. be pure line and homozygous

   D. both B and C

5. Which of the following is the correct explanation of phenotype of an organism?

   A. Set of observable characters

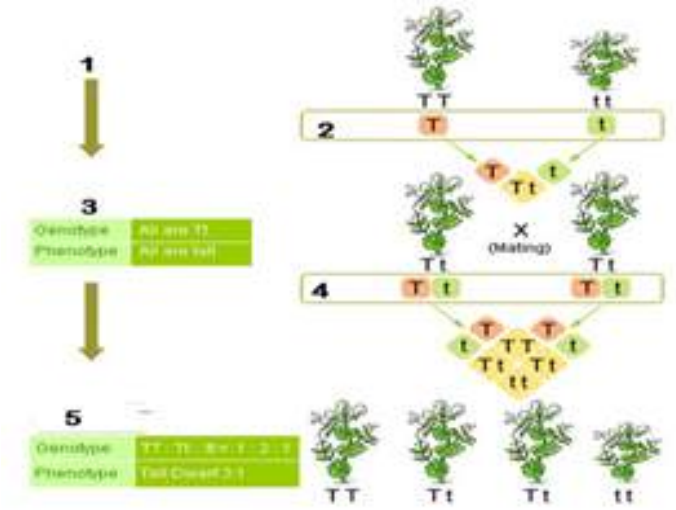
   B. Genetic makeup of the organism

   C. Eating habits of the organism

   D. Habitat of the organism

Practice Challenge - Objective

6. Label the organism or group of organisms in a typical monohybrid cross.



A. 1- Parental generation, 2- gametes, 3- F2 generation, 4- gametes , 5- F1 generation

B. 1- F1 generation, 2- gametes, 3- F2 generation, 4- gametes , 5- F3 generation

C. 1- Parental generation, 2- F1 generation, 3- gametes, 4- gametes , 5- F2 generation

D. 1- Parental generation, 2- gametes, 3- F1 generation, 4- gametes , 5- F2 generation

7. Meiosis is important because:

A. It generates haploid gametes for sexual reproduction

B. It generates variations

C. Both (a) and (b)

D. Meiosis and mitosis are the same and are interchangeable

Practice Challenge - Objective

8. A plant with yellow pod and wrinkled seeds with genotype Yyww will give you the following gametes

   A. yy and Ww

   B. Yw and yw

   C. WW and yy

   D. yy and ww

9. Based on observations in monohybrid cross, Mendel postulated which of the following laws?

   A. Law of dominance

   B. Law of segregation

   C. Both a & b

   D. Law of independent assortment

10. In Mendel's monohybrid cross of tall vs dwarf plants, the F_1 progeny are ___.

    A. Homozygous

    B. Heterozygous

    C. Hemizygous

    D. Either a or b