

## WORKSHEET

### CLASS- X

#### CHAPTER-4 , Heredity and Evolution

##### A. Give reasons, why

1. Artificial selection can generate a variety of vegetables.
2. Wings of a butterfly and those of a bat are not homologous organs.
3. Speciation leads to the formation of new species.
4. Study of fossils is important to understand evolution.
5. Different races of human beings belong to the same species.

##### B. Fill the gaps.

1. The phenotypic ratio in a dihybrid cross is\_\_\_\_\_.
2. Forelimbs of frog and lizard are example of the\_\_\_\_\_ organs.
3. The traits which are acquired by an organism during its lifetime are called\_\_\_\_\_.
4. The analogous organs have similar functions but \_\_\_\_\_ structures.
5. In pea, out of tall and dwarf plants \_\_\_\_\_ trait is dominant.
6. The homologous organs have different functions but have\_\_\_\_\_ structure.
7. Transmission of traits from one generation to the next generation is called\_\_\_\_\_.

##### C. Choose the correct option.

1. A gamete contains which of the following
  - a. Both alleles of a gene
  - b. Only one allele of gene
  - c. All alleles of a gene
  - d. No allele of a gene
2. A pair of contrasting characters is called
  - a. Phenotype
  - b. Genotype
  - c. Allele
  - d. Gene
3. On which of these Mendel carried out his experiments of inheritance?
  - a. Cow pea
  - b. Wild pea
  - c. Garden pea
  - d. Pigeon pea
4. In a cross  $Tt \times Tt$  the percentage of offsprings produced having same phenotype as the parents would be
  - a. 50%
  - b. 100%
  - c. 25%
  - d. 0%
5. Which of the following represents a ratio of monohybrid cross?
  - a. 9:7

- b. 3:1
  - c. 1:1:1:1
  - d. 9:3:3:1
6. A pair of contrasting characters is called
- a. Phenotype
  - b. Genotype
  - c. Allele
  - d. Gene
7. Fossil Archeopteryx exhibits connection between
- a. Amphibians and fish
  - b. Reptile and fish
  - c. Reptile and birds
  - d. Birds and mammals
8. Which of the following was not present in the free form in the primitive environment?
- a.  $N_2$
  - b.  $NH_3$
  - c.  $O_2$
  - d. None
9. A plant heterozygous for tallness is self crossed, the F<sub>2</sub> generation has both tall and dwarf plants. This proves principle of
- a. Dominance
  - b. Sex chromosome
  - c. Independent assortment
  - d. Incomplete dominance
10. The sex of human child depends upon the sex chromosome present in the
- a. Egg
  - b. Sperm
  - c. Both a and b
  - d. None

**D. Give one word for the following.**

- 1. Potato and runners of grass. \_\_\_\_\_.
- 2. Remains or Imprints left by previous organisms. \_\_\_\_\_.
- 3. Organism that has two contrasting alleles \_\_\_\_\_.
- 4. To cultivate wild vegetables to generate new variety \_\_\_\_\_.
- 5. Random changes in gene frequency. \_\_\_\_\_.
- 6. Science of heredity and variations. \_\_\_\_\_.
- 7. Genetic constitution of an individual. \_\_\_\_\_.