Biology Worksheet Class X

Heredity and Evolution

1 mark questions

1. Define heredity
2. What is meant by variations?
3. Name the father of Genetics.
4. What is evolution?
5. Define the term fossils.
6. What is a sex chromosome?
7. How do genes control traits?
8. What is Genetic drift?

2 mark questions

1. How are variations useful to organisms?
2. Differentiate between homologous and analogous organs.
3. Why are characteristics acquired during the life time of an individual not inherited?
4. Where is the gene located? What is the chemical nature of gene?
5. Why are traits acquired during life time of an individual not inherited?
6. How is the equal genetic contribution of male and female parents ensured in the progeny?
7. Why will each gamete contain only one gene set?
8. How do fossils tell us about the process of evolution?

3 mark questions

1. What is DNA copying? State its importance.
2. List three distinguishing features in tabular form between acquired traits and the inherited traits.

3. How do Mendel's experiments show that characteristics are inherited independently?

4. What factors give rise to speciation?

5. Why are human beings despite their great variety in terms of height, colour and other features considered to belong to the same species?

6. Outline the mechanism of sex determination in human beings.

7. How will we prove that the phenotypic ratio of 3:1 in F_2 generation is in fact a 1:2:1 ratio of TT, Tt and tt, where T represents tallness and t represents dwarfness.

8. Some dinosaurs had feathers but could not fly using these feathers. Why?

5 mark questions

1. In a breeding experiment, a pure breeding black guinea pig was crossed with a pure breeding white one. All the F_1 offsprings were black.

a) Explain this by means of-a genetic diagram.

b) If F_1 offsprings were allowed to inbreed, what would be the phenotypic and genotypic ratios in the F_2 generations?

2. a) How do Mendel's experiments show that the traits may be dominant or recessive?

   b) Traits are inherited independently?