

## HEREDITY AND EVOLUTION

### CLASS-10

1. "We cannot pass on to our progeny the experiences and qualifications earned during our life time". Justify the statement giving reason and examples.
2. How many pairs of chromosomes are present in human beings? Out of these how many are sex Chromosomes? How many types of sex chromosomes are found in human beings?
3. Tabulate two distinguishing features between acquired traits and inherited traits with one example of each.
4. "The sex of a newborn child is a matter of chance and none of the parents may be considered responsible for it." Justify this statement with the help of flow chart showing determination of sex of a newborn.
5. A cross was made between pure breeding pea plants one with round and green seeds and the other with wrinkled and yellow seeds.
  - (a) Write the phenotype of F<sub>1</sub> progeny. Give reason for your answer.
  - (b) Write the different types of F<sub>2</sub> progeny obtained along with their ratio when F<sub>1</sub> progeny was selfed.
6. Define the term evolution. "Evolution cannot be equated with progress". Justify this statement.
7. Distinguish between homologous organs and analogous organs. In which category would you place wings of a bird and wings of a bat? Justify your answer giving a suitable reason.
8. Explain the terms: (i) Speciation (ii) Natural selection
9. Explain Mendel's law of independent inheritance. Give one example.
10. (a) Give the evidence that the birds have evolved from reptiles.
  - (b) Insects, octopus, planarian and vertebrates possess eyes. Can we group these animals together on the basis of eyes that they possess? Justify your answer giving reason.