BHARATH COACHING CENTRE

10th CBSE	Heredity and Evolution	Total: 50
Science		Time: 1.30 hrs

SECTION – A   5 x 1 = 5

1. Which one of the following is the genetic material found in living organisms:
   i) Proteins   ii) Fats   iii) Carbohydrates   iv) Deoxyribonucleic acid
2. Why are the traits acquired during the lifetime of an individual not inherited?
3. What is the genetic constitution of human sperm?
4. What is the modern molecular concept of a gene?
5. What is the contribution of both the parents in determining the genetic constitution of the offspring?
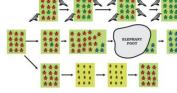
SECTION – B   5 x 2 = 10

6. a) Mention difference between acquired and inherited characters.
   b) Mention difference between dihybrid and monohybrid cross.
7. a) Depict the inheritance of factors, up to F_2 generation, by a cross between a tall plant and a dwarf plant to prove Mendel's experiment.
   b) Give an example where the function of an organ changed to a quite different function?
8. Who was Charles Robert Darwin? What was his contribution to the study of evolution?
9. What are variations? How does sexual reproduction bring about variation in the offspring?
10. What are analogous and homologous organs?

SECTION – C   5 x 3 = 15

11. What are fossils? How do we know the age of the fossils?
12. Only variations that confer an advantage to an organism will survive in a population. Do you agree with this statement? Why or why not?
13. Make sketches of forelimbs of frog, lizard, bird and human to show homology in them.
14. Mention then steps which cause two isolated subpopulation to become two different species.
15. a) How do traits gets expressed?   b) Define speciation.

SECTION – D   4 x 5 = 20

16. Explain the sex determination mechanism in human beings.
17. How do Mendel's experiments show that traits are inherited independently?
18. Carefully observe the figure and answer the following:
    i) Explain the process in fig A, B and C.
19. Explain factors which can causes speciation.