

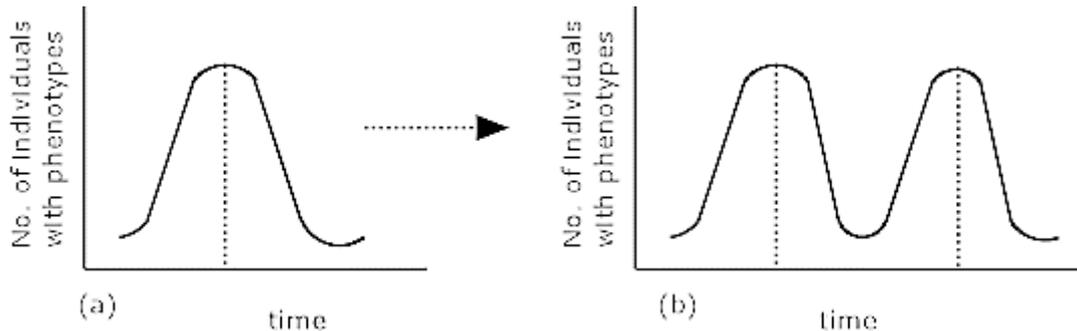
Board – CBSE

Class – 12

Topic – Evolution

1. Explain Oparin-Haldane theory of chemical evolution of life.
2. Distinguish between convergent and divergent evolution giving one example of each.
3. What is adaptive radiation? Explain with an example.
4. How did Louis Pasteur disprove spontaneous generation theory?
5. Define homologous organs? Give one example of organ homologous to hand of man?
6. What is the role of variation in evolution?
7. Describe one evidence which decisively proves that birds have evolved from reptiles?
8. What is the study of fossils called? Mention any three points how the fossils throw light on past life?
9. Why has natural selection not eliminated sickle – cell anaemia?
10. Life originated from the earth's inorganic atmosphere in the past, but this no longer happens today. Give two reasons?
11. If you discovered a fossil bird with scales on the body & teeth in the beak. What would you conclude about its position in the animal kingdom?
12. What is speciation? List any two events that lead to speciation?
13. Would you consider wings of butterfly & a bat as homologous or Analogous & why?
14. Define natural selection? Who else along with Charles Darwin proposed it as the mechanism of evolution?
15. A chimpanzee can hold objects by its hand & an elephant by trunk. Are these organs Analogous or homologous?
16. Differentiate between convergent & divergent evolution?
17. Bring out differences between De Vrie's mutations Darwinian Variations?
18. (i) State the Hardy-Weinberg principle.  
(ii) When there is a disturbance in the Hardy-Weinberg equilibrium, what would it result in?  
(iii) According to this principle, what is the sum total of all allelic frequencies?
19. Classify the following as examples of homology and analogy  
(i) Hearts of fish and crocodile  
(ii) Wings of butterfly and birds  
(iii) Eyes of Octopus and Mammals  
(iv) Tubers of potato and Sweet potato

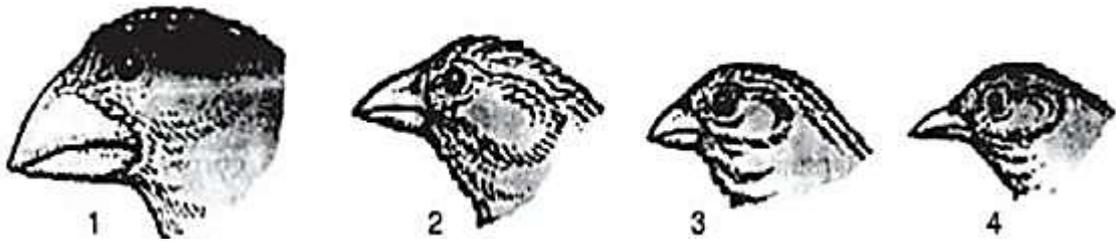
- (v) Thorns of Bougainvillea and spines of Opuntia  
 (vi) Thorn of Bougainvillea and tendrils of cucurbits.
- 20.** Stanley Miller and Harold Urey performed an experiment by recreating in the laboratory the probable conditions of the atmosphere of the primitive earth.
- (i) What was the aim of the experiment?  
 (ii) In what forms was the energy supplied for chemical reactions to occur?  
 (iii) For how long was the experiment run continuously? Name two products formed.
- 21.** Study the figures given below & answer the following question.



- (i) Under the influence of which type of natural selection would graph (a) become like graph (b).  
 (ii) What could be the likely reason of new variations arising in a population.  
 (iii) Who suggested natural selection as mechanism of evolution?
- 22.** Fill up the blanks left in the table showing Era, period and organism.

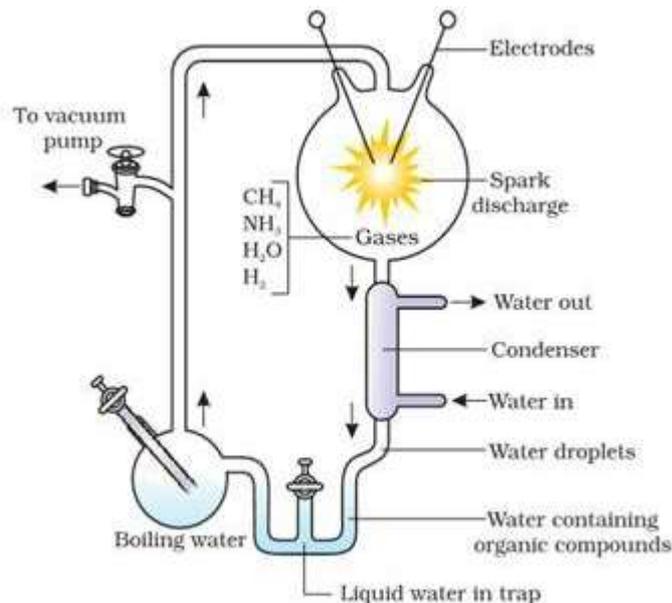
| Era       | Period   | Organisms                                   |
|-----------|----------|---|
| Cenozoic  | A        | Modern man, mammals, birds, rise fo monocot |
| B         | Tertiary | Rise of first Primate, angiosperm           |
| Mesozoic  | C        | Gingko, Gnetales                            |
| D         | Jurassic | Conifers, cycads, Reptiles                  |
| Paleozoic | E        | Early reptiles (extinct)                    |
| F         | Silurian | Psilophyton                                 |

- 23.** (i) In which part of the world, Neanderthal man lived?  
 (ii) What was his brains capacity?  
 (iii) Mention the advancement which Neanderthal man showed over Homoerectus.
- 24.** Figures given below are of Darwins finches?



Variety of beaks of Darwin's finches.

- (a) Mention the specific geographical area where these were found.
- (b) Name and explain the phenomenon that has resulted in the evolution of such diverse species in the region.
- (c) How did Darwin visit the particular geographical area?
25. Give examples to show evolution by anthropogenic action.
26. By taking industrial melanism as an example, explain the concept of natural selection by evolution?
27. Who were the two scientists that conducted an experiment to synthesise organic molecule abiotically? How did they provide the probable condition of the primitive earth in this experiment?



28. What is Biogenetic law? How does comparative embryology provides evidences for evolution?
29. Chemical insecticides remain useful only for a limited time. Explain with reference to evolution with a suitable example.
30. What are the facts that support Darwin's theory of Natural selection?