



# BIOLOGY

BOOKS - UNITED BOOK HOUSE

EVOLUTION AND ADAPTATION

## Exercise

1. The term 'Evolution' was coined by-

A. Oparin

B. Halden

C. Spencer

D. Stanley

**Answer:**



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2. When did the earth was formed-

A. 20 billion years ago

B. 4.5 billion years ago

C. 4.5 million years ago

D. 3 billion years ago

**Answer:**



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**3. Who wrote 'Origin of Life'-**

A. Oparin

B. Halden

C. Spencer

D. L. Miller

**Answer:**



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**4. Theory of Biogenesis means-**

A. origin of life from pre-existing life

B. living organisms arise from non living material

C. living organisms came from other planet

D. Living organisms created by supernatural power or God.

**Answer:**



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5. Spontaneous generation of micro organisms was disproved by-

A. Charle Darwin

B. Oparin

C. Francesco Redi and also Louis Rasteur

D. Virchow

**Answer:**



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**6.** The earth like other planet was formed from-

A. pre-existing planet

B. clouds of dust and gas

C. aggregate of meteors

D. nuclear fusion

**Answer:**



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7. The initial atmosphere of earth was composed mostly of-

A.  $N_2$

B.  $O_2$

C.  $H_2$

D.  $H_2O$

**Answer:**



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**8. The fossil of World's oldest cell-**

A. coacervates

B. stromatolites

C. microspheres



D. protenoid

**Answer:**



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**9. Stromatolites are-**

A. fossilized photosynthetic bacteria

B. Fungi

C. Animal colony

D. Newly formed stone

**Answer:**



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**10.** The agreed concept on the development of first cell on earth-

A. on other planets

B. in rocks

C. in soil

D. in sea

**Answer:**



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**11.** The importance feature of the primitive earth was the absence of-

A. oxygen gas

B. hydrogen gas

C. nitrogen gas

D. carbondioxide gas

**Answer:**



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**12. Evolution means-**

A. reproductive success of individuals in a population

B. changes in phenotype over time

C. capacity to cope with changes in the environment

D. a change in the frequency of genetically determined characteristics in a population over time

**Answer:**



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**13.** Solution of nucleic acid, polypeptides and polysaccharides assembled into droplets are-

A. microspere

B. protobiont

C. coacervates

D. liposome

**Answer:**



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**14. Protenoids are-**

A. abiotically produced polypeptides

B. biologically produced polypeptides

C. simpel amino acid

D. compound of sugar and amino acid

**Answer:**



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**15. Lamarck wrote-**

A. Origin of species

B. Philosophei zoologique

C. Races for struggle for existence

## D. Concept of biology

**Answer:**



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**16.** Natural Selection was proposed by-

A. Lamarck

B. Weisman

C. Darwin

D. Hougo-de-vries



**Answer:**



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**17.** Who proposed the law of use and disuse of organ?

A. Lamarck

B. Weisman

C. Darwin

D. Hougo-de-vries

**Answer:**



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**18.** Who first used the term "Struggle for existence" ?

A. Lamarck

B. Weisman

C. Darwin

D. Hougo-de-vries

**Answer:**



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**19.** The earliest know ancestor of horse is-

A. Equus

B. Mesohippus

C. Eohippus

D. Merichippus

**Answer:**



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20. Fossils are mostly found in -

A. lava flow

B. sedimentary rock

C. red soil

D. granite

**Answer:**



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21. Lamarck's concept that certain body parts become more complex because of-

A. reproductive fitness

B. God's creation

C. they are used more extensively than other parts

D. inheritance of character

**Answer:**



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22. Lamarck's concept that the giraffe has long neck because-

A. short-necked were eliminated by catastrophes

B. its ancestors stretched their necks to get food

C. creator's design

D. ancestral giraffe with slight longer necks got more food and left more fit offspring

**Answer:**



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**23.** Darwinian concept that the giraffe has long neck because-

A. short-necked were eliminated by catastrophes

B. its ancestors stretched their necks to get food

C. creator's design

D. ancestral giraffe with slight longer necks

got more food and left more fit offspring

**Answer:**



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24. “Ontogeny repeats phylogeny” was proposed by-

A. Lamarck



B. Haeckel

C. Aristotle

D. Darwin

**Answer:**



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**25. Which one is not a vestigial organ of man-**

A. coccyx

B. appendix

C. nictitativ membrane

D. 2<sup>nd</sup> molar teeth

**Answer:**



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**26.** The flipper of whale and the wings of birds are-

A. Analogous organ

B. Homologous organ

C. Vestigial organ

D. Replaced organ

**Answer:**



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**27.** The adaptive feature which is not found in

'sundari' plant is-

A. pneumatophore

B. fruit with seed

C. viviparous germination

D. leaves with thick cuticle

**Answer:**



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**28.** "Sunken stomata" is present in-

A. Cactus

B. Lotus

C. Sundari

D. Pea

**Answer:**



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**29.** The Organ absent in Pigeon to aid in flight is-

A. Left ovary

B. Gall bladder

C. lung

D. Right kidney

**Answer:**



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**30.** Explain how the structural changes of fish heart to mammalia heart support evolution?



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**31.** Point out two differences “Homologous organ” and “Analogous organ”.



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**32.** What is variation? How do variations help in the origin of species in evolution?



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**33.** Describe the different steps of chemical evolution in a short manner.



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**34.** Describe different aspects of 'Origin of new species' by means of "Natural selection".



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**35.** What do you understand by 'Homologous Organ'? How do the features of internal structures of the forelimbs of different vertebrate animals support the idea of evolution?



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**36.** Explain the 'Law of Use and Disuse' and 'Inheritance of Acquired Character' as proposed by Lamarck. What is variation?





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**37.** What is variation? How do variations help in the origin of species in evolution?



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**38.** What is Mutation? Give three vestigial organ in man.



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**39.** What is venous heart? Explain 'Biogenetic law' in short manner.



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**40.** What is "Adaptation"? Explain four important aquatic adaptations of "Rohu fish".



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**41.** What is phyloclade? Name three adaptive features for flight in Pigeon.



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**42.** What is "living fossil"? Give two examples.



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**43.** Describe the adaptive feature of air sacs of pigeon? How Camel's ability to withstand extreme water loss?



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44. Give description about 'Behavioral Adaptation'. How does behavioral adaptation influence evolution?



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## Example

1. Evolution means-



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2. Who said chemical evolution?



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3. Who said cells are originated from  
Microsphere?



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4. Given an example of living fossil in animal  
kingdom.



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5. Name a vertebrate having ventricles with incomplete separating wall.



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6. Write the name of an organ of an animal which is homologous to bird's wing.



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7. Who proposed the idea of 'Inheritance of Acquired characters'?



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8. Give the name of the famous book of Darwin regarding evolution?



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9. Where venous heart is found?





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10. What is the advantage of spindle-shaped body in rohu fish for adaptation?



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11. Due to presence of \_\_\_\_ in the eye of pigeon, the vision becomes very sharp.



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**12. What is adaptation?**



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**13. What is Homologous organ?**



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**14. What is analogous organ?**



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