



# **BIOLOGY**

# **BOOKS - PREMIERS PUBLISHERS**

# **EVOLUTION**

**Textbook Questions Answers** 

1. The firs life on earth originated

A. in air

B. on land

C. in water

D. on mountain

## Answer: C



2. Who published the book "Origin of species by Natural

Selection" in 1859?

A. Charles Darwin

B. Lamarck

C. Weismann

D. Hugo de Vries

Answer: A



3. Which of the following was the contribution of Hugo

de Vries ?

A. Theory of mutation

B. Theory of Natural Selection

C. Theory of inheritance of acquired characters

D. Germplasm theory

Answer: A

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4. The wings of birds and butterfies is an example of

A. Adaptive radiation

B. Convergent eqolution

C. Divergent evolution

D. Variation

Answer: B



 The phenomenon of "Industrial Melanism" demonstrates

- A. Natural Selection
- B. Induced mutation
- C. Reprodctive isolation
- D. Geographical isolation

## Answer: A

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6. Darwin's finches are an excellent example of

A. connecting links

- B. seasonal migration
- C. adaptive radiation

# D. parasitism

# Answer: C



# 7. Who proposed the Germplasm theory?

A. Darwin

B. Augurst Weismann

C. Lamarck Alfred Wallace

D.

Answer: B



8. The age of fossils can be determined by

A. electron microscope

B. weighing the fossils

C. carbon dating

D. analysis of bones

Answer: C



9. Fossils are generally found in

A. igneous rocks

B. metamorphic rocks

C. volcanic rocks

D. sedimentary rocks

## Answer: D

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10. Evolutionary history of an organism is called

A. ancestry

B. ontogeny

C. phylogeny

# D. paleontology

# Answer: C



11. The golden age of reptiles was

A. Mesozoic era

B. Cenozoic era

C. Paleozoic era

D. Proterozoic era

Answer: A



**12.** Which period was called "Age of fishes" ?

A. Permian

B. Triassic

C. Devonian

D. Ordovician

Answer: C



13. Modern man belogns to which period?

A. Quaternary

**B.** Cretaceous

C. Silurian

D. Cambrian

Answer: A

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14. The Neanderthal man had the brain capacity of

A. 650-800cc

B. 1200cc

C. 900cc

D. 1400cc

Answer: D



**15.** List out the major gases seem to be found in the primitive earth.



**16.** Explain the three major categories in which fossilization occur ?

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**17.** Differentiate between divergent evolution and convergent evolution with one example for each.

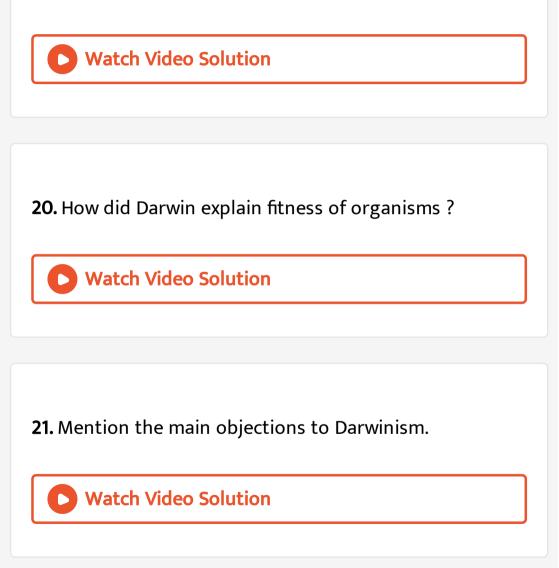


**18.** How does Hardy-Weinberg's expression  $(p^2 + 2pq + q^2 = 1)$  explain that genetic equilibrium is maintained in population ? List any four factors that can disturb the genetic equilibrium.



19. Explain how mutations, natural selection and genetic

drift affect Hardy Weinberg equilibrium.



**22.** Taking the example of Peppered moth, explain the action of natural selection. What do you call the above phenomenon ?

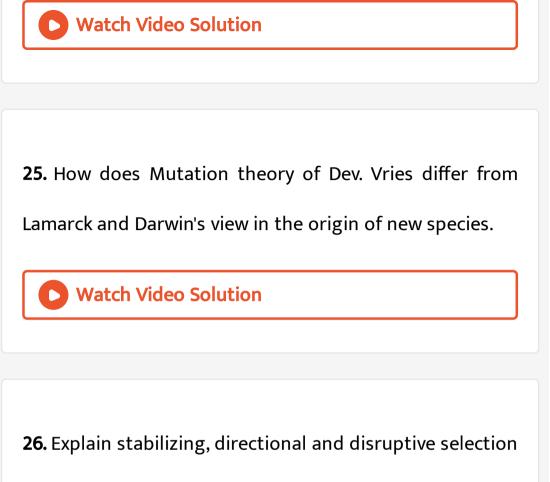
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**23.** Darwin's finches and Australian marsupials are suitable examples of adaptive radiation- Justify the statement.



24. Who disproved Lamarck's Theory of acquired

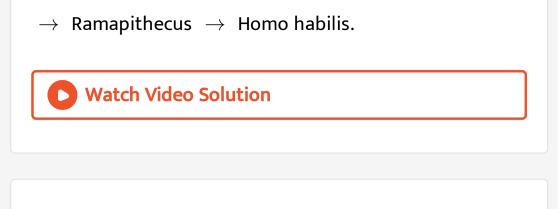
characters? How ?



with examples.



27. Rearrange the descent in human evolution Austrolopithecus  $\rightarrow$  Homo erectus  $\rightarrow$  Homo sapiens



28. Differentiate between the eating habit and brain size

of Australopithecus and Ramapithecus.

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29. How does Neanderthal man differ from the modern

man in appearance ?

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**30.** Mention any three similarities found common in Neaderthal man and Homo sapiens.



31. According to Darwin, the organic evolution is due to

A. Intraspecific competition

B. Interspecific competition

C. Competition within closely related species.

D. Reduced feeding efficiency in one species due to

the presence of interfering species.

Answer: C



**32.** A population will not exist in Hardy-Weinberg equilibrium if

A. Individuals mate selectively

B. Thery are no mutations

C. There is no migration

D. The population is large

# Answer: A::C::D

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Other Important Questions Answers I Choose The Correct Answer 1 Mark

# **1.** Match the following :

(p)Biogenesis	(i)Fossils
(q)Big bang theory	(ii)Haldane
(r)Paleozoic	(iii)Huge explosion
(s)Primodial sea	(iv)Henry Bastian

#### Answer: B



2. Match the following :

<ul><li>(p)Precambrian</li><li>(q)Paleozoic</li><li>(r)Mesozoic</li><li>(s)Cenozoic</li></ul>	<ul> <li>(i)Angiosperms</li> <li>(ii)Ferns</li> <li>(iii)Prokaryotes</li> <li>(iv)Zosterophyllum</li> </ul>
A. (p) - (iv), (q) - (iii), (r) - (ii), (s) - (i)	
B. (p) - (iv), (q) -	· (iii), (r) - (i), (s) - (ii)
C. (p) - (iii), (q) -	- (iv), (r) - (i) , (s) - (ii)

D. (p) - (ii), (q)- (i), (r) - (iv), (s) - (iii)

Answer: C



# 3. Match the following

(p)Eocene	(i)Placental mammals
(q)Pliocene	(ii)Man like Apes
(r)Miocene	(iii)Monotreme
(s)Oligocene	(iv)Origin of man from man like apes

A. (p) - (iv), (q) - (iii), (r) - (ii), (s) - (i)

B. (p) - (iii), (q) - (iv), (r) - (i) , (s) - (ii)

C. (p) - (ii), (q)- (i), (r) - (iv), (s) - (iii)

D. (p) (iii), (q) - (iv), (r) - (ii), (s) - (i)

Answer: D

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4. Match the following :

(p)Vestigial (q)Connecting link (s)Analogous

(i)Archaeopterys (ii)Forelimb and hind limb (r)Homologous structure (iii)Eyes of octopus and human (iv)Vermiform appendix

A. (p) - (iv), (q) - (i), (r) - (ii), (s) - (iii)

B. (p) - (iv), (q) - (iii), (r) - (ii), (s) - (i)

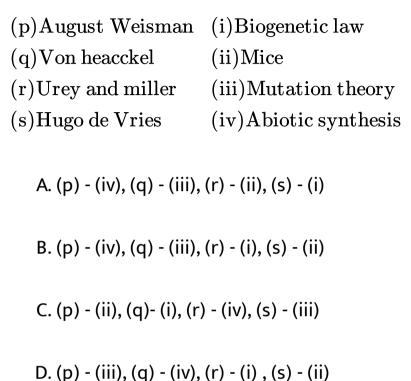
C. (p) - (iv), (q) - (iii), (r) - (i), (s) - (ii)

D. (p) - (ii), (q)- (i), (r) - (iv), (s) - (iii)

Answer: A



5. Match the following :



#### Answer: C

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6. Neo Darwinism is proposed by :

A. De Vries

B. Weisman

C. James Crick

D. Osborn

Answer: B

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7. Hardy-Weinberg law refers to :

A. Gene frequency in an individual

B. Gene frequency within a population

C. Gene frequency within a population

D. DNA sequencye of an organism.

#### Answer: C



8. The typical example for adaptive radiation is :

A. Industrial melanism

B. Darwin's finches

C. Albinism

D. Pleotropism

Answer: B



9. What is the brain capacity of Homo habilis?

A. 450 - 500 cc

B. 600 - 650 cc

С. 350 - 450 сс

D. 650 - 800 cc

Answer: D



10. Biogenetic law was first proposed by :

A. Ernst Hackel

B. Heinrich

C. Wallace

D. Watson

Answer: A

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**11.** Choose the odd man out:

A. Darwin

B. Lamarck

C. Weisman

D. Watson and Crick

#### Answer: D



**12.** Find out the odd one out:

A. Natural Selection

**B.** Creation

C. Darwinism

D. Lamarckism

Answer: B



**13.** Identify the odd one out :

A. Silurian

B. Ordovician

C. Jurassic

D. Devonian

Answer: C



14. Idicate the odd one out

# A. Paleozoic era

B. Cenozoic era

C. Mesozoic era

D. Golden era

# Answer: D

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**15.** Choose the odd one out :

A. Genetic drift

B. Genome

C. Mutation

D. Gene flow

#### Answer: B



**16.** Assertion : Living organisms originated from nonliving substances through a series of chemical and molecular evolution over millions of years, as stated by Thomas Huxley.

Reason : Oparin suggested that the organic compounds could have undergone a series of reactions leading to more complex molecules. A. Assertion and reason are correct reason is the

correct explantion of assertion .

B. Assertion and reason are correct, reason is not the

correct explanation of asseriton.

C. Assertion is not correct , reason is correct.

D. Assertion and reason are not correct .

#### Answer: B



**17.** Assertion : Monera are considered as ancestral to bacteria and blue-green algae .

Reason : Monera are the primitive cells contained clumps of nucleoproteins embedded in cell membrane.

A. Assertion and reason are correct reason is the

correct explantion of assertion .

B. Assertion and reason are correct, reason is not the

correct explanation of asseriton.

C. Assertion is not correct, reason is correct.

D. Assertion and reason are not correct .

Answer: A

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**18.** Assertion : Fossilization is a process by which plant and animal remains are preserved in sedimentary rocks. Reason : When marine animals die, their hard parts like bones, shells etc., are covered with seduments and protected from further deterioration for years .

- A. Assertion and reason are correct reason is the correct explantion of assertion .
- B. Assertion and reason are correct, reason is not the

correct explanation of asseriton.

- C. Assertion is not correct, reason is correct.
- D. Assertion and reason are not correct .

Answer: A

**19.** Asseriton : The basic plan of basic structure such as forelimbs are hind limbs in vertebrates are homologous . Reason : For limbs of vertebrates exhibit similarity with each other and is made up of similar bones such as humerus, radius , ulna, carpels metacarpals and phalanges.

A. Assertion and reason are correct reason is the correct explantion of assertion .

B. Assertion and reason are correct, reason is not the

correct explanation of asseriton.

C. Assertion is not correct , reason is correct.

D. Assertion and reason are not correct .

## Answer: A



20. Assertion : Mutations or discontinuous variations are

not transmitted to other generations.

Reason : Because they are somatic variation .

A. Assertion and reason are correct reason is the

correct explantion of assertion .

B. Assertion and reason are correct, reason is not the

correct explanation of asseriton.

C. Assertion is not correct, reason is correct.

D. Assertion and reason are not correct .

Answer: D

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21. Which of the following statement is correct?

A. In naturally breeding population, mutations occur once in life

B. In maturally breeding population mutations occur

from time to time

C. In naturally breeding population mutations may

not occur.

D. None of the above .

**Answer: B** 

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**22.** Choose the incorrect statement :

A. Darwin failed to explain the mechanism variation.

B. Darwin wrote the book "The origin of species by

Natural Selection "

C. He focused on variations that are mostly heritable .

D. He did not distinguish between somatic and

germinal variation.

Answer: C

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23. Indicate the correct statement :

A. Cenozoic is the ago of reptiles.

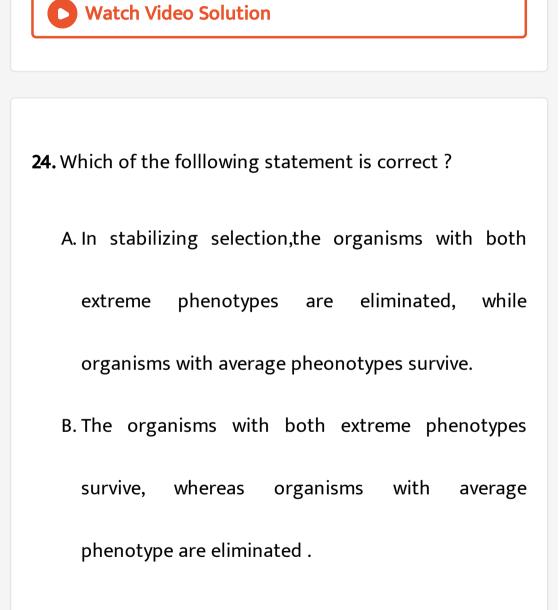
B. Cenozoic era is subdivded into two periods namely

tertialry and quaternary.

C. Cenozoic era is the age of dinosaurs.

D. None of the above .

## Answer: B



C. This is a rare form of selection leading to

population equilibrium.

D. None of the above .

Answer: A

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**25.** Choose the incorrect statement :

A. Ramapithecus were derived from ape like

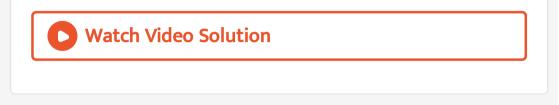
Dryopithecus.

B. Asutralopithecus lived in East African grass lands.

C. Homo erectus lived in Gangetic valley.

D. Neanderthal human was found in Germany.

## Answer: C



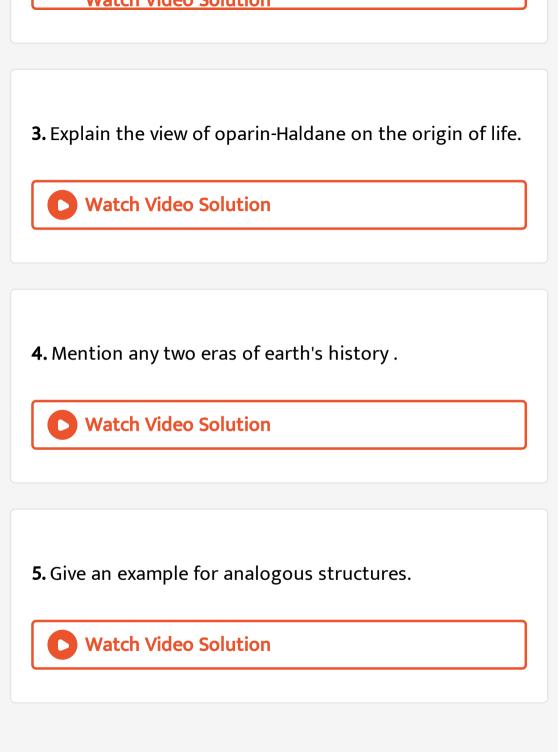


1. Explain the Theory of Special Creation.

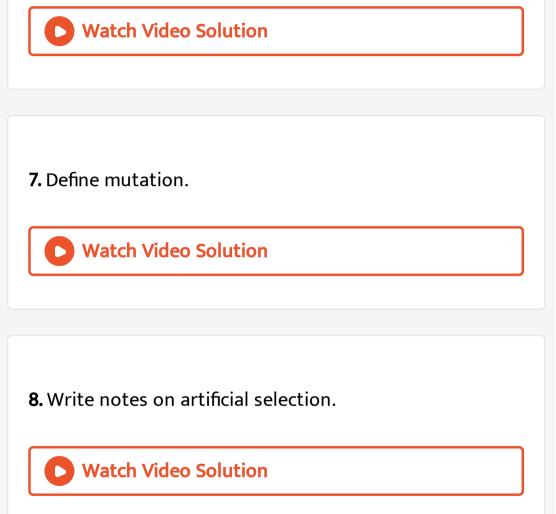


2. Explain Biogenesis.





**6.** Name any two scientists, who proposed Neo-Lamarckism.

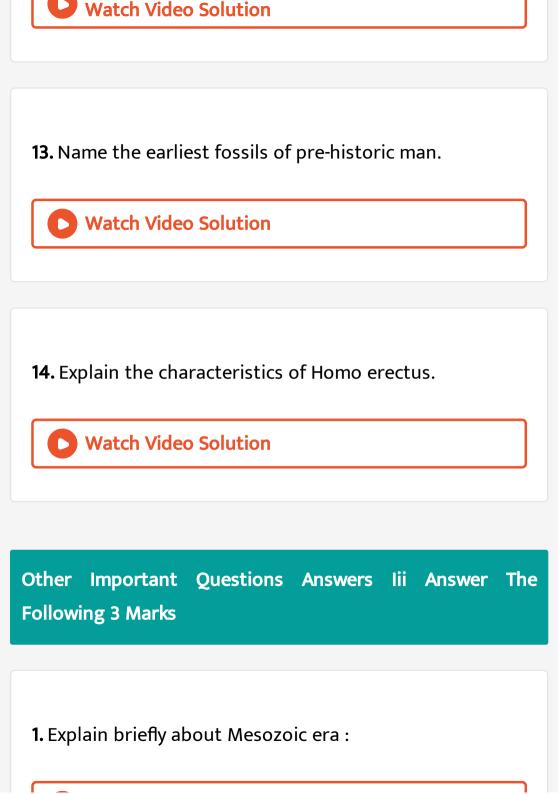


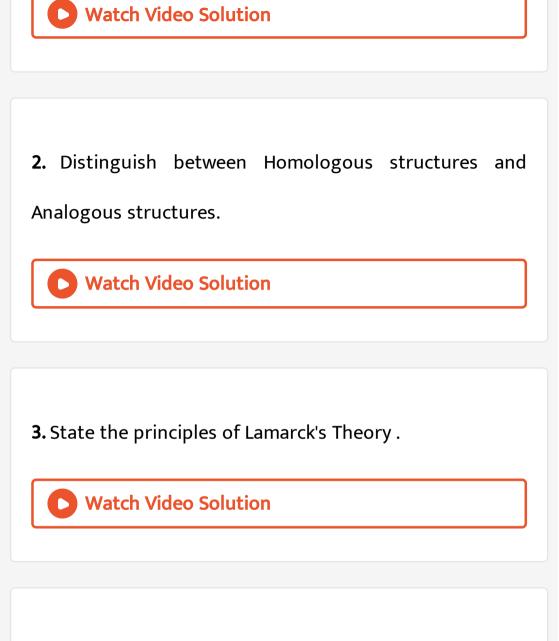
**9.** Describe one example of adaptive radiation.

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<b>10.</b> Define microevolution.
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<b>11.</b> What is Sewall Wright effect or Genetic drift ?
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12. State Hardy - Weinberg equilibrium



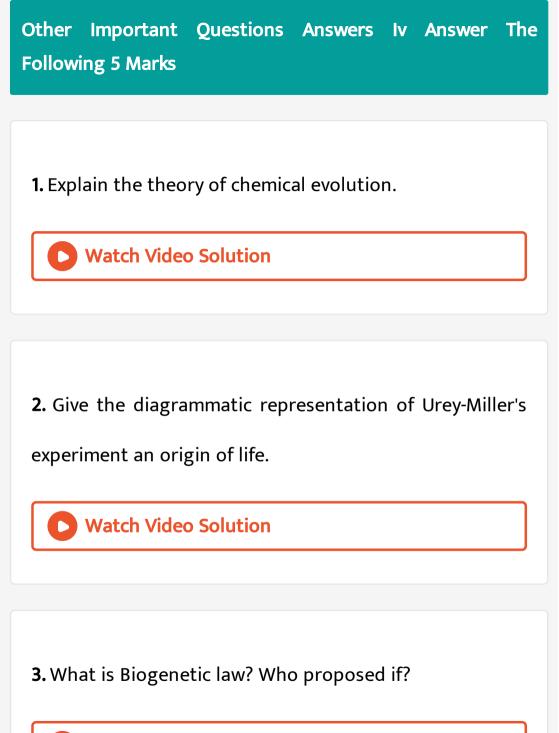




**4.** List the three ways of struggle for existence denoted by Darwin.

<b>5.</b> Enumerate the salient features of mutation theory.
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<b>6.</b> What is gene flow.
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<b>7.</b> Mention any two differences between Homo habilis and Homo erectus

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4. Name the five basic factors involved is the process of

organic evolution according to modern synthetic theory.

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