

India's Number 1 Education App

BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

EVOLUTION

Textbook Evaluation Solved

1. The firs life on earth originated

A. in air

B. on land

C. in water

D. on mountain

Answer: C

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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

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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

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

A. Adaptive radiation

B. convergent evolution

C. divergent evolution

D. variation

Answer: B

5. The phenomenon of "Industrial Melanism"

demonstrates

A. Natural selection

B. induccd mutation

C. eproductive isolation

D. geographical isolation

Answer: A

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. August Weismann

C. Lamarck

D. Alfred Wallace

Answer: B



8. The age of fossils can be determined by

A. electron microscope

B. weighing the fossils

C. carbon dating

D. analysis of bone

Answer: C

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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

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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

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13. Modern man belogns to which period ?

A. Quaternary

- **B.** Cretaceous
- C. Silurian
- D. Cambrian





14. The Neanderthal man had the brain capacity of

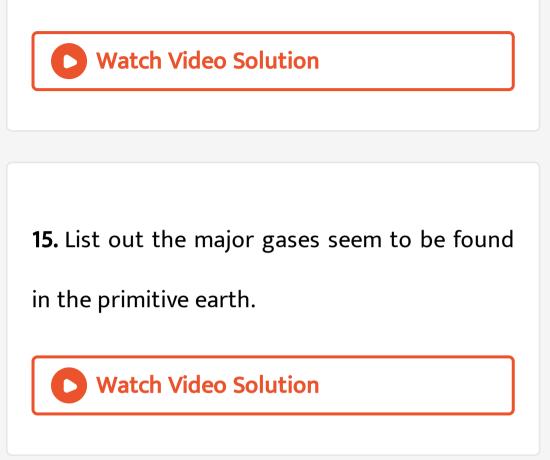
A. 650-800cc

B. 1200cc

C. 900cc

D. 1400cc





16. Explain the three major categories in which

fossilization occur ?





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

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

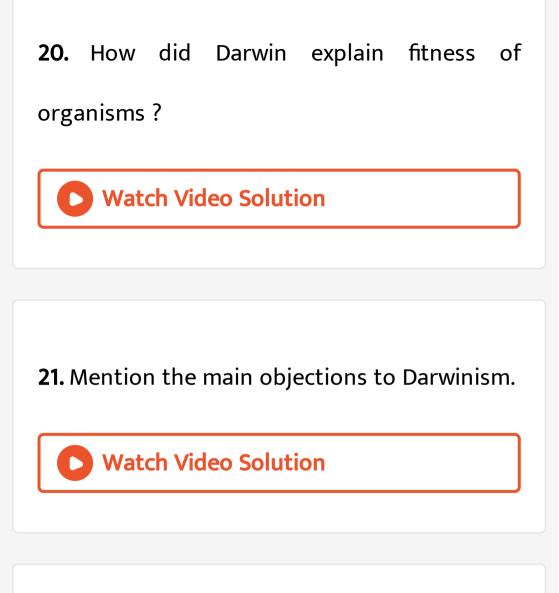
any four factors that can disturb the genetic

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 ?



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

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24. Who disproved Lamarck's Theory of acquired characters? How ?



25. How does Mutation theory of Dev. Vries differ from Lamarck and Darwin's view in the origin of new species.



26. Explain stabilizing, directional and disruptive selection with examples.

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

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28. Differentiate between the eating habit and

brain size of Australopithecus and

Ramapithecus.





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 closelyrelatedspecies

D. Reduced feeding efficiency in one

species due to the presence of

interfering species.

Answer:





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

A. Individuals mate selectively

B. There are no mutations

C. There is no migration

D. The population is large

Answer:

Additional Questions 1 Mark Questions

1. Identify the incorrect statement.

A. Neanderthal human were found in

Germany.

B. They possessed flat cranium

C. They used to bury their dead.

D. Their brain size is of 650 - 800 cc.

Answer:



2. Which of the following statement does not satisfy Hardy Weinberg principle?

A. A population undergoing random

mating

B. Small sized populatio

C. Population where there is no mutation

or gene flow

D. Absence of natural selection

Answer:

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3. Match column I with columnII

Column I

- a) Cambrian period
- b) Devoniar period
- c) Cenozoic era
- d) Mesozoic era

Column II

- i) Age of Reptiles
- ii) Age of fishes
- *iii)* Age of inventebrates
- iv) Age of mammals

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A. (a) a -ii b- ii c-iv d-i
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B. (b) a iv b- iii c -i d-ii

C. (c) a- ii b- iv c-i d-ii

D. (d) a - ii b- iii c -i d-iv

Answer:

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4. Placental mammals develop during

A. (a) Eocene

B. (b) Oligocene

C. (c) Pliocene

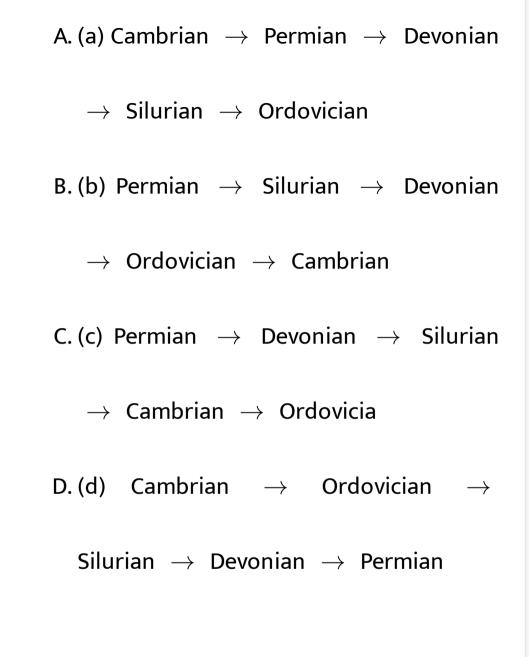
D. (d) Paleocene

Answer:

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5. Identify the correct sequence from oldest to

youngest



Answer:

6. Match the scientists with their

terminologies used

- (a) Biogenesis
- (b) Prebiotic soup
- (c) Coacervates
- (d) Abiogenesis

- (i) Oparin
- (ii) Henry Bastin
- (iii) Thomas Huxley
- (iv) Haldane

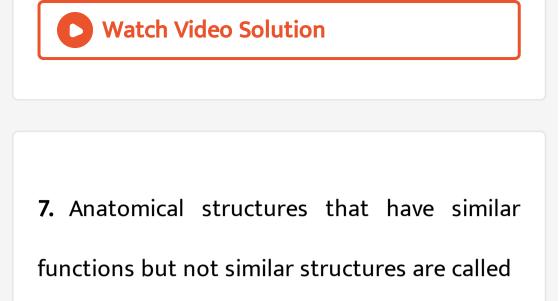
A. (a) a-iii b-iv c-ii d-i

B. (b) a-ii b-iv c-i d-iii

C. (c) a-iii b-i c-iv d-ii

D. (d) a-i b-iv c-iii d-ii

Answer:



A. (a) Homologous structures

B. (b) Vestigial structures

C. (c) Analogus structures

D. (d) Generalized sturctures

Answer:





8. Who propounded the theory of recapitulation?

A. (a) Ernst Von Haeckel

B. (b) Charles Darwin

C. (c) Thomas Huxley

D. (d) Oparin

Answer:

9. Mammae in human male is......

A. (a) Atavistic organ

B. (b) Rudimentary Organ

C. (c) Vestigial organ

D. (d) Homologous structure

Answer:

10. Which of the following is/are not examples

of analogous structure

(a) Wings of Birds and Bats

(b) Wings of Birds and Insects

(c)Thorm of Bougainvillea and Tendril of cururbita

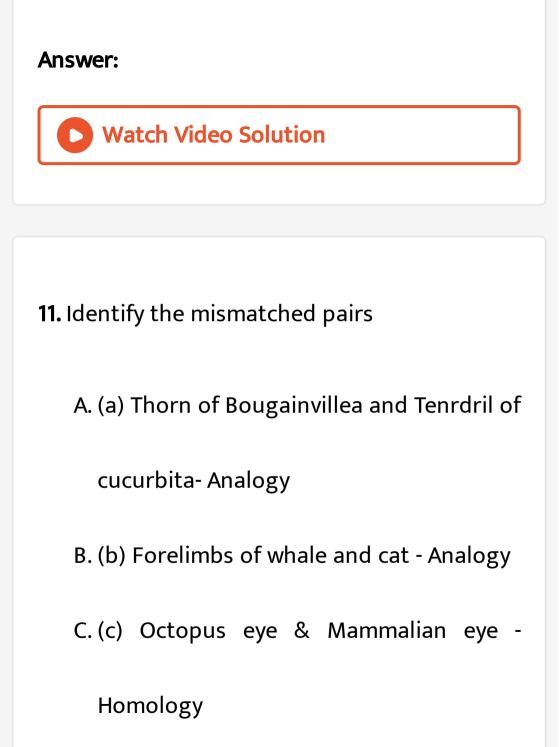
(d) Flippers of Penguins and Dolphins

A. (a) a,b,c

B. (b) a and c

C. (c) b and d

D. (d) All the above



D. (d) Root of sweet potato & steam of

potato - Homology

Answer:



12. Witness for evolution are found in

A. (a) Rocks

B. (b) Ocean beds

C. (c) Fossils

D. (d) Desert

Answer:

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13. Assertion (A): Oparin used the term coacervases Reason

(R) : Coacervates are colloidal particles in aqueous environment

A. (a) Both A and R are incorrect

B. (b) A and R are correct

C. (c) Both A and R are correct . R explains A

D. (d) A is correct R is incorect

Answer:

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14. The theory of spontaneous generation or

abiogenesis was disproved by

A. Cosmic particles

B. Non-living materials

C. Coacervates

D. Sea

Answer:

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15. Assertion (A): Hardy - Weinberg principle states that allelic frequency of a population remain constant

Reason (R): Constancy is maintained through

natural selection and mutation

A. A is ture R is false

B. A is false R is true

C. Both a and R are true.

D. R explains A

Answer:

16. Calculate the allelic frequency of Aa, if 'A' allelic has frequency of 0.3 and 'a' allele has frequency of 0.7

A. 0.67

B. 0.42

C. 0.36

D. 0.59

Answer:



17. Match the following

Match the following Evolutionery Human (A) Homo sapienS (B) Homo erectus (C) Homo habilis (D) Australopithecus

Brain Capacity *i*) 900 cc *ii*) 650 - 800 cc *iii*) 350 - 450 cc

iv) 1300 - 1600 cc

A. (a) a-iv b-i c-ii d-iii

B. (b) a-ii b-iv c-iii d-i

C. (c) a-ii b-iii c-iv d-i

D. (d) a - iii b-i c-ii d-iv

Answer:



18. Genetic drift leads to.....

A. (a) Mutation

B. (b) Bottle neck effect

C. (c) Immigration

D. (d) Isolation

Answer:

19. Atavism refers to

A. Inheritance of trait by mother

B. Inheritance of trait by father

C. Criss-cross inheritance

D. Inheritance of characters not shown by

parents

Answer:

1. The theory of spontaneous generation or

abiogenesis was disproved by

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2. What is Geologic time scale.

3. Which periods of paleozoic era are referred

as (a) Age of fishes (b) Invertebrates



4. Point out the epochs of carboniferous period.



5. Compare relative dating with absolute dating.
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6. Wing of a cockroach and the wing of parrot. What do you infer from this statement with reference to evolution?

7. Name the scientists who propounded the

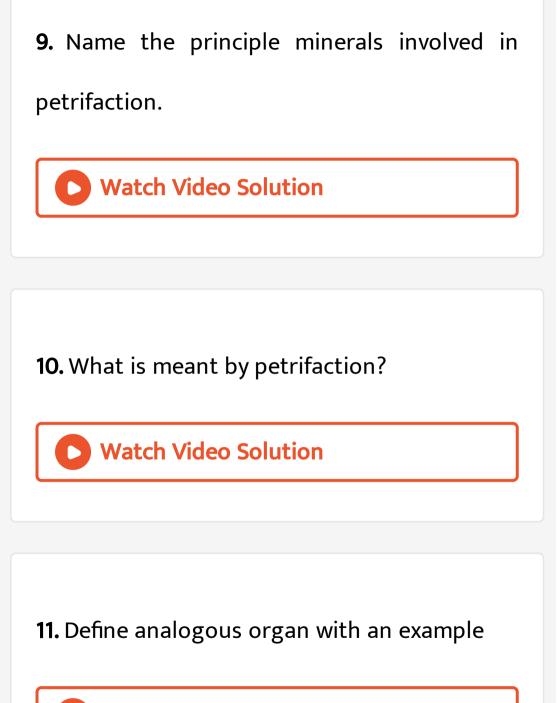
following theories.

(a) Mutation theory

(b) Chemical theory of evolution

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8. Define fossilization and mention its types



12. Mention any four organs homologous to

human hand



13. Thorn of Bougainvillea and tendrils of

Pisum sativum represent homology. How?

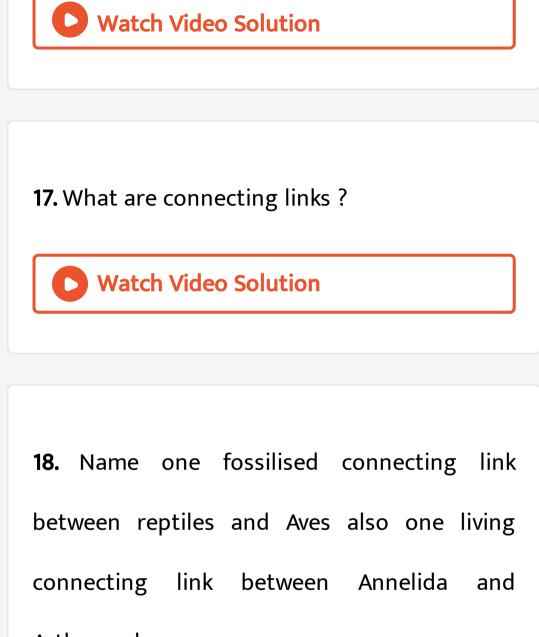
14. Which type of evolution is brought out by homologous structures and analogous structures?



15. What are vestigial organs? Give example.



16. Human appendix is a vestige. Give reason.



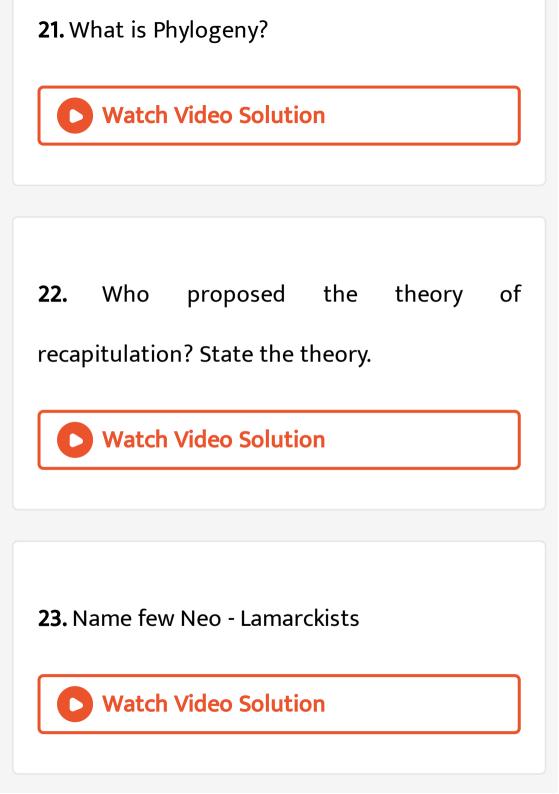
Arthropoda.



19. Archaeopteryx is considered as connecting link between birds and reptiles. Justify the statement by giving two characters of each group.

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20. What are atavistic organs ?



24. Who disproved Lamarck's Theory of acquired characters? How ?
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25. Point out the basic principles of Darwin's

theory of evolution



26. Name any four Neo - Darwinists.



27. Enumerate the salient features of mutation

theory.

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28. Who proposed mutation theory ____



29. What are the basic factors of modern synthetic theory that leads to evolution? Watch Video Solution 30. Name the scientists who supported modern synthetic theory Watch Video Solution

31. Write a note on point mutation.



32. Point out the factors that alters allelic frequency of a population.

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33. Mention any two differences between

Homo habilis and Homo erectus

34. Write a brief note on Homo sapiens with

respect to evolution.

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35. Define evolution.	
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Additional Questions 3 Mark Questions

1. Write a short note on Big Bang theory.



2. Theory of chemical evolution states that organisms have evolved from inorganic substances. If so, what was the atmospheric condition that favoured evolution?



3. Name the periods of Mesozoic era. Also mention the flora and fauna dominated during that periods.



4. Which era is referred as Age of Mammals?

What are the periods of that era? And also

mention the fauna during the periods.



5. Write a short note on Cenozoic era.



6. Name the gaseous mixture used in Urey -Miller's experiment. Which type of physical force is applied to generate amino acids?

7. Which is the most common methods of fossilization? Explain how it occurs.

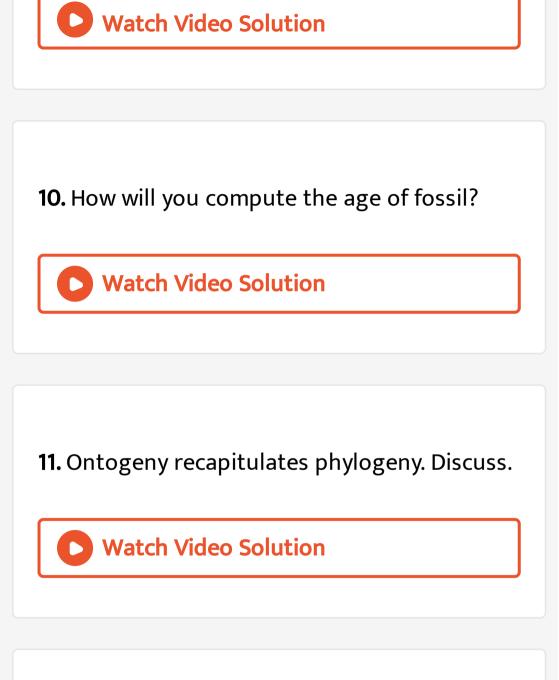


8. What are coprolites? Mention its role in

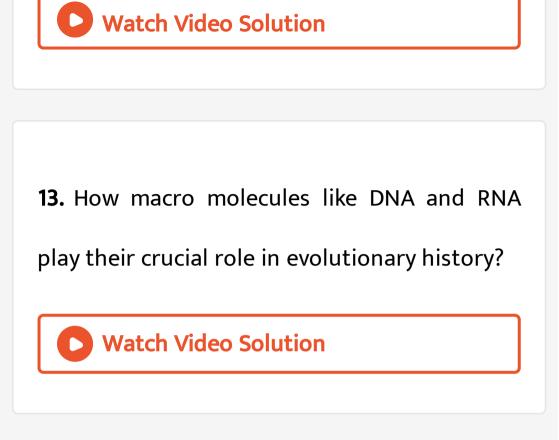
phylogeny.



9. What are moulds and casts ?



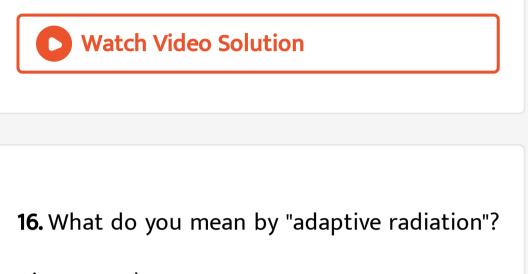
12. Biogenetie law is not universal - justify.



14. Explain the principles of Lamarckian theory.



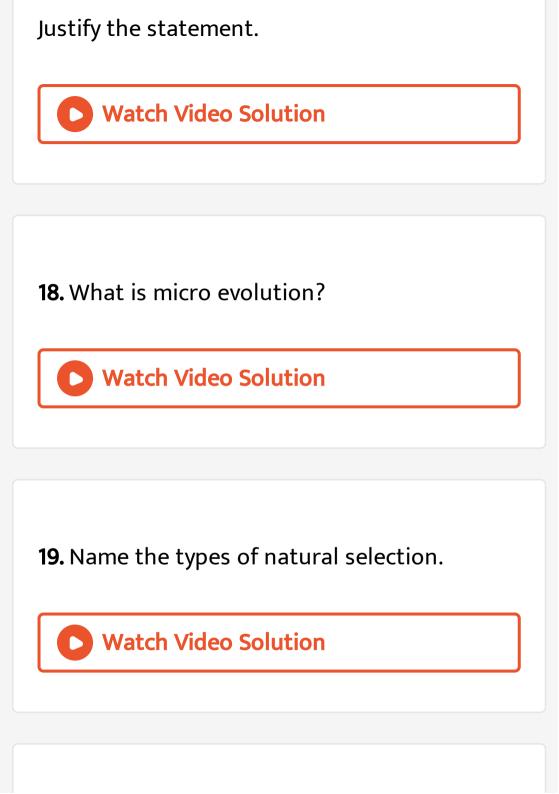
15. Write a note on Mutation theory.



Give example.

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17. Darwin's finches and Australian marsupials are suitable examples of adaptive radiation-







21. Give an account on Genetic drift. Mention

its impact over a population

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22. State Hardy - Weinberg equilibrium

23. Write in brief about the characters of Australian ape man. Watch Video Solution 24. Who is Cro-Magnon?

Additional Questions 5 Mark Questions

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1. Explain Oparin - Haldane hypothesis on evolution.
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2. How Urey - Miller's experiment supports the

origin of life?



3. Give a detailed account of Modern Synthetic

Theory.

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4. Name the connecting link for the following

groups of organisms.

(a) Annelida and Arthropoda

(b) Reptiles and Aves

(c) Pisces and Amphibians

(d) Reptiles and Mammals





5. Point out any four condition under which Hardy Weinberg's equilibriumn is not 2. attained.

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6. Why are analogous structures a result of

convergent evolution?

7. Organs which are of no use to the organism is called as vestige. Name any four vestigal

organs that can be noticed in your body

