



BIOLOGY

BOOKS - SARAS PUBLICATION

EVOLUTION

Example

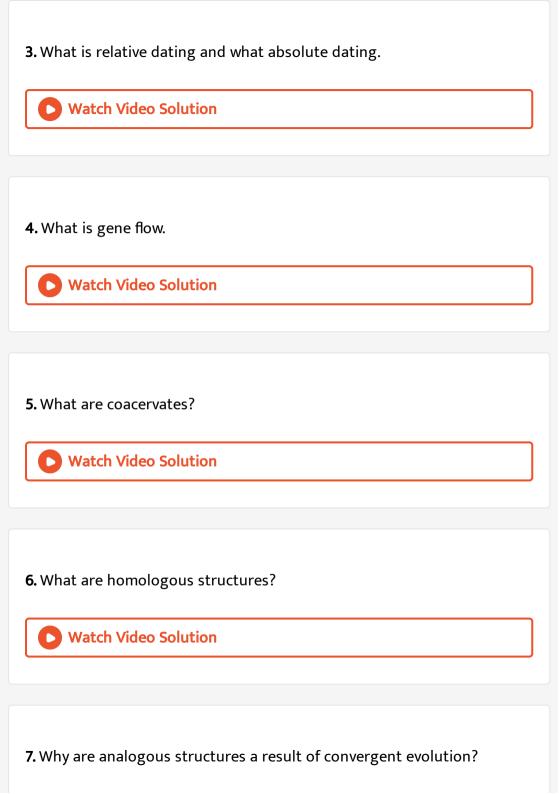
1. What is paleontology?



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2. Define gene pool.



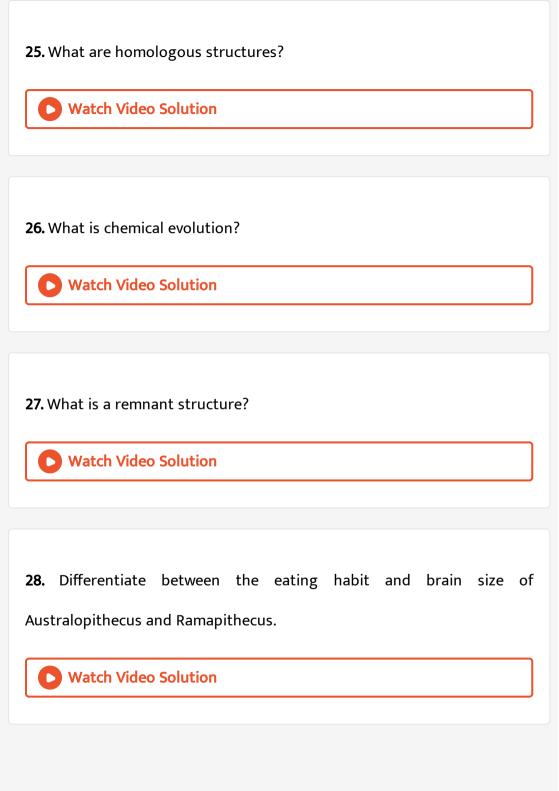


Watch Video Solution
8. What are vestigial organs? Give example.
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9. What is embryology?
Watch Video Solution
10. What is ontogeny?
Watch Video Solution
11. What is Phylogeny?
Watch Video Solution

12. What is molecular clock?
Watch Video Solution
13. What is theory of use? Give an example.
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14. What is an acquired character?
Watch Video Solution
15. What is inheritance of acquired characters?
Watch Video Solution
16. What is somatoplasm?

Watch Video Solution
17. Define prodigality of production.
Watch Video Solution
18. Define variation.
Watch Video Solution
19. What a adaptive radiation?
Watch Video Solution
20. (a) Explain stabilizing, directional and disruptive selection with examples.
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21. Define disruptive selective.
Watch Video Solution
22. Define genetic drift.
Watch Video Solution
23. Define bottle neck effect.
Watch Video Solution
24. What is founder's effect?
Watch Video Solution



29. How does Neanderthal man differ from the modern man in appearance? **Watch Video Solution** 30. How does Mutation theory of Dev. Vries differ from Lamarck and Darwin's view in the origin of new species. **Watch Video Solution** 31. Differentiate between divergent evolution and convergent evolution with one example for each. **Watch Video Solution** 32. (a) Explain stabilizing, directional and disruptive selection with examples.



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



34. Differentiate between the eating habit and brain size of Australopithecus and Ramapithecus.



35. Rearrange the descent in human evolution Austrolopithecus ightharpoonup Homo erectus ightharpoonup Homo sapiens ightharpoonup Ramapithecus ightharpoonup Homo habilis.



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



37. Mention the main objections to Darwinism.

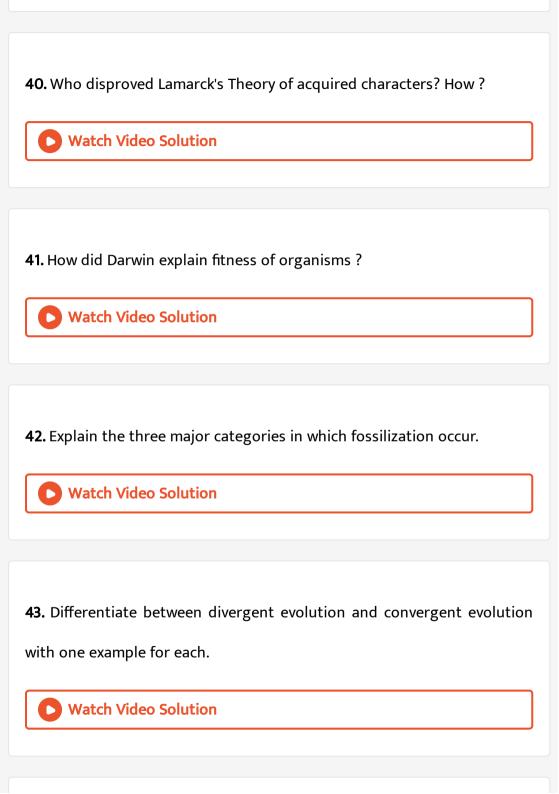


38. How does Neanderthal man differ from the modern man in appearance?



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





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



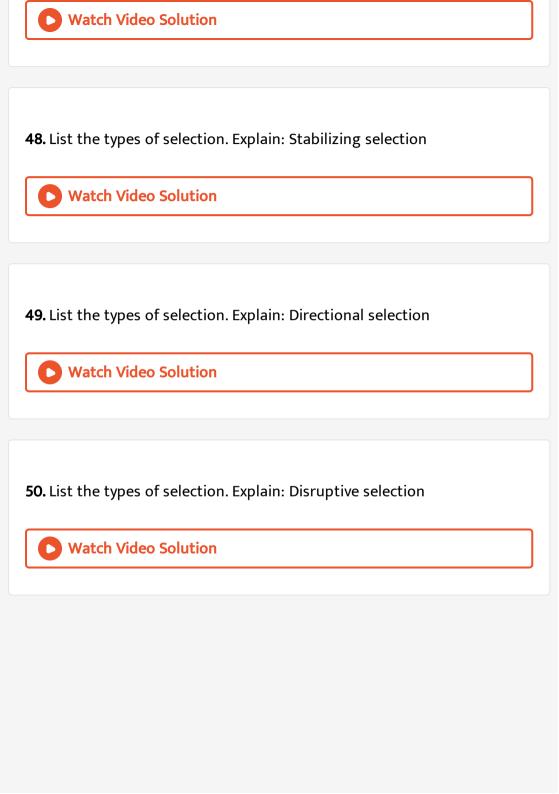
45. Explain how mutations, natural selection and genetic drift affect Hardy Weinberg equilibrium.



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



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



51.

- 1. Homo sapiens
- Golden age of reptiles
- 2. Gene equilibrium
- Study of fossils
- 3. Paleontology
- Modern man
- 4. Mesozoic era
- Hardy-Weinberg law



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52.

1.Lamarck

- Age of Earth
- 2. Archeopteryx
- DNA
- 3. Geological time scale Connecting link 4. Molecular clocks
 - Philosophie Zoologique



- 1. Adaptive radiation Human Appendix
 - 2. Vestigial organ Natural selection
 - 3. Charles Darwin Germany
 - 4. Neanderthal man Darwin Finches



54.

- Devonian Cave paintings
 Cro-Magnon Vegetarian
- 2. Cro-Magnon Vegetarian3. Homo habilis Fossil invertebrate
- Cambrian Age of fishes
- Watch Video Solution

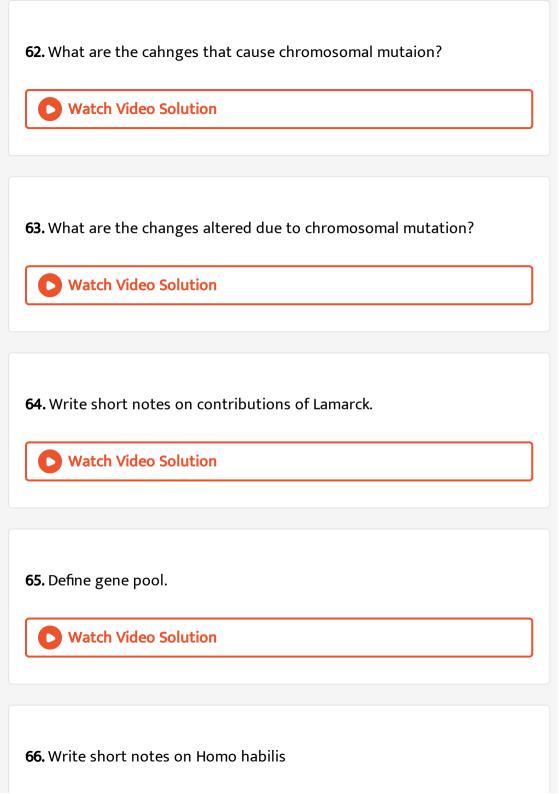
- 1. Quaternary
 2. Jurassic
 3. Ordovician
 4. Carboniferous
 Rise of Dinosaurs
 Appearance of first land plants
 Earliest Amphibians
 Age of human beings
- Watch Video Solution

56.

- 1. Homo erectus
 2. Genetic drift
 3. Marsupials
 4. De Vries
 Mutation theory
 Adaptive radiation
 Bottle neck effect
 First human like being
 - Watch Video Solution

57. What is the religious theory regarding the origin of life? Explain.

Watch Video Solution
58. Which theory states that life arose from pre-existing life. Explain.
Watch Video Solution
59. What is paleontology?
Watch Video Solution
60. Human egg has no yolk. However human embryo develops an yolk sac.
Justiy.
Watch Video Solution
Ca what is the medium size of Diagonal 11 1 2
61. What is the modern view of Biogenetic law?
Watch Video Solution



Watch Video Solution
67. What is relative dating and what absolute dating.
Watch Video Solution
68. Write notes on Protista.
Watch Video Solution
69. Write notes on Neo-Darwinism.
Watch Video Solution
70. Connecting link
Watch Video Solution

71. Describe the mechanism of evolution?
Watch Video Solution
72. What is gene flow.
Watch Video Solution
73. How does embryological development of heart support evolution?
Explain.
Watch Video Solution
74. People in the villages say, "Man cam from monkey". Do you accept it.
Give reason.
Watch Video Solution

75. The teacher told the students that a frog originated from a fish. The students were shocked to hear this. They asked the teacher "How it could be possible". What did the teacher tell the boys to justify his statement.



76. A farmer asks an educated man whether a hen came first or an egg came first. Give your answer on the basis of the concept of evolution.



77. A patient got unbearable stomach pain. The doctor examined and informed him that his appendix is infected and it has to be removed. Explain this on the basis of evolutionary theory.





79. When the natural sources of food in the ocean declined, what are the methodfs evolved for food procurement by the ancestors of Monera and Protista.

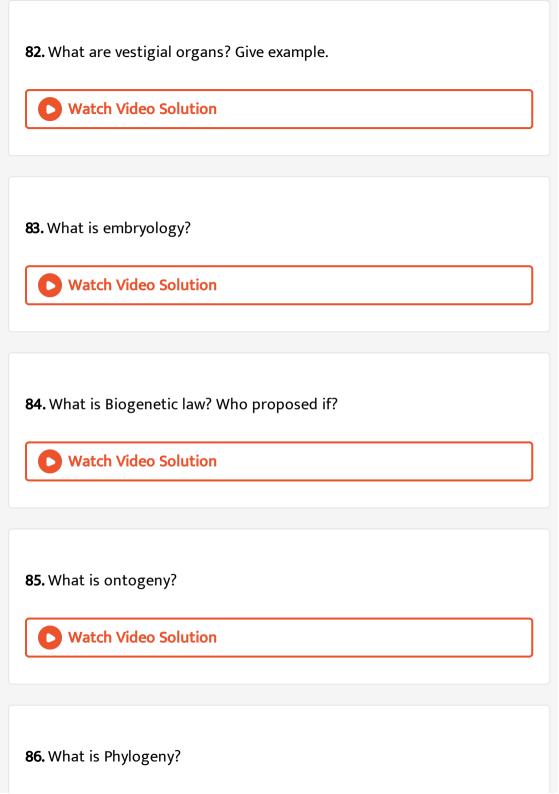


80. What are homologous structures? They cause what type of evolution?

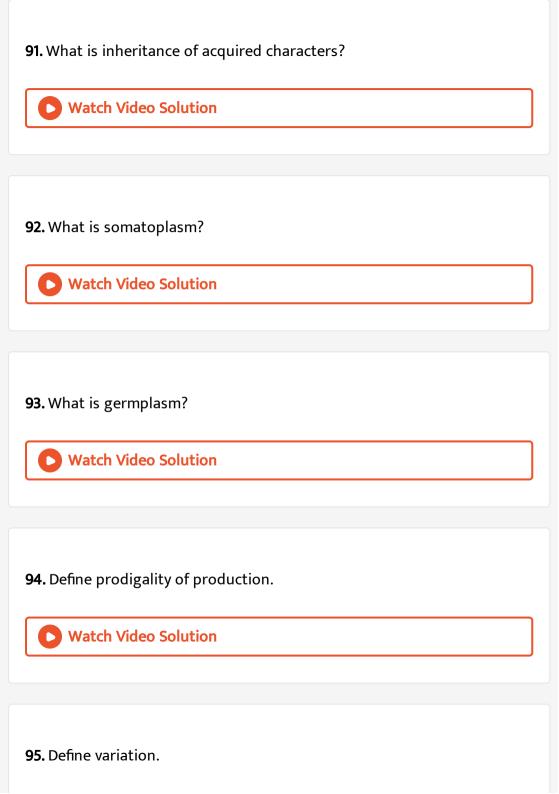


81. What are analogous structures? Which type of evolution do they cause?





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87. What is molecular clock?
Watch Video Solution
88. What is theory of use? Give an example.
Watch Video Solution
89. What is theory of use? Give an example.
Watch Video Solution
90. What is an acquired character?
Watch Video Solution



Watch Video Solution
96. Which causes gentic recombination?
Watch Video Solution
97. What happens due to reproductive isolation?
Watch Video Solution
98. What a adaptive radiation?
Watch Video Solution
99. List the types of selection. Explain: Stabilizing selection
Watch Video Solution

100. What is artificial selection?
Watch Video Solution
101. Define disruptive selective.
Watch Video Solution
102. Define genetic drift.
Watch Video Solution
103. Define bottle neck effect.
Watch Video Solution
104. What is founder's effect?



105. State Hardy - Weinberg equilibrium

106. Using quadratic formula solve the following equations.

107. Write the assumptions included in Hardy Weinberg Principle?



 $p^2x^2 + (p^2 - q^2)x - q^2 = 0$





108. Which theory exploains the origin of univrese?

109. Which theory explain the origin of living organisms from non-living materials? Explain it.



110. List out the vestigial organs found in man

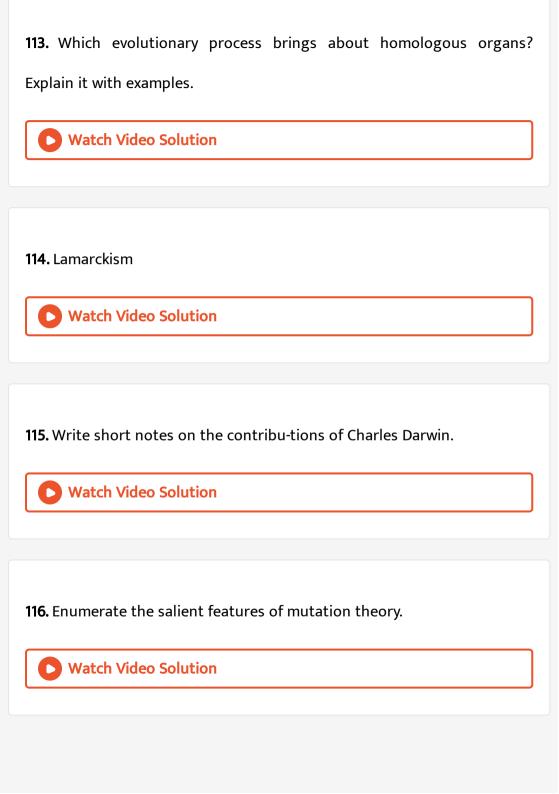


111. "A human body develops a tail" . Justify.



112. How sweet potato and potato are related? Explain.





117. When a few individuals go away from a population, the population loses some genes. What is the name of this phenomenon. Explain?

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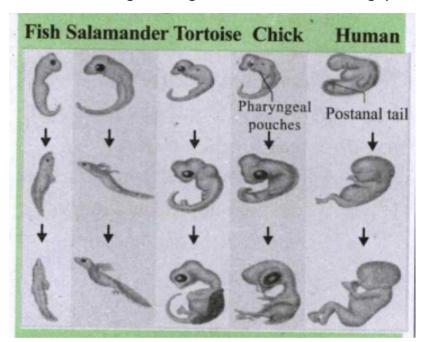
118. Who is the fossil form of modern man?



119. Describe "Protobionts".



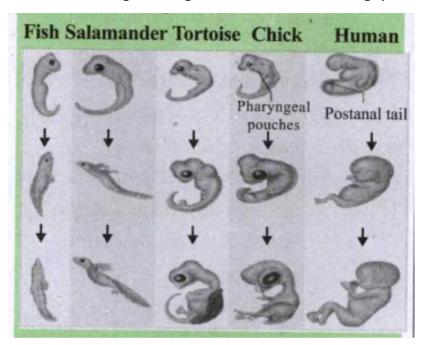
120. Observe the given diagram. Answer the following questions:



Identify the diagram.



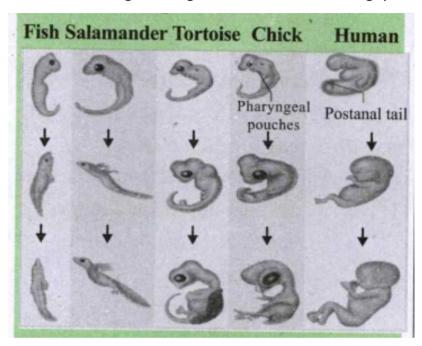
121. Observe the given diagram. Answer the following questions:



Why are the embryos of different vertebrates similar?



122. Observe the given diagram. Answer the following questions:



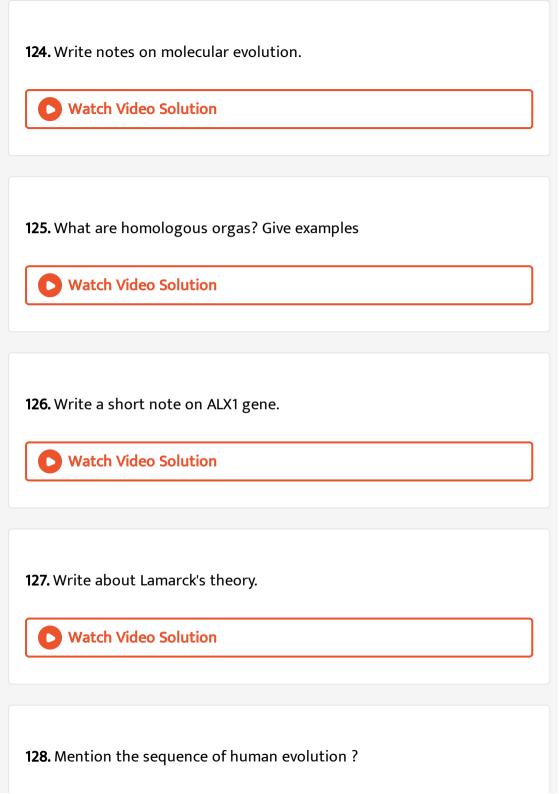
Explain it on the basis of evolution.



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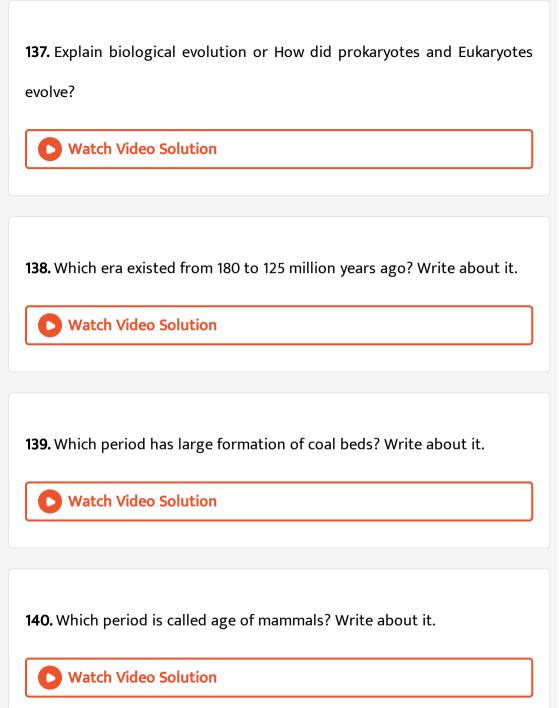
123. Write a short note on biogenetic law.





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129. Who is the first ape man?
Watch Video Solution
130. Who first knew the use of fire? Write about him.
Watch Video Solution
131. Explain exerimental approach to the origin of life. What is the conclusion?
Watch Video Solution
132. What is chemical evolution?
Watch Video Solution

133. Describe "Modern synthetic theory".
Watch Video Solution
134. Explain Darwin's theory of natural selection.
Watch Video Solution
135. Write notes on artificial selection.
Watch Video Solution
136. What is a remnant structure?
Watch Video Solution



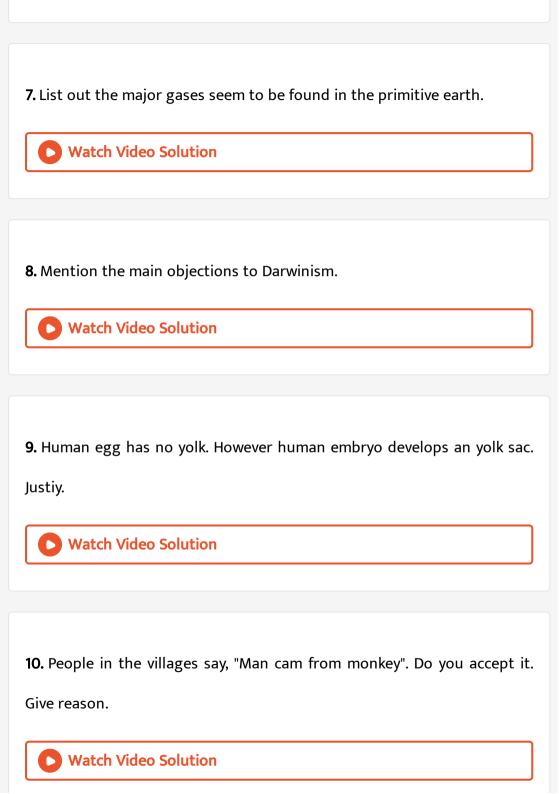
141. Explain the role of natural selection in the mechanism of evolution?
Watch Video Solution
142. Which effect is strong in a small population?
Watch Video Solution
143. Differentiate stabilizing selection from disruptive selection.
Watch Video Solution
Exercise
1. The wings of birds and butterfies is an example of
A. Adaptive radiation

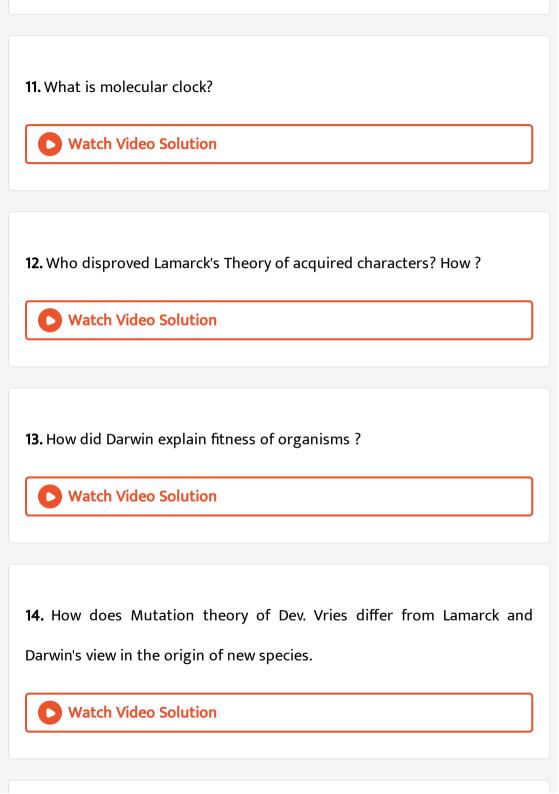
B. Convergent evolution
C. Divergent evolution
D. Variation
Answer:
Watch Video Solution
2. The phenomenon of "Industrial Melanism" demonstrates
A. Natural selection
B. Induced mutation
C. Reproduction isolation
D. Geographical isolation
Answer:
Watch Video Solution

3. The golden age of reptiles was
A. Mesozoic era
B. Cenozoic era
C. Paleozoic era
D. Proterozoic era
Answer:
Watch Video Solution
4. Which is not a molecular clock?
A. Protein
B. DNA
C Unit
C. Lipid
D. RNA

Answer: Watch Video Solution 5. Sampling error is due to A. Immigration B. Mutation C. Gene flow D. Genetic drift Answer: Watch Video Solution **6.** Rearrange the descent in human evolution Austrolopithecus \rightarrow Homo erectus \rightarrow Homo sapiens \rightarrow Ramapithecus \rightarrow Homo habilis.

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15. When a few individuals go away from a population, the population loses some genes. What is the name of this phenomenon. Explain? Watch Video Solution 16. Write a short note on ALX1 gene. **Watch Video Solution** 17. List the types of selection. **Watch Video Solution**

18. Explain how mutations, natural selection and genetic drift affect Hardy Weinberg equilibrium.



19. Which effect is strong in a small population?
Watch Video Solution
20. Explain mechanism of evolution with an example.
Watch Video Solution
21. The firs life on earth originated
A. in air
B. on land
C. in water
D. on mountain
Answer:
Watch Video Solution

22. Who published the book "Origin of species by Natural Selection" in 1859?A. Charles DarwinB. LamarckC. Weismann

Answer:



D. Hugo de Vries

- 23. 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: **Watch Video Solution** 24. The wings of birds and butterfies is an example of A. Adaptive radiation B. Convergent evolution C. Divergent evolution D. Variationi Answer: **Watch Video Solution** 25. The phenomenon of "Industrial Melanism" demonstrates A. Natural selection

C. Reproductive isolation
D. Geographical isolation
Answer:
Watch Video Solution
26. Darwin's finches are an excellent example of
A. Connecting links
B. Seasonal migration
C. Adaptive radiation
D. Parasitism
Answer:
Watch Video Solution

B. Induced mutation

27. Who proposed the Germplasm theory ?
A. Darwin
B. August Weismann
C. Lamarck
D. Alfred Wallace
Answer:
Watch Video Solution
28. The age of fossils can be determined by
28. The age of fossils can be determined by A. Electron microscope
A. Electron microscope
A. Electron microscope B. Weighing the fossils

Answer: **Watch Video Solution** 29. Fossils are generally found in A. Igneous rocks B. metamorphic rocks C. Volcanic rocks D. Sedimentary rocks. **Answer: Watch Video Solution** 30. Evolutionary history of an organism is called A. Ancestry

B. Ontogeny
C. Phylogeny
D. Paleontlogy
Answer:
Watch Video Solution
31. The golden age of reptiles was
A. Mesozoic era
B. Cenozoic era
C. Paleozoic era
D. Proterozoic era
Answer:
Watch Video Solution

32. Which period was called "Age of fishes" ?
A. Permian
B. Triassic
C. Devonian
D. Ordoviciam
Answer:
Watch Video Solution
33. Modern man belogns to which period ?
33. Modern man belogns to which period ? A. Quaternary
A. Quaternary
A. Quaternary B. Cretaceous

Answer: **Watch Video Solution** 34. The Neanderthal man had the brain capacity of A. 650-800cc B. 1200cc C. 900cc D. 1400cc **Answer: Watch Video Solution** 35. 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:



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

A. Individuals mate selectively

B. There is no mutation

C. There is no migration

D. The population is large

Answer:



37. Urey and Miller used the following gaseous mixture in their experiment

A.
$$CH_3+NH_3+H_2+H_2O$$

$${\rm B.} \, CH_4 + NH_3 + H_2 + H_2O_2$$

$$\mathsf{C.}\,CH_4+NH_3+H_2+H_2O$$

D.
$$CH_4+NH_4+H_2+H_2O$$

Answer:



38. Urey and Miller's experiment is a proof for

A. Abiogenesis

B. Biogenesis

C. Special creation

D. Big Bang

Answer:



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39. Identify the organic compounds synthesized from inorganic compounds by Urey and Miller.

- A. Glycine, Alanine, Beta alanine, Aspartic acid.
- B. Glycine, Ammonia, Beta alanine, Aspartic acid
- C. Glycine, Alanine, Ammonia, Aspartic acid
- D. Glycine, Alanine, Beta alanine Ammonia

Answer:



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40. Which one is not related to mutation A. Discontinuous variation B. Not transmitted to other generations C. Fully fledged D. No intermediate forms **Answer: Watch Video Solution** 41. Who believed that gradual accumulation of all variations are the causative factor in the origin of new species A. De varies B. Lamarck C. Darwin D. Haeckel

Answer:



- **42.** Which sequence is in our fore limb.
 - A. Humerus, radius, carpals, ulna, metacarpals, phalanges
 - B. Humerus, ulna, radius ,phalanges, carpals, metacarpals,
 - C. Humerus, radius, ulna, carpals metacarpals, phalanges
 - D. Humerus, radius, ulna, metacarpals, carpals phalanges

Answer:



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- **43.** Which is not an analogous organ
 - A. Eyes of octopus and mammals

B. Flippers of penguins and dolphins
C. Winges of insects and birds
D. Stem modification of sweet potato and root modification of potato
Answer:
Watch Video Solution
44. The diet of the prehitoric animal can be identified by
A. Carts
B. Coprolites
C. Moulds
D. Volcanic ash
Answer:
Watch Video Solution

45. The emergence of homo sapiens as a distinct species from apes proves that

- A. Natural selectionis in force
- B. Struggle for existence
- C. Ontogeny recapitulates phylogeny
- D. Survival of the fittest

Answer:



- 46. Which natural selection leads to adaptive radfiation
 - A. Centripetal selection
 - B. Centrifugal election
 - C. Artificial selection
 - D. Directional selection

Answer: Watch Video Solution 47. Sampling error is due to A. Immigration B. Mutation C. Gene flow D. Genetic drift **Answer:** Watch Video Solution 48. Marsupials have undergone adaptive radiation in A. Africa

B. Australia
C. Galapagos island
D. Asia
Answer:
Watch Video Solution
49. Heritable changes in or more characteristics of a population of
from one generation to other is called evolution.
A. Selection
B. Gene flow
C. Evolution
D. Mutation
Answer:
Watch Video Solution

50. What is the estimated age of solar system and earth byradiometric dating?

- A. 5 to 6.5 billion
- B. 7 to 7.5 billion
- C. 6 to 7.5 billion
- D. 4.5 to 4.6 billion

Answer:



51. Which theory exploains the origin of univrese?

- A. Biogenesis
- B. Abiogenesis
- C. Special creation

Answer:
Watch Video Solution
52. Name the "First pre-cells" transformed into "living cells"?
A. Biotic soup
B. Coacervates
C. Protobionts
D. Protista
Answer:
Watch Video Solution

53. The sea with a large population of organic monomers and polymers is called A. Hot dilute soup B. First cell C. Hot soup D. Pre cell **Answer: Watch Video Solution** 54. Which marine group was predominant during the Paleozoic period? A. Reptiles B. Vertebrates C. Invertebrates D. Pisces

Answer:
Watch Video Solution
55. What is the study of fossils called ?
A. Cytology
B. Embryology
C. Exology
D. Paleontlogy
Answer:
Watch Video Solution
56. Theory of chemical evolution was proposed by
A. Lamarck

B. Oparin and Haldane C. Charles Darwin D. August Weismann **Answer: Watch Video Solution** 57. The golden age of reptiles was A. Paleozoic B. Cenozoic C. Precambium D. Mesozoic **Answer: Watch Video Solution**

58. Hardened faecal matter in tiny pellets of fosil are known as
A. Coacervates
B. Coprolites
C. Casts
D. Colloidal aggregates
Answer:
Watch Video Solution
59. Which theory states that life arose from pre-existing life. Explain.
A. Abiogenesis
B. Biogenesis
C. Special creation
D. Chemical evolution

Answer: Watch Video Solution 60. Biogenetic law was proposed by. A. Heinrich B. Wallace C. Ernst Von Haeckel D. Osborn Answer: Watch Video Solution 61. What is the term used for organisms having different structural patterns but similar function?

A. Analogous B. Homologous C. Vestigial D. Atavistic **Answer: Watch Video Solution** 62. What is the significant finding in the comparative study of the embryo of different animals? A. Structural familiarity B. Structural variety C. Structural clarity D. Structural similarity **Answer:**

63. The process of change occurring in the sequence composition of molecules such as DNA, RNA and protein across generation is known as

- A. Molecular evolution
- B. Biological evolution
- C. Chromosomal evolution
- D. Genetical evolution

Answer:

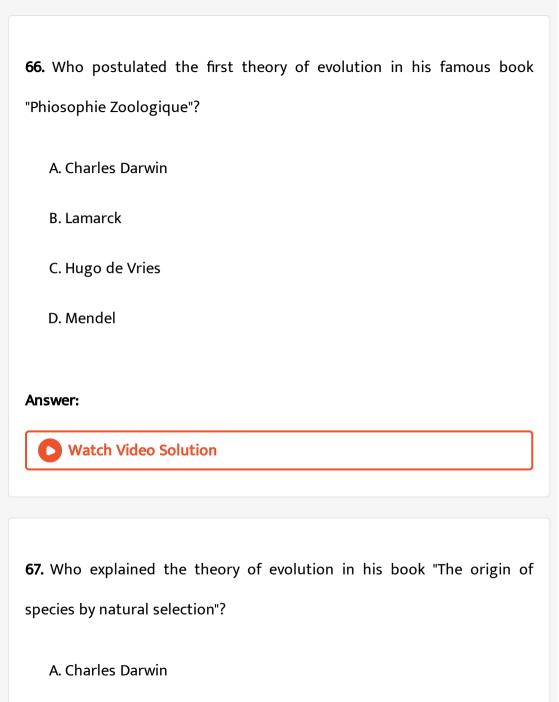


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64. Root modification in potato and stem modification in potato are considered as the best example for

A. Homologous organ

B. Analogous organs C. Organs of use D. Organs of disuse **Answer: Watch Video Solution** 65. A slight change that occurs overtime in conserved molecules DNA, RNA, protein is often called as A. Biological clock B. Geological clock C. Genetical clock D. Molecular clock Answer: **Watch Video Solution**



B. Ernst Haeckel

C. Urey-Miller
D. Oparin and Haldane
Answer:
Watch Video Solution
68. According to Darwin what is the core principle that resulted in the
survival of the fittest?
A. Variation
B. Natural selection
C. Struggle for existence
D. Adaptation
Answer:
Watch Video Solution

69. Industrial Melanism in Pepper Moth Biston betularia is a classic example of

A. Recapitulation

B. Natural selection

C. Artificial selection

D. Micro evolution

Answer:



70. Mild mutation in the ALXI gene leads to phenotypic change in

A. Sparrows

B. Darwin finches

C. Moth

D. Peacock

Watch Video Solution 71. Point out the factors that alters allelic frequency of a population. A. Artificial selection B. Macro evolutioin C. Micro evolution D. Centrifugal selection Answer: **Watch Video Solution** 72. Where Hominid evolution occurred? A. Asia and Africa

Answer:

C. Europe and Asia D. Europe and America **Answer: Watch Video Solution** 73. Cro-Magnon is considered to the ancestor of A. Modern Africans B. Modern Asians C. Modern Americans D. Modern Europeans **Answer: Watch Video Solution**

B. Africa and Europe

74. The study of history of all life forms on Earth that originated on earth millions of years ago is known as

- A. Evolutionary Biology
- B. Paleobiology
- C. Microbiology
- D. Modern biology

Answer:



75. When did modern mam Homo sapiens arise in Africa?

- A. 50000 years ago
- B. 25000 years ago
- C. 75000 years ago
- D. 30000 years ago

Answer: Watch Video Solution 76. Which is not a four chambered heart? A. Reptie B. Crocodile C. Frog D. Fish **Answer:** Watch Video Solution 77. When Woolly mammoth was preserved? A. Frozen coast of Siberia

B. Frozen coast Greenland C. Frozen coast of Alaska D. Frozen coast of Iceland **Answer: Watch Video Solution** 78. Where do we find animals and human beings preserved by volcanic eruption? A. Pompeii B. Venice C. Milan D. Rome **Answer: Watch Video Solution**

79. Why "Archeopteryx" fossil is an example for connecting link.
A. Reptilian characters
B. Bird's character
C. Both Reptilian and bird's character
D. Amphibian character
Answer:
Watch Video Solution
Watch Video Solution
Watch Video Solution 80. Sudden appearance of vestigial organs in highly enlarged organisms ——
80. Sudden appearance of vestigial organs in highly enlarged organisms

D. Organ of disuse

Answer:



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81. Select Hardy-Weinberg equation

A.
$$2(p+q)^2 = P^2 + 4pq + q^2$$

$${\tt B.} \left(p + q \right)^2 = P^2 + 2pq + q^2$$

C.
$$(p+q)^2=P+2pq+q^2$$

D.
$$p^2+q^2=2P+pq+q^2$$

Answer:



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A.

Pro
ightarrow bionts
ightarrow Pro
ightarrow virus
ightarrow Coacervates
ightarrow Mo
eq ra
ightarrow Pro

B.

Pro
ightarrow bionts
ightarrow Coacervates
ightarrow Pro
ightarrow virus
ightarrow Mo
eq ra
ightarrow Pro

C.

Pro
ightarrow bionts
ightarrow Coacervates
ightarrow Pro
ightarrow virus
ightarrow Protista
ightarrow MoD.

Pro
ightarrow bionts
ightarrow Coacervates
ightarrow Protista
ightarrow Mo
eq ra
ightarrow Pro
ightarrow

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Answer:

A. Forelimbs of cat and horse

83. Identify the incorrect pair

B. Wings of insect and bird

C. Tendrils of Cucurbita and stem modification

D. Root modification in sweet potato and stem modificationi in potato

Answer:



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84. Identify the correct sequence

A.
$$Egg
ightarrow Zygote
ightarrow G*r \underline{a}
ightarrow C \leq ava \geq \
ightarrow Bl*\underline{a}$$

B.
$$Egg
ightarrow Zygote
ightarrow Bl*\underline{a}
ightarrow C \leq ava \geq \
ightarrow G*r\underline{a}$$

$$\mathsf{C.}\, Egg \rightarrow Zygote \rightarrow C \leq ava \geq \ \rightarrow Bl * \underline{a} \rightarrow G * r\underline{a}$$

$$\texttt{D.} \ Egg \rightarrow Zygote \rightarrow C \leq ava \geq \ \rightarrow G*r\underline{a} \rightarrow Bl*\underline{a}$$

Answer:



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