



# BIOLOGY

## BOOKS - MBD BIOLOGY (ODIA ENGLISH)

### EVOLUTION

#### Question Bank

1. How many years ago life originated on earth?

A. 2 billion

B. 3.8 billion

C. 4 billion

D. 4.8 billion

**Answer: A**



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**2. What type of organ the vermiform appendix of man is?**

A. Homologous

B. Analogous

C. Vestigial

D. None of these

**Answer: C**



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**3. Who proposed the 'theory of germplasm'?**

A. Newman

B. Weisman

C. Bowman

D. Spencer

**Answer: B**



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**4. Where was life originated?**

A. On land

B. In air

C. In ocean

D. On mountain

**Answer: C**



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**5. Mutation theory was proposed by:**

A. Darwin

B. de Vries

C. Mendel

D. Lamarck

**Answer: B**



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**6. Who was author of the book 'The origin of species'?**

A. Lamarck

B. Darwin

C. Oparin

D. Wallace

**Answer: B**



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7. Life had its origin by:

A. Special creation

B. Spontaneous generation

C. Biogenesis

D. Chemical evolution

**Answer: D**



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**8. Which one is not a vestigial organ in man?**

A. Vermiform appendix

B. Plica semilunaris

C. Ear muscles

D. Epiglottis

**Answer: D**





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9. Who proposed the theory of abiotic origin of life?

A. Aristotle

B. Pasteur

C. Darwin

D. Oparin

**Answer: D**



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10. Origin of species was published in the year:

A. 1809

B. 1859

C. 1885

D. 1871

**Answer: B**



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**11.** For natural selection the important factor is:

A. Disuse

B. Special creation

C. Catastrophy

D. Variation

**Answer: D**



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12. In which era life originated?

A. Precambrian

B. Palaeozoic

C. Mesozoic

D. Coenozoic

**Answer: A**



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**13.** For evolutionary success mutations should occur in :

A. Somatic RNA

B. Germplasm DNA

C. Somatic DNA

D. Germplasm

**Answer: B**



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14. Biogenetic law is also called:

A. Biogenesis

B. Abiogenesis

C. Theory of recapitulation

D. None of these

**Answer: C**



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15. Who of the following is not evolutionist?

A. Ernst haeckel

B. Mendel

C. Charles darwin

D. Cuvier

**Answer: B**



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**16.** From which ancestral genus in Eocene evolution of modern horses started?

A. Merychippus

B. Pliohippus

C. Mesohippus

D. Eohippus

**Answer: D**



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**17.** Which one is considered to be a living fossil?



A. Horse

B. Prawn

C. Platypus

D. Archaeopteryx

**Answer: C**



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**18. \_\_\_\_\_** is a connecting link between annelids and arthropods as well as living fossil?

A. Nereis

B. Peripatus

C. Pheretima

D. Brachiopoda

**Answer: B**



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19. \_\_\_\_\_ proposed a modified and most accepted version of Haeckel's theory of recapitulation.

A. Pasteur

B. Seth wright

C. Von beer

D. Oparin

**Answer: C**



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**20. Early cell types evolved are:**

A. Monera and protista

B. Monera and fungi

C. Protista and fungi

D. None of these

**Answer: A**



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**21.** Who expressed 'evolution is descent with modification'?

A. Bacon

B. Bonnet

C. Charles darwin

D. Erasmus Darwin

**Answer: C**



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22. \_\_\_\_\_ island was considered to be nature's laboratory by Darwin.

A. Hawaii

B. Andaman nicobar

C. Cyelone

D. Galapagos

**Answer: D**



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**23.** Find out the correct sequence of geological periods.

A. Cambrian,Ordovician,Silurian,Devorian

B. Ordovician,Cambrian,Silurian,Devorian

C. Silurian,Ordovician,Cambrian,Devorian

D. Devorian,Silurian,Cambrian,Ordovician

**Answer: A**



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**24.** Hugo de vries proposed mutation theory of evolution working on \_\_\_\_\_.

A. Oerothera lamarckian

B. *Drosophila melanogaster*

C. *Pisum sativum*

D. *Lathyrus odoratus*

**Answer: A**



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**25.** Which one illustrates palaeontological evidence in favour of evolution?

A. Duck-billed platypus



B. Darwin's finch

C. Peripatus

D. Archaeopteryx

**Answer: D**



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**26. Mutation theory was proposed by:**

A. Darwin

B. de Vries

C. Mendel

D. Lamarck

**Answer: B**



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**27.** The modern concept of origin of life is :

A. Special creation

B. Spontaneous generation

C. Biogenesis

D. Chemical evolution

**Answer: D**



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**28.** Who proposed the theory of abiotic origin of life?

A. Aristotle

B. Pasteur

C. Darwin

D. Oparin

**Answer: D**



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**29. Chief agent of evolution is :**

A. Natural selection

B. Mutation

C. Acquired characters

D. Sexual reproduction

**Answer: B**



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**30.** In man the vestigial third eyelid is called:

- A. Upper eyelid
- B. Nictitating membrane
- C. Lower eyelid
- D. Plica semilunaris

**Answer: D**



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31. Experimental proof that some simple molecules like  $H_2$ ,  $NH_3$ ,  $CH_4$  and  $H_2O$  gave rise to amino acids during origin of life was provided by:

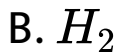
- A. Darwin
- B. Harold urey
- C. Stanley miller
- D. Lamarck

**Answer: C**



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**32.** Which was absent in the atmosphere at the time of origin of life?



**Answer: C**



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**33.** The first organisms were:

- A. Chemoautotroph
- B. Chemoheterotroph
- C. Autotrophs
- D. Eukaryotes

**Answer: A**





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34. Which one is the most essential for origin of life?

A. Enzymes

B. Protein

C. Carbohydrates

D. Nucleic acid

**Answer: D**



**35.** Golden age of dinosaurs or reptile was:

- A. Mesozoic
- B. Coenozoic
- C. Palaeozoic
- D. Psychozoic

**Answer: A**



**36.** The earliest fossils form in the phylogeny of Horse is:

A. Merychippus

B. Mesohippus

C. Eohippus

D. Equus

**Answer: C**



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**37.** Presence of gill slits in the embryo of all vertebrates supports the theory of:

A. Organic evolution

B. Biogenesis

C. Metamorphosis

D. Recapitulation

**Answer: D**



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38. Which is sequenced during study of phylogeny?

A. mRNA

B. rRNA

C. tRNA

D. DNA

**Answer: D**



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**39.** The early stage of human embryo distinctly possesses:

A. Gills

B. Gills slits

C. External ear

D. Eye brows

**Answer: B**



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40. Sum total of genes in a population is:

A. Genotype

B. Karyotype

C. Genetic constitution

D. Gene pool

**Answer: D**



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**41.** Genetic drift operates in:

- A. Small population
- B. Large population
- C. Island population
- D. Mendelian population

**Answer: A**



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42. Phenomenon of industrial melanism demonstrates:

A. Geographical isolation

B. Natural selection

C. Reproductive isolation

D. Induced isolation

**Answer: B**



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43. What is gene flow?

A. Transfer of genes genetically distinct but interbreeding population

B. Transfer of genes from females to male of an organism

C. Transfer of genes from outside to chromosomes

D. Transfer of genes from sperm to eggs

**Answer: A**



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44. Allopatric speciation is caused by

A. Temporal isolation

B. Adaptive radiation

C. Geographic isolation

D. Reproductive isolation

**Answer: C**



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**45.** Sympatric speciation is caused by:

- A. Genetic isolation
- B. Interbreeding
- C. Geographic isolation
- D. Reproductive isolation

**Answer: D**



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**46.** New species develop due to:

- A. Isolation and mutation
- B. Competition and mutation
- C. Isolation and competition
- D. None of these

**Answer: B**



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**47.** The antibiotics used in lederberg's replica plating experiment was

A. Penicillin

B. Streptomycin

C. Erythromycin

D. Neomycin

**Answer: A**



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**48.** Transfer of genes from one gene pool to another is:

A. Genetic drift

B. Gene flow

C. Speciation

D. Mutation

**Answer: B**



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**49.** Frequency of an allele may change in isolated population due to:

A. Genetic drift

B. Mutation

C. Natural selection

D. Gene flow

**Answer: A**



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**50.** Vermiform appendix of man is an example of :



A. Homologous organ

B. Analogous organ

C. Atavistic character

D. Vestigial organ

**Answer: D**



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**51.** Evolutionary history of an organism is known as:

A. Ontogeny

B. Phylogeny

C. Ancestry

D. Palaeontology

**Answer: B**



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**52. Which of the following is correct?**

A. Australopithecus is the real ancestor of modern man

B. Cro-magnon man's fossil has been found in Ethiopia

C. Homo erectus is the ancestor of man.

D. Neanderthal man is the direct ancestor of Homo sapiens

**Answer: C**



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53. The age of fossils of dryopithecus on the geological time scale is:

A.  $75 \times 10^6$  years back

B.  $2.5 \times 10^6$  years back

C.  $25 \times 10^6$  years back

D.  $50 \times 10^6$  years back

**Answer: C**



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54. The extinct human who lived 1,00,000 to 40,000 years ago in Europe Asia and parts of Africa with short stature heavy eye brows retreating fore heads large jaws with heavy teeth stocky bodies a lumbering gait and stooped posture was:

- A. Neanderthal human
- B. Cro-Magnon humans
- C. Ramapithecus
- D. Homo habilis

**Answer: A**



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**55.** Homosapiens evolved thing:

A. Pleistocene

B. Oligocene

C. Pliocene

D. Miocene

**Answer: A**



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56. Which of the following is closest relative of man?

A. Chimpanzee

B. Gorilla

C. Orangutan

D. Gibbon

**Answer: A**



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57. Which of the following is correct order of the evolutionary history of man?

A. Peking man, homo sapiens Neanderthal man ,Cro-Magnon man.

B. peking man , Neanderthal man,Homo sapiens,cromagnon man.

C. Peking man,hedalberg man, Neanderthal man,cromagnon man

D. peking man, Neanderthal man,Homo sapiens Hedalberg man



**Answer: C**



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**58.** In recent years , DNA sequence (nucleotide sequence ) of mt-DNA and Y chromosomes were considered for the study of human evolution because :

A. can be studied from the samples of fossil remains

B. are small and thus easy to study

C. Are uniparental in origin and do not take part in recombination

D. Their structure is known in greater detail.

**Answer: B**



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**59.** Which of the following was the transitional stage between apes and human:

A. Homo habilis

B. Homo erectus

C. Australopithecus ramidus

D. Australopithecus Africans

**Answer: C**



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**60. Highest cranial capacity is found in:**

A. Homo sapiens

B. Neanderthal man

C. Peking man

D. Cro magnon man

**Answer: D**



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**61. Cro-magnon man was:**

A. Frugivorous

B. Carnivorous

C. Herbivorous

D. Sangivorous

**Answer: B**



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**62.** What evidence suggest that chimpanzee is more closely related to human than other hominid species?

A. DNA from sex chromosomes only

B. Chromosomes morphology only

C. Fossil remains

D. DNA of both autosomes and sex chromosomes

**Answer: D**



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**63.** Cranial cavity of Australopithecus was:

A. 650-700  $cm^3$

B.  $420-500\text{cm}^3$

C.  $1050-1150\text{cm}^3$

D.  $1400-1450\text{cm}^3$

**Answer: B**



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**64.** Tuang baby is:

A. Dryopithecus

B. Australopithecus

C. Peking man

D. Piltdown man

**Answer: B**



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**65.** Which one of the following ape is found in india:

A. Gorilla

B. Gibbon



C. Chimpanzee

D. Orangutan

**Answer: A**



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**66.** Most primary hominoid appeared was:

A. Pleistocene

B. Early miocene

C. Late miocene and early Pliocene

D. Late plicone

**Answer: C**



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**67.** There are two opposing views about origin of modern man. According to one view Homo erectus in Asia were the ancestor of modern man. A study of variations of DNA however suggested african origin of modern man. What

kind of observation of DNA variation could suggest this:

- A. Greater variation of Africa than in asia
- B. Variation only in asia and no variation in africa
- C. Greater variation in asia than in africa
- D. Similar variation in africa and asia

**Answer: A**



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68. The last common ancestor between the african apes and hominids lived during\_\_\_\_\_epoch:

A. Oligocene

B. Pliocene

C. Miocene

D. Pleistocene

**Answer: B**



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**69.** What was the most significant trend in the evolution of modern man (*Homo sapiens*) from his ancestors?

- A. Binocular vision
- B. Increasing cranial capacity
- C. Upright posture
- D. Shortening of jaws

**Answer: B**



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70. The cranial capacity of Neanderthal man was about:

A. 1450 cc

B. 900 cc

C. 650 cc

D. 1100 cc

**Answer: A**



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71. What is the correct sequence of human evolution?

A. Ramapithecus → Australopithecus →

Homoerectus → Neanderthal →

Homosapiens

B. Ramapithecus → Homo habilis →

Homo sapiens sapiens → Homoerectus

C. Australopithecus → Ramapithecus →

Homo habilis → Homo sapiens sapiens

D. Homo habilis → Australopithecus →

Homo erectus → Homo sapiens

**Answer: A**



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**72.** Among the human ancestors the brain size was more than 1000 cc in :

A. Homo erectus

B. Ramapithecus



C. Homo habilis

D. Homo neanderthalensis

**Answer: D**



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**73.** What was the most significant trend in the evolution of modern man (Homo sapiens) from his ancestors?

A. Upright posture

B. Shortening of jaws

C. Binocular visions

D. Increasing brain capacity

**Answer: D**



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**74.** Name the island where Darwin observed the modification of beak in birds.



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75. Name the theory of evolution that supports industrial melanism in insects.



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76. Name the first fossil horse.



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77. Who explained organic evolution as the descent with modification?



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**78.** How many years ago life originated on earth?



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**79.** Who proposed the theory of spontaneous generation?



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**80.** Life originates from pre-existing living being'

OR Theory of biogenesis was advocated by whom?



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**81.** Who wrote the book 'The origin of life on earth'.



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**82.** Who provided experimental evidences in support of chemical evolution of life?



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**83.** Which is the most modern theory for origin of life?



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**84.** Who named the sea water of primitive earth as 'hot dilute soup'?



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**85.** To what oparin called living molecules?



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**86.** What is the first living cell termed?



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**87.** Synthesis of which molecule initiated cell division and biological evolution?



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**88.** Name the primitive organism were the ancestors of modern bacteria and blue green-algae.



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**89.** In which primitive cell type nucleus was formed?



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**90.** Who first used the term "evolution" in the field biology?



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**91.** Who proved experimentally that simple molecules could have rise to complex life-forming molecules?



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**92.** Which Greek philosopher said 'Life has originated and evolved from sea water' and regarded as father of evolutionary ideas?



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93. Who proposed the 'theory of preformation' i.e. the ovum contains a miniature adult in performed state?



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94. In the 18th century who suggested that modifications arise by the reaction of organism with the environment?



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**95.** In which book Lamarck deal this theory 'inheritance of acquired characters'?



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**96.** Who advocated for use and disuse theory?



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**97.** Who advocated In favour of 'Theory of catastrophism'?



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**98.** Who was author of the book 'The origin of species'?



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**99.** Who had exactly identical observations and ideas with that of Darwin on evolution?



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**100.** Which economist influenced Darwin for his theory of Natural Selection?



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**101.** Fill in the blanks with correct answer(s):

Recapitulation theory was postulated by\_\_\_\_\_.



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**102.** Who proposed the 'theory of germplasm'?



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**103.** Which theory best describes evolution at the present day?



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**104.** Name the ship in which Darwin had a voyage around the world?



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**105.** What is unit of evolution?



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**106.** What are the organs having similar origin and development but different in function called?



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**107.** What are the organs of similar function but of different pattern of origin and development called?



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**108.** What are the organs which were well developed and functional in the ancestor but are reduced and non-functional at present known as?



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**109.** What does the term phylogeny mean?



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**110.** What does the term ontogeny mean?



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**111.** Which fossil bird is regarded as connecting link between reptiles and aves?





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112. Term \_\_\_\_\_ describes the remains of plants and animals in the form of rocks.



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113. \_\_\_\_\_ era is called golden age of reptiles.



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**114.** In \_\_\_\_ era mammalian evolution started.



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**115.** In \_\_\_\_ Epoch early man originated.



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**116.** From \_\_\_\_ five-toed ungulate the modern horses have evolved?



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**117.** The forelimbs of frog, lizard, horse, man and wings of birds and bats are examples of \_\_\_\_\_ organs.



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**118.** The book 'Genetics and origin of Species' was written by \_\_\_\_\_.



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119. Modern synthetic theory is otherwise termed as \_\_\_\_\_



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120. \_\_\_\_\_ was the grandfather of charles darwin.



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**121.** The struggle among the individuals of the same species known as \_\_\_\_\_.



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**122.** The struggle among the individuals of the different species termed as \_\_\_\_\_.



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**123.** \_\_\_\_\_ was co-worker of Darwin.



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**124.** Structural differences among individuals which make them either fit or unfit in the struggle for existence can be expressed by term \_\_\_\_\_



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**125.** \_\_\_\_\_ theory of lamarck explains presence of vestigial organs in the organism.







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**126.** Mutation in \_\_\_\_\_ cells of the body brings about phenotypic changes in the offsprings.



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**127.** Vermiform appendix of man is an example of :



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**128.** The theory of inheritance of acquired characters was proposed by\_\_\_\_\_.



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**129.** Aristotle proposed the theory of abiotic origin of life.



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**130.** Analogy in the vertebrate limb structure has give rise to a phenomena known as

adaptive radiation.



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**131.** The book origin of species was written by A.I. oparin.



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**132.** Coenozoic era is age of reptiles.



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**133.** Haeckel proposed germ plasm theory.



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**134.** Explain Miller and urey experiment.



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**135.** What are the homologous organs or divergent evolution?



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**136.** What are the analogous organs or convergent evolution?



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**137.** Explain Oparin and Haldanes Abiogenesis?



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**138.** What is genetic drift?



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**139.** What is Hardy -Weinberg principle?



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**140.** Explain industrial mechanism.



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**141.** Explain vestigial organ.



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**142.** Explain ontogeny repeats phylogeny.



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**143.** What are homologous organs? Mention their significance.



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**144.** What are fossils and how are they formed?



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**145.** Explain antibiotic resistance observed in bacteria in light of Darwinian selection theory.



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**146.** Attempt giving a clear definition of term species.



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**147.** Try to trace the various components of human evolution (HINT:Brain size and function,skeletal structure dietary preference,etc.)



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**148.** List 10 modern day animals and using the internet resources link it to a corresponding ancient fossil. Name both.



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**149.** Name the connecting link between reptiles and aves that indicates the reptilian and avian characters.



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**150.** Arrange the following geological eras in proper sequence that indicate the dominant fauna of each other.

Cenozoic, palaeozoic, Mesozoic, Proterozoic



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**151.** Distinguish between fossil and living fossil.



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**152.** Distinguish between analogous organ and homologous organ.



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**153.** What do you understand by coacervate?



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**154.** Explain biogenetic law.



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**155.** Discuss theory of natural selection proposed by darwin.



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**156.** Which one illustrates palaeontological evidence in favour of evolution?



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**157.** Discuss embryological evidences of evolution.



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**158.** Write short note on: Human evolution



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**159.** Write short note on: Adaptive radiation



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**160.** Write short note on: Hardy Weinberg principal



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**161.** Write short note on: Genetic drift



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**162.** Write short note on: Variation



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**163.** Write short note on: Natural selection



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**164.** Write short note on: Fossil evidence



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**165.** Write short note on: Gene mutation





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