



BIOLOGY

BOOKS - CENGAGE BIOLOGY (HINGLISH)

EVOLUTION

Exercise

1. Which of the following is not true about coacervates?

- A. They are protein aggregates .
- B. They do not have lipid membrane and cannot reproduce.
- C. The work on coacervates was done by Oparin.
- D. They are protobionts with polysaccharides, proteins, and water .

Answer: A



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2. Extra - terrestrial origin of life was proposed by theory of

- A. Catastrophism
- B. Spontaneous generation
- C. Special creation
- D. Panspermia

Answer: D

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3. Eukaryotes developed around

- A. 1600 million years ago
- B. 459 million years ago
- C. 3800 million year ago

D. 4200 million year ago

Answer: A



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4. Simple one-celled cyanobacteria like organisms appeared on earth

A. 5600 million

B. 5000 million

C. 4600 million year ago

D. 3.3 to 3.5 billion year ago

Answer: D



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5. Theory of abiogenesis or spontaneous generation was finally disapproved by

- A. Louis Pasteur
- B. A.I. Oparin
- C. A.R. Wallace
- D. Sydney Fox

Answer: A



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6. Which one of the following experiments suggests that simplest living organisms could not have originated spontaneously from non-living matter

- A. Larvae could appear in decaying organic matter .
- B. Microbes did not appear in stored meat.

C. Microbes appeared from unsterilized organic matter .

D. Meat was not spoiled when heated and kept sealed in a vessel.

Answer: D



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7. The proponent of the theory of spontaneous generation was

A. Louis Pasteur

B. van Helmont

C. Spallanzani

D. Francesco Redi

Answer: B



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8. According to cosmozoic theory, life comes on earth from other planets in space in the form of

- A. Spores
- B. Seeds
- C. Gametes
- D. All of these

Answer: D



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9. The theory that living organisms on the earth came from outer space is based on the study of

- A. Igneous rocks
- B. Sedimentary rocks
- C. Meteorites

D. Moon soil.

Answer: C



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10. One of the following appeared on the earth with the coming of the plants and was absent in the past

A. Carbon dioxide

B. Methane

C. Ammonia

D. Oxygen

Answer: D



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11. The scientist related with the theory of biogenesis and experiments with swan-necked flasks is

- A. van Helmont
- B. Louis Pasteur
- C. Miller
- D. Haeckel

Answer: B



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12. The atmosphere became oxidising with the appearance of

- A. Autotrophic bacteria
- B. Autotropic cyanobacteria
- C. Land plants
- D. Algae

Answer: B



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13. Which one of the following gas was not present in free form at the time life originated on earth?

- A. Ammonia
- B. Oxygen
- C. Hydrogen
- D. Methane

Answer: B



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14. An experiment to prove that organic compounds were the basis of life, was performed by

A. Von Helmont

B. Opann

C. S. Miller

D. Fox

Answer: C

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15. Stanley Miler had put the Oparin-Haldane theory to test in 1953 by creating in the faboratory, the probable conditions on the primitive earth. In the experiment simple aminoacids were synthesized from which of the following modures, as observed after eighteen days?

A. H_2 , O_2 , N_2 , and H_2O

B. CH_2 , CN , H_2 and O_2

C. H_2 , NH_3 , CH_4 and water vapor

D. NH_3 , CH_4 , and O_2

Answer: C



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16. The English scientist who worked on the origin of life and settled in India?

A. A.I. Oparin

B. J.B.S. Haldane

C. Louis Pasteur

D. van Helmont

Answer: B



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17. Which ones are the most essential for origin of life?

A. Enzymes

B. Protein

C. Carbohydrates

D. Nucleic acids .

Answer: D



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18. Russian scientist who proposed the theory of origin of life was

A. Opann opann

B. Haldane

C. Miller

D. None of these

Answer: A



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19. The presence of salts (NaCl and others) in animal body fluid gives an inference that life originated in the

- A. Primitive ocean
- B. Rain-water lakes
- C. Salt solution
- D. All of these

Answer: A



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20. Origin of life from nonliving matter is known as

- A. Coaoervates
- B. Abiogenesis
- C. Biogenesis

D. None of these

Answer: B



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21. A.I. Oparin wrote

A. Origin of Species

B. Origin of Life

C. Philosophic Zoologique

D. The Planet

Answer: B



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22. The first organisms appeared on earth were

A. Chemoheterotrophs

B. Chemoautotrophs

C. Photoautotrophs

D. Decomposers

Answer: A



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23. Most important condition for origin of life is the presence is

A. Water

B. Oxygen

C. Nitrogen

D. carbon

Answer: A



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24. H.C. Urey wrote the following book

- A. The planets
- B. Origin of Life
- C. The origin of Species
- D. None of these

Answer: A



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25. During the origin and evolution of life, key biological compounds were progressively synthesised in ocean with the help of energy obtainable from

- A. Lightning
- B. Ultraviolet light
- C. Lightning as well as ultraviolet light

D. Combustion of certain compounds ?

Answer: C



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26. Which type of respiration probably arose first?

- A. Aerobic as it releases more energy
- B. Anaerobic as it releases more energy
- C. Aerobic as it is more complex
- D. Anaerobic as early atmosphere contained little or no oxygen

Answer: D



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27. Early atmosphere contained methane and other hydrocarbons. They have been now replaced by

- A. Nitrogen
- B. Oxygen
- C. Carbon dioxide
- D. Hydrogen

Answer: C



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28. According to the discovery made in 1980's. RNA can act like enzyme to assemble new RNA molecules on RNA template. Which of the following statements is not proved by this theory?

- A. Coacervates may not have been the first step in the evolution of life

B. Perhaps the first macromolecule was RNA.

C. Coacervates were the basis for the first cell.

D. After the formation of RNA, the stability of molecule improved by surrounding RNA within a coacervate.

Answer: C

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29. The aggregates of artificially produced prebiotic molecules are called

A. Protobionts

B. Microspheres

C. Coacervates

D. Prokaryotes

Answer: A

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30. Evolutionary process, giving rise to new species adapted to new habitats and ways of life, is called as adaptive radiation, for example

- A. Darwin's finches in Galapagos Islands
- B. Australian marsupials that radiated to form new species
- C. Wolf and Tasmanian wolf
- D. Both (1) and (2)

Answer: D



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31. Humming birds and hawk illustrate

- A. Convergent evolution
- B. Homology
- C. Adaptive radiation

D. Parallel evolution

Answer: C



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32. Convergent evolution is illustrated by

A. Rat and dog

B. Bacterium and protozoan

C. Satr fish and cuttlefish

D. Dog fish and whale

Answer: D



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33. All the following are examples of homologous organs, except

- A. Arm of man and flipper of whale
- B. Thorn of Bougainvillea and tendril of Cucurbit
- C. Eye of an octopus and eye of a mammal
- D. Brain of frog and man

Answer: C

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34. The homologous organs are

- A. Wings of pigeon and housefly
- B. Wings of housefly and bat
- C. Wings of pigeon and forelimbs of man
- D. Wings of butterfly, bat , and housefly

Answer: C

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35. Anatomically and structually different, but function similar structures are called

- A. Analogous
- B. Divergent
- C. Homologous
- D. Convergent

Answer: A



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36. Organs which have similar origin and developmental plan, but different functions are called

- A. Vestigial organs
- B. Analogous organs

C. Homologous organs

D. Physiological organs

Answer: C



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37. Find the odd one out :

A. Trunk of an elephant and hand of a chimpanzee

B. Ginger and sweet potato

C. Wings of bat and insect

D. Nails of human beings and claws of a cat

Answer: D



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38. The convergent evolution of two species is usually associated with

- A. A recent common ancestor
- B. Analogous organs
- C. Homologous organs
- D. Different habitat

Answer: B



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39. Find the odd one out with respect to evolution.

- A. Seal's flipper
- B. Bat's wing
- C. Horse's foot
- D. Butterfly's wings

Answer: D



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40. Which of the following is not vestigial organ in human beings ?

- A. Rudimentary ear muscles, third molars (wisdom teeth), and body hair
- B. Occygeal tail vertebrae and scalp muscles
- C. Vermiform appendix and nictitating membrane of the eye
- D. Ear pinna, patella, and olecranon process.

Answer: D



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41. Which of the following are vestigial organ of man ?

- A. Hair, olecranon process, coccyx, and patella
- B. Coccyx, vermiform appendix, and ear muscles
- C. Wisdom tooth, mammary gland, coccyx, and patella
- D. Coccyx, hair, ear ossicles, and vermiform appendix

Answer: B

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42. Which of the following is a vestigial organ

- A. Vermiform appendix
- B. Atlas
- C. Premolars
- D. Incisors

Answer: A

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43. Which of the following is not a vestigial organ?

- A. Scalp hair
- B. Epiglottis
- C. Vermiform appendix
- D. Wisdom tooth

Answer: B



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44. Archaeopteryx is a connecting link between

- A. Birds and reptiles
- B. Reptiles and mammals
- C. Annelids and arthropods

D. Amphibians and fishes

Answer: A



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45. The recapitulation theory was put forth by

A. Haeckel

B. Cuvier

C. Wallace

D. Lamarck

Answer: A



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46. Gill clefts and notochord appear in the embryonic development of all vertebrates from fishes to mammals. This supports the theory of

- A. Recapitulation
- B. Metamorphosis
- C. Biogenesis
- D. Abiogenesis

Answer: A



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47. Cycas and Ginkgo are connecting links between

- A. Barophytes and pteridophytes
- B. Pteridophytes and gymnosperms
- C. Gymnosperms and angiosperms
- D. Thallophyta and bryophyta

Answer: B



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48. Which one of the following is not a living fossil?

- A. peripatus
- B. King crab
- C. Archaeopteryx
- D. Sphenodon

Answer: C



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49. Haeckel's biogenetic law states that

- A. Life originates from lifeless beings

- B. Course of evolution of a race is repeated in the life history of an individual
- C. Progeny of an organism resembles its parents
- D. Life originates from pre-existing life

Answer: B

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50. Presence of tail and coarse hair in human baby is

- A. Radiation
- B. Atavism
- C. Mutation
- D. Crossing - over

Answer: B

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51. Origin of mammal-like reptiles occurred in

- A. Triassic period
- B. Permian period
- C. Jurassic period
- D. Tertiary period

Answer: B



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52. Excreta preserved as a fossil is called as

- A. Stromatolite
- B. Compression fossil
- C. Intact fossil

D. Caprolite

Answer: D



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53. Ape- like ancestors of human appears in epoch

A. Pleistocene

B. Pliocene

C. Miocene

D. Oligocene

Answer: B



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54. Which of the following is incorrect match?

- A. Devonian period - Age of fishes
- B. Carboniferous period- Age of amphibians
- C. Ordovician period- Age of invertebrates
- D. Cretaceous period - Age of reptiles

Answer: D

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55. Mesozoic era is called the

- A. Age of fishes
- B. Age of reptiles
- C. Age of mammals
- D. Age of birds

Answer: B

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56. Which of the following is known as age of mammals?

A. Mesozoic

B. Paleozoic

C. Coenozoic

D. Archaeozoic

Answer: C



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57. First mammals appeared around

A. 459 million years ago

B. 220 million years ago

C. 1600 million year ago

D. 3800 million year ago

Answer: B

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58. Which of the following arrangement of periods of the mesozoic era gives a correct sequence from the earliest to the latest?

A. Jurassic, Triassic, Cretaceous

B. Triassic, Jurassic, Cretaceous

C. Permian, Jurassic, Triassic

D. Devonian, Permian, Jurassic

Answer: B

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59. Jurassic period of the Mesozoic era is characterised by

- A. Gymnosperms are dominant plants and first birds appears.
- B. Dinosaurs become extinct and agiosperms appear.
- C. Flowering plants and first dinosaurs appear.
- D. Radiation of reptiles and origin of mammals - like reptiles .

Answer: A



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60. The flowering plants originated in which of the following periods ?

- A. Cretaceous
- B. Tertiary
- C. Triassic
- D. Carboniferous

Answer: A



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61. Amphibia first appeared in which of the following period?

- A. Permian
- B. Carboniferous
- C. Devonian
- D. Silurian

Answer: C



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62. The Permian period, during which the first most modern orders of insects appeared, occurred approximately

- A. 80 million years ago
- B. 150 million years ago
- C. 280 million years ago
- D. 550 million years ago

Answer: C

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63. Dinosaurs were abundant in

- A. Jurassic period
- B. Devonian period
- C. Permain period
- D. Pleistocene period

Answer: A

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64. Fossils of Archaeopteryx were found from

- A. Jurassic rocks
- B. Triassic rocks
- C. Cretaceous rocks
- D. Cenozoic rocks

Answer: C



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65. The epoch of human civilization is

- A. Pliocene
- B. Holocene
- C. Pleistocene

D. Palaeocene

Answer: C



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66. Continental drift explains

- A. Mass extinctions
- B. Distribution of fossils on earth
- C. Geographical upheavals
- D. All of these

Answer: D



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67. Which one provides direct and solid evidence in favour of organic evolution through ages ?

- A. Atavism
- B. Palaeontology
- C. Vestigial organs
- D. Galapagos island fauna

Answer: B



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68. the origin of seeds in the land plants was achieved about 345 million years ago, in lineages recognised as ancestral to all more advanced vascular plants in

- A. Rhynia
- B. Tracheophyte ancestor

C. Seed ferns

D. Conifers

Answer: C



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69. The last major evolutionary advancement among vascular plants was the emergence of flowering plants (angiosperms) about

A. 350 million years ago

B. 140 million years ago

C. 1600 million years ago

D. 220 million years ago

Answer: B



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70. An evolutionary trend in which there is general degeneration and loss of organs is

- A. Progressive
- B. Vestigial
- C. Retrogressive
- D. Stasigenesis

Answer: C



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71. As horse evolved, there was progressive reduction in the number of toes. Which of the following is the correct sequence in the evolution of horse ?

- A. Orophippus, Hyracotherium, Mesophippus, Callipus, Merychippus, Pliophippus, Equus

B. Hyracotherium, Orophippus, Mesophippus, Merychippus, Pliohippus,

Equus

C. Orophippus, Callipus, hyracotherium, Mesophippus, Merychippus,

Pliohippus, Equus

D. Hyracotherium , Mesohippus, Orohippus , Gallipus, Merychippus,

Pliohippus, and Equus

Answer: B



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72. Replacement of original hard parts of even the soft tissues of the organisms by minerals is known as

A. Compression

B. Petrification

C. Molds

D. Amber

Answer: B



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73. The study of the fossil plants is known as

A. Palaeontology

B. Palaeobotany

C. Palynology

D. Palaeoanatomy

Answer: B



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74. Which of the following is richest in fossil?

- A. Basalt
- B. Granite
- C. Lava
- D. Sedimentary rock

Answer: D

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75. Why do we dig fossils and study them ?

- A. To find new fossils that have not yet been recorded.
- B. Fossil finding gives occupation to scientist .
- C. Fossils fill the gap in the evolutionary records of animals.
- D. Fossil throw light on the evolution of animals of the past.

Answer: D

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76. Which one of the following is used for dating archaeological specimens in wood, bones, and shells ?

A. Uranium -238

B. Argon isotope

C. Carbon-14

D. Strontium -90

Answer: C



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77. Age of fossils was previously determined by radioactive elements. More precise recent method which has led to revision to evolutionary periods is

A. Study of carbohydrate and protein in fossils

- B. Study of conditions of fossilization
- C. Electron spin resonance and fossil DNA
- D. Presence of carbohydrate and protein in rocks

Answer: C



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78. The oldest fossil of modern horse is known as

- A. Eohippus
- B. Mesohippus
- C. Merychippus
- D. Equus

Answer: A



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79. The theory of inheritance of acquired character or the theory of use and disuse of organ was given by

- A. Wallace
- B. Lamarck
- C. Charles Darwin
- D. Hugo de Vries

Answer: B



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80. Weismann cut off tails of mice generation after generation but tails neither disappeared nor shortened showing that :

- A. Tail has the power of regeneration
- B. Mutation theory is wrong
- C. Lamarckism was wrong in the inheritance of acquired character

D. Tail is an essential organs .

Answer: C



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81. A scientist kept 80 generation of Drosophila in darkness, and even after that , the flies had normal eyes. This disapproves the law of

A. Natural selection

B. Neo-Darwinism

C. Use and disuse

D. Synthetic theory

Answer: C



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82. Who among the following is associated with the concept of appetency ?

- A. Lamarck
- B. Charles Darwin
- C. Wallace
- D. Erasmus Darwin

Answer: A



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83. Penguin is a bird that lose the use of its wings by not flying . Such statement would express the view of

- A. Darwin
- B. Wallace
- C. Lamarck

D. Huxley

Answer: C



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84. Which of the following is the correct sequence of events in the origin of new species according to Darwinism ?

- A. Natural selection , variation and their inheritance, survival of fittest, Struggle for existence, high rate of reproduction
- B. High rate of reproduction, constancy in number, struggle for existence, inheritable variations, survival of fittest, natural selection
- C. High rate of reproduction, variations, constancy in number , struggle for existence, survival of fittest

D. Variation , high rate of reproduction , constancy in number ,
struggle for existence, survival of fittest, natural selection

Answer: B



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85. The main drawback of Darwin's theory of natural selection was that it could not provide satisfactory explanation of

A. Survival of fittest

B. Struggle for existence

C. Mimicry

D. Basis of variation and the mode of transmission of the variants to
the next generation.

Answer: D



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86. According to the theory proposed by T.R. Malthus,

- A. Population and the existing means of subsistence increase at the same rate
- B. Population increases arithmetically while the existing means of subsistence increase geometrically
- C. Population increases geometrically while the means of subsistence increase arithmetically
- D. Population increases at a fast rate but the means of subsistence do not increase

Answer: C



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87. Successful adaptation means

- A. Moving to a new means
- B. Producing more offsprings
- C. An increase in fitness
- D. Evolving new characteristics

Answer: C

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88. Frequency of a character increase when it is

- A. Recessive
- B. Dominant
- C. Inheritable
- D. Adaptable

Answer: D

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89. "Descent of Man and Selection in Relation to Sex " was written by

A. Nicolaus Copernics

B. Darwin

C. Carolus Linnaeus

D. Francesco Redi

Answer: B



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90. Regarding evolution , Darwin's explanation is that

A. Certain species have " built-in" plans of evolution

B. The traits used most often persist longer

C. Progressive adaptations enable one species to have more offsprings

D. Code determines which species should evolve

Answer: A



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91. Darwin's theory of pangenesis proposes

A. Development of useful organs and degeneration of useles organs

B. Development of an organ due to will power

C. Increase in organ size with age

D. Every organ of the body produces minute hereditary particles called gemmules, carried through the blood from every organ and collected together into gametes.

Answer: D



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92. Which of the following theories refused Darwin's theory of pangenesis mentioned in the book " On the Variation of Animals and Plants Under Domestication " ?

- A. Lamarck 's theory of inheritance of acquired characters
- B. Weismann's theory of germplasm
- C. Haeckel's recapitulation theory
- D. Hugo de Vries' mutation theory

Answer: B



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93. Hugo de Vries' contribution is

- A. Mutation theory, on the basis of his observation on the wild variety of evening primrose (*Oenothera lamarckiana*)
- B. Theory of natural selection
- C. Law of dominance
- D. Law of segregation

Answer: A



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94. Neo-Darwinism is a synthesis of theories proposed by

- A. Lamarck and Charles Darwin
- B. Charles Darwin and A.R. Wallace
- C. Hugo de Vries and Charles Darwin
- D. Charles Darwin and F. Redi

Answer: C



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95. Evolution at the genetic level due to changes in the hereditary material at the level of population is called

- A. Macroevolution
- B. Microevolution
- C. Saltation
- D. Sports

Answer: B



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96. Coevolution does not occur in case of

- A. Parasitism
- B. Mutualism

C. Both (1) and (2)

D. Commensalism

Answer: D



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97. Which of the following statements is not applicable to the replica plate experiment of Lederberg and Lederberg ?

A. Mutations are actually pre-adaptive .

B. Pre-adaptive mutations appear without exposure to new environment .

C. The new environment induces mutations

D. The new environment only selects the pre-adaptive mutations that occurred earlier.

Answer: C

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98. In Lederberg's replica plating, streptomycin - resistant strain can develop by using

- A. Minimal medium and streptomycin
- B. Complete medium and streptomycin
- C. Only minimal medium
- D. Only complete medium

Answer: B

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99. Using imprints from a plate with complete medium and carrying bacterial colonies, you can select streptomycin resistant mutants and prove that such mutations do not originate as adaptation. These imprints need to be used

A. On plates with and without streptomycin

B. On plates with minimal medium

C. Only on plates with streptomycin

D. Only on plates without streptomycin

Answer: A



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100. Experimental evidence for the selection of bacteria by using the replica technique was demonstrated by

A. Prof . A.D. Bradshaw

B. Prof. Y.D. Tyagi

C. J. Lederberg and E. Lederberg

D. Alfred Russel Wallace

Answer: C

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101. Lederberg's replica plating experiment suggests

- A. Characters are heritable
- B. Natural selection plays an important role in fixing a mutation of survival value
- C. Genes are independent entities
- D. Bacteria can multiply in culture medium

Answer: B

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102. Ultimate source of variation is

- A. Recombination
- B. Mutation

C. Genetic drift

D. Intermingling of two widely separated populations

Answer: B



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103. Concept of genetic drift was introduced by

A. Hardy Weingberg

B. Sewall Wright

C. Huxley

D. Hugo de Vries

Answer: B



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104. Random genetic drift in a population probably result from

- A. Highly genetically variable individuals
- B. Large population size
- C. Constant low mutation rate
- D. Interbreedin within small population

Answer: D



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105. In a small population, the increase in the frequency of a charcter by chance that has little adaptive value is due to

- A. Genetic drift
- B. Natural selection
- C. Artificial selection
- D. Migration

Answer: A



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106. Reduction in allele frequencies in a population which often prevent the species from reversing its path of extinction is called

- A. Founder effect
- B. Genetic mutation
- C. Genetic bottleneck
- D. Microevolution

Answer: C



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107. The unit of natural selection is :

- A. Individual
- B. Population
- C. Species
- D. Mutation

Answer: A

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108. Industrial melanism is an example of

- A. Neo- Lamarckism
- B. Natural selection
- C. Neo- Darwinism
- D. Mutation

Answer: B

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109. Which of the following statement is incorrect ?

- A. Industrial melanism is an example of natural selection.
- B. Before industrial revolution, *Biston betularia* with gray color was abundant .
- C. Black - coloured form of the same moth (melanic), dominant mutant *carbonaria*, increased after industrial revolution .
- D. The gray colour of *Biston betularis* was due to dominant allele.

Answer: D



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110. Which one of the following phenomena supports Darwin's concept of natural selection in organic evolution?

- A. Development of transgenic animals

B. Production of sheep Dolly by cloning

C. Prevalence of pesticide-resistant insects

D. Development of organs from stem cells for organ transplantation.

Answer: C



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111. When selection acts to eliminate both extremes from an array of phenotypes, the frequency of intermediate type, which is already present in more, gets increased. This type of selection is called

A. Disruptive selection

B. Balancing selection

C. Stabilizing selection

D. Non- directional selection

Answer: C



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112. Which of the following are example of artificial selection ?

- A. Kohlrabie
- B. Cabbage
- C. Cauliflower
- D. All of these

Answer: D



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113. If a sub-population becomes reproductively isolated in the midst of its parent population, this mode of speciation is called

- A. Sympatric sepciation
- B. Allopatric speciation

C. Sibling species

D. Mutation

Answer: A



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114. Reproductive isolation is

A. Inability to interbreed

B. Ability to interbreed

C. Breeding in isolation

D. Intraspecific breeding

Answer: A



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115. Which of the following is not a characteristic of true species ?

- A. Members of a species can interbreed .
- B. Gene flow does not occur between the population of a species.
- C. Each species is reproductively isolated from every other species.
- D. Variations occur amongst members of a species.

Answer: B



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116. Mule, which is produced from the mating of male donkey and a mare (female horse), is an example of which type of reproductive isolation ?

- A. Hybrid breakdown
- B. Hybrid sterility
- C. Hybrid inviability
- D. Reverse evolution

Answer: B



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117. When a hybrid produces sterile or infertile offspring, it is known as

- A. Hybrid sterility
- B. Hybrid breakdown
- C. Hybrid inviability
- D. Gametic isolation

Answer: B



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118. Modern synthetic theory of evolution is based on

- A. Geneti and chromosomal mutations

B. Genetic recombination and natural selection

C. Reproductive isolation

D. All of these

Answer: D



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119. Transfer of genes from one gene pool to another is called :

A. Genetic drift

B. Gene flow

C. Speciation

D. Mutation

Answer: B



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120. Gene flow is

- A. Transfer of gene between genetically distinct but interbreeding populations
- B. Transfer of genes from females to males of and organism
- C. Transfer of genes from outside to chromosomes
- D. Transfer of genes from sperm to egg.

Answer: A



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121. Gene pool of a population tends to remain stable if the population is large, without large scale mutations, without migration and with

- A. Random mating
- B. Moderate environmental changes
- C. Natural selection

D. Reduction in predators

Answer: A



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122. Primates originated about

A. 210 million years ago

B. 150 million years ago

C. 65 millions years ago

D. 36 million years ago

Answer: C



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123. Anthropoid apes were ancestors of

A. Monkeys

B. Apes

C. Homo habilis

D. All of these

Answer: D

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124. Which one of the following is closest relative of Man?

A. Chimpanzee

B. Orangutan

C. Gorilla

D. Gibbon

Answer: A

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125. Evolution of man is believed to have taken place in

- A. Central America
- B. Australia
- C. Asia
- D. Africa

Answer: D



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126. Cradle of human evolution is

- A. Grassland of South Africa
- B. Savannah of Central Africa
- C. Subarctic Europe

D. Arabia

Answer: B



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127. Proconsuls are ancestors of

A. Apes only

B. Man only

C. Both (1) and (2)

D. All primates

Answer: C



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128. One thing that is not similar in great apes and man is

- A. Posture
- B. DNA content
- C. Protein homology
- D. Banding pattern of chromosome

Answer: A

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129. The family to which *Homo sapiens* belongs is

- A. Pongidae
- B. Hylobatidae
- C. Hominidae
- D. None of these

Answer: C

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130. The brain of Australopithecus measured

- A. $350 - 450\text{cm}^3$
- B. $1400 - 1450\text{cm}^3$
- C. $700 - 900\text{cm}^3$
- D. $800 - 1400\text{cm}^3$

Answer: A



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131. Ancestor of man who first stood erect was :

- A. Australopithecus
- B. Java ape-man
- C. Peking man

D. Cro-Magnon man

Answer: A



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132. The earliest man who used tools was

A. Homo habilis

B. Homo erectus

C. Java man

D. Peking man

Answer: A



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133. Connecting link between ape and man is:

A. Cro-Magnon man

B. Australopithecus

C. Neanderthal man

D. Lemur

Answer: B



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134. Bipedal locomotion is advantageous because it

A. Increases speed

B. Reduces body weight

C. Provides better support to body

D. Releases forelimb for other purpose

Answer: D



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135. Fossils of so called Java man and Peking man belong to

- A. Homo sapiens
- B. Homo erectus
- C. Homo habilis
- D. None of these

Answer: B



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136. Dubois, in 1891, found the fossil of Java ape-man . It is

- A. sinanthropus pekinensis
- B. Homo erectus
- C. Homo rhodesiensis

D. Homo sapiens

Answer: B



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137. The smallest cranial capacity is that of the

A. Modern man

B. Cro-Magnon man

C. Neanderthal man

D. Java man

Answer: D



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138. Which of the following fossil man possessed a carnial capacity almost equal to that of modern man ?

- A. Neanderthal man
- B. Java ape-man
- C. Peking man
- D. Australopithecus africanus

Answer: A



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139. Fire was first used for protection and cooking by

- A. Java man
- B. Neanderthal man
- C. Peking man
- D. Cro-Magnon man

Answer: A



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140. "Lucy" is the fossil of

- A. Australopithecus afarensis
- B. Homo sapiens
- C. Homo erectus
- D. Cro -Magnon man

Answer: A



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141. The fossils of Neanderthal were first obtained from Neander Valley in

- A. Germany

B. Italy

C. America

D. France

Answer: A



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142. First evidences of religious feeling of worship and ceremonials burial of dead have been found with fossils of

A. Cro-Magnon man

B. Java ape-man

C. Neanderthal man

D. Peking man

Answer: C



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143. Who were the first to built hut- like structure for dwelling and buried their dead ?

- A. Neanderthal man
- B. Cro-Magnon man
- C. Java man
- D. Homo sapiens sapiens

Answer: A



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144. Man (Homo) originated in

- A. Palaeocene
- B. Miocene
- C. Oligocene

D. Pleistocene

Answer: D



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145. Which is correct ?

A. Neanderthal man is direct ancestor of humans .

B. Home erectus is direct ancestor of man.

C. Cro-Magnon man was found in Ethiopia .

D. Australopithecus is real ancestor of modern man.

Answer: B



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146. Cro-Magnon man was:

A. Carnivorous

B. Omnivorous

C. Herbivorous

D. Frugivorous

Answer: B



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147. Cranial capacity of Neanderthal man was

A. 1400 cc

B. 1300 cc

C. 1200 cc

D. 1100 cc

Answer: A



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148. Chronological sequence of evolution of the genus Homo is

- A. Homo habilis, H. erectus, H. sapiens neanderthalensis, H. sapiens sapiens
- B. Homo habilis, H. sapiens neanderthalensis, H. sapiens sapiens
- C. Homo erectus, H. habilis, H. sapiens sapiens, H. neanderthalensis
- D. H. neanderthalensis, H. erectus, H. sapiens sapiens

Answer: A



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149. A common ancestry for man and great apes had been deduced from similarities in

- A. Proteins
- B. Banding pattern of chromosomes

C. DNA content

D. All of these

Answer: D



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150. In gorilla, great apes, and chimpanzee, the number of chromosomes

is

A. $2n=46$

B. $2n=44$

C. $2n=48$

D. None of these

Answer: C



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151. Trends in humane evolution have been

- A. Erect posture
- B. Opposable thumb
- C. Bipedal
- D. All of these

Answer: D



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152. Coloured rock paintings were first done by :

- A. Cro-Magnon man
- B. Neanderthal man
- C. Java ape - man
- D. Peking man

Answer: A



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153. The characteristics of modern man are

- A. Small teeth without large canines are slight curvature of vertebral column
- B. Flattened face without muzzle and brow ridges
- C. Rounded skull with downward looking foramen magnum
- D. All of these

Answer: D



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154. Which is direct ancestor of Homo sapiens ?

- A. Homo erectus
- B. H. sapiens neanderthalensis
- C. Ramapithecus
- D. Australopithecus

Answer: A

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155. which is correct regarding evolution of mankind?

- A. Homo erectus was preceded by Homo habilis.
- B. Australopithecus lived in Australia.
- C. Neanderthal man and Cro-Magnon man lived together .
- D. None of these

Answer: A

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156. Common origin of man and chimpanzee is best shown by

- A. Cranial capacity
- B. Binocular vision
- C. Chromosomes
- D. Dental formula

Answer: C



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157. Who amongst the following diverged from the main line of hominid evolution about 10 million years ago ?

- A. Gibbon
- B. Orangutan
- C. Gorilla

D. Chimpanzee

Answer: A



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158. Which is correct order in the evolutionary history of man ?

A. Peking man → habilis man → Neanderthal man → Cro-

Magnon man

B. Peking man → Heidelberg man → Neanderthal man → Cro-

Magnon man

C. Peking man → Neanderthal man → Homo sapiens →

Heidelberg man

D. Peking man → Homo sapiens → Cro- Magnon man

Answer: B



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159. Fossil of Cro-Magnon man was found in:

- A. Southern France
- B. Northern France
- C. Northern Germany
- D. South Africa

Answer: A



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160. Dryopithecus is also called as:

- A. Parapithecus
- B. Proconsul
- C. Oreopithecus

D. Pithecanthropus

Answer: B



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

- A. They can be studied from the sample of fossil remains
- B. They are small and , therefore, easy to study
- C. They are uniparental in origin and do not take part in recombination
- D. Their structure is known in greater detail

Answer: C



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162. Some bio-indicator plant have evolved metal tolerance, and can indicate the occurrence of specific metal deposits . The plant which is the bio-indicator of lead is

- A. *Agrostis tenuis*
- B. *Astragalus*
- C. *Haplopappus*
- D. *Impatiens balsamina*

Answer: A



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163. A baby has been born with a small tail. It is case exhibiting :

- A. Retrogressive evolution
- B. Mutation theory is wrong

C. Atavism

D. Metramorphosis

Answer: C



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164. In which condition the gene ratio remains constant for any species ?

A. Gene flow

B. Mutation theory is wrong

C. Random mating

D. Sexual selection

Answer: C



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165. Nothing in biology makes sense except in the light of evolution. This statement was given by

- A. Theodosius Dobzhansky
- B. Darwin
- C. Wallace
- D. Malthus

Answer: A



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166. The phrase "survival fittest" was used by

- A. Charles Darwin
- B. Herbert Spencer
- C. Jean Baptiste Lamarck
- D. Hugo de Vries

Answer: B



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167. Degradation, aggregation, and diastrophism have resulted in

- A. Folding of land masses
- B. Raising of land masses
- C. Lowering of land masses
- D. All of these

Answer: D



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168. It is useful to study the origin and evolution of life because

- A. We learn that life cannot exist anywhere else

B. We learn about the unity and diversity of living organisms

C. We learn that human species has the responsibility to conserve nature.

D. Human species is the most evolved, so , no harm can come to us

Answer: B

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169. Role of isolation in evolution is

A. Differentiation of species

B. Maintenance of species

C. Extermination of species

D. Evolutionary divergence

Answer: D

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170. Which one of the following plants is tolerant to selenium ?

- A. Astragalus
- B. Agrostis tenuis
- C. Impatiens balsamia
- D. Prosopis juliflora

Answer: A



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171. Which one of the following animals has been extinct recently ?

- A. Dodo
- B. Dinosaurs
- C. Pterodactyla

D. Mammoth

Answer: A



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172. Two bands of a population come together after a period of isolation.

Speciation will have taken place if the two groups

- A. No longer mate
- B. Cannot interbreed or produce fertile offspring
- C. Compete for the same food supply
- D. No longer intermingle

Answer: B



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173. Organic evolution would not have taken place if

- A. Individual in a population did not show genetic variation
- B. Individuals did not transmit the characters acquired during their lifetime to offsprings
- C. Somatic variations were not inherited
- D. Somatic variation were not transformed into genetic variations

Answer: A



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174. What is wrong about evolution ?

- A. Evolution is a slow and continuous process of change.
- B. All diversity of organisms has arisen due to evolution.
- C. Evolution is due to natural selection only.

D. Evolution is due to variations arising from changes in genetic material.

Answer: C

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175. Survival due to geographical is best exemplified by mammalian fauna of

- A. Oriental region
- B. Ethiopian region
- C. Palaeartic region
- D. Australian region

Answer: D

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176. Which one is irrelevant to evolution of man?

- A. Loss of tail
- B. Increase in the ability to communication with others and develop community behaviour
- C. Protection of hand for toolmaking
- D. Change of diet from hard nuts and hard roots to soft food

Answer: A



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177. There are two opposing views about origin of modern man. According to one view Homo erectus in Asia were the ancestors of modern man. A study of variation of DNA however suggested African origin of modern man. What kind of observation on DNA variation could suggest this ?

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

Answer: B

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178. Which of the following is the relatively most accurate method for dating of fossils ?

- A. Radiocarbon method
- B. Potassium-argon method
- C. Electron -spin resonance method
- D. Uranium-lead method

Answer: C

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179. Evolution due to genetic changes within a species is

- A. Microevolution
- B. Macroevolution
- C. Megaevolution
- D. Coevolution

Answer: A

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180. Future human generation will be less adapted due to

- A. Genetic drift
- B. mutation
- C. Natural selection

D. Gene flow

Answer: C



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181. Today, the tiger population in India has reduced. This is because

- A. Tigers exist in geographically isolated population
- B. Of hunting and habitat destruction
- C. Of genetic draft
- D. Of homogenizing effect of gene flow

Choose the correct option :

- A. (A) and (B) only
- B. (A),(B) , and (C)
- C. (B) and (C) only
- D. (A),(B),(C) and (D)

Answer: B



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182. What molecular evidence suggests that Homo sapiens originated in Africa and then radiated out to other places ?

- A. Maximum variations are found in the mitochondrial DNA of Africans
- B. Variations in Y-chromosomes
- C. Similarity in skull of apes and man
- D. Binocular vision

A. (A) only

B. A and B

C. (A),(B) and (C)

D. (A),(B),(C) and (D)

Answer: B



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183. The eyes of first primates faced forward. All the following are advantages of these, except

- A. Binocular vision
- B. This gave the primates excellent depth perception, which enabled them to judge distances accurately when moving through the trees
- C. The field of vision of two eyes is different
- D. Binocular vision results in three- dimensional image

Answer: C



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184. As Pangaea broke apart,

- A. Dinosaurs became more alike
- B. Mammals became dominant
- C. Dinosaur species flourished

D. World climate changed

Answer: D



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185. Which of the following is not true ?

- A. About 15 mya, primates Oryopithecus and Ramapithecus existed.
- B. Ramapithecus was more ape-like .
- C. Homo erectus had a large brain around 900cm^3
- D. The brain capacities of Homo habilis were between 650cm^3 and 800cm^3 .

Answer: B



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186. Who were the first to use hides to protect their body and buried their dead?

- A. Neanderthal man
- B. Homo erectus
- C. Cro-Magnon man
- D. Homo habilis

Answer: A



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187. Modern Homo sapiens arose

- A. Near East and Central Asia between 100,000 and 40,000 years ago
- B. During ice age between 75,000 and 10,000 years ago
- C. About 10,000 years ago
- D. About 18,000 years ago

Answer: B



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188. The most apparent change during the evolutionary history of Homo sapiens is traced in

- A. Loss of body hair
- B. Walking upright
- C. Shortening of the jaws
- D. Remarkable increase in the brain size

Answer: D



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189. The first human-like being - the hominid - was called

A. Australopithecus

B. Homo erectus

C. Homo habilis

D. Homo sapiens

Answer: C



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190. Most advanced theory of origin of life is that of

A. Catastrophic

B. Haldane and Oparin

C. Cosmozoic

D. Spontaneous

Answer: B



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191. Possible early source of energy was

- A. Chlorophyll
- B. CO_2
- C. UV radiation and lightning
- D. Green plants

Answer: C



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192. Swan-necked flask experiment was performed by

- A. Louis Pasteur
- B. Robert Koch
- C. Francisco Redi

D. Aristotle

Answer: A



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193. Spark discharge apparatus for testing chemical origin of life was designed by

- A. Urey and Miller
- B. Jacob and Monod
- C. Oparin and Haldane
- D. Dixon and Joly

Answer: A



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194. Which is the most important for origin of life ?

A. Oxygen

B. Water

C. Nitrogen

D. Carbon

Answer: B



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195. Theory of spontaneous creation was supported by

A. van Helmont

B. Redi

C. Sapallanzani

D. Pasteur

Answer: A



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196. One of the greatest advocates of the theory fo special creation was

A. C. Darwin

B. Aristole

C. Father Saurez

D. Huxley

Answer: C



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197. A compound important in prebiotic evolution was

A. SO_2

B. CH_4

C. SO_3

D. NO

Answer: B

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198. Which ones are the most essential for origin of life ?

A. Enzymes

B. Proteins

C. Carbohydrates

D. Nucleic acids .

Answer: D

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199. Approximate age of earth (in million years) is

A. 3600

B. 4600

C. 7200

D. 6000

Answer: B



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200. According to the theory of abiogenesis, life originates from

A. Non-living

B. Spontaneously

C. Chemical

D. Other planets

Answer: A



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201. Experimental proof that organic compounds formed the basis of evolution was given by

- A. Oparin
- B. Pasteur
- C. Miller and Urey
- D. Spallanzani

Answer: C



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202. which of the following has been basic to origin of life

A. Carbohydrates

B. Proteins

C. Nucleic acids

D. Nucleoproteins

Answer: C



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203. Coacervates were experimentally produced by

A. Oparin and Sidney Fox

B. Fischer and Huxley

C. Jacob and Monod

D. Urey and Miller

Answer: A



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204. who disapproved abiogenesis for the first time?

A. Lamarck

B. F. Redi

C. Pasteur

D. Darwin

Answer: B



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205. Which experiment suggests that simplest living organism could not have originated spontaneously from non-living matter ?

A. Microbes did not appear in stored meat .

B. Microbes appeared from unsterilized organic matter .

C. Larvae could appear in decaying organic matter.

D. Meat was not spoiled when heated and kept sealed in a vessel.

Answer: D



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206. The origin of life from pre-existing life is propounded by

- A. Biogenesis theory
- B. Abiogenesis theory
- C. Special creation theory
- D. Extra terrestrial theory

Answer: A



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207. Extra - terrestrial origin of life was proposed by theory of

- A. Catastrophism
- B. Spontaneous generation
- C. Sepcial creation
- D. Panspermia

Answer: D

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208. Stanley Miller's experiment supports

- A. Abiogenesis
- B. Biogenesis
- C. Pangenesis
- D. Chemical theory

Answer: D

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209. Cyanobacteria originated on earth about

- A. 4.3-4.8 billion years ago
- B. 3.3-3.8 billion years ago
- C. 2.3-2.8 billion years ago
- D. 1.3-1.8 billion years ago

Answer: B



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210. Coacervates belongs to the category of :

- A. Protozoans
- B. Molecular aggregates
- C. Molecular aggregates surrounded by lipid membrane

D. Cyanobacteria

Answer: B



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211. The oldest fossil record of blue-green algae is 2.9 billion years old. It is

A. Stromatolites

B. Archaeopteryx

C. Archaeopterix

D. Chlamydomonas

Answer: C



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212. First life consisted of

A. Provirus

B. Virus

C. Bacteria

D. Protovirus

Answer: D



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213. Which of the following amino acids was not found to be synthesized in Miller's experiment?

A. Alanine

B. Glycine

C. Aspartic acid

D. Glutamic acid

Answer: D

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214. Miller and Urey performed an experiment to prove the origin of life.

They took gases ammonia and hydrogen alongwith

- A. N_2 and H_2O
- B. CH_4 and N_2
- C. H_2O and CH_4
- D. CO_2 and NH_4

Answer: C

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215. Hot dilute soup was given by

- A. Haldane
- B. Urey

C. Oparin

D. None of the above

Answer: A



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216. Coacervates are

A. Protein aggregates

B. Protein and lipid aggregates

C. Chemical aggregates

D. Protobionts with polysaccharides, proteins, and water

Answer: D



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217. The concept of chemical evolution is based on

- A. Effect of solar radiations on chemicals
- B. Interaction of water, air , and clay under intense heat
- C. Combination of chemicals under hot moist environment conditions
- D. Crystallization of chemicals

Answer: C



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218. The first living form resulting from the final stage of chemical evolution of life is called

- A. Prebiont
- B. Protobiont
- C. Protenoid
- D. Probiont

Answer: B

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219. Scientist believe that life on earth originated by

- A. Spontaneous generation
- B. Chemical evolution/ abiogenesis
- C. Sepcial creation
- D. Extra terrestrial transfer

Answer: B

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220. S.L Miller's closed flask contained

- A. CH_4

B. NH_3 and water vapours

C. H_2

D. All the above

Answer: D

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221. Microspheres possessed a membrane of

A. Lipid and protein

B. Lipid

C. Carbohydrates

D. Fats

Answer: B

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222. Which is incorrect about protobionts in abiogenic origin of life?

- A. They were partially isolate from surrounding
- B. They could maintain an internal environment .
- C. They were able to reproduce.
- D. They could separate combination of molecules from the surroundings.

Answer: C



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223. Origin of life occurred in

- A. Precambrian
- B. Coenozoic
- C. Palaeozoic

D. Mesozoic

Answer: A



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224. Fossils are studied by

- A. Tracing evolutionary history of organisms
- B. Studying extinct organisms
- C. Filling gaps in our study
- D. Providing jobs to scientists

Answer: B



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225. The theory "ontogeny recapitulates phylogeny" was proposed by

A. Mendel

B. Haeckel

C. Erasmus

D. Weismann

Answer: B



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226. Monkeys and some lower groups have certain blood groups which are

A. Identical to those of man

B. Identical to those of anthropods apes

C. Identical to those of anthropods apes

D. Somewhat similar to white persons

Answer: A

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227. Organic evolution is change in

- A. Single individual
- B. A few members of population
- C. Major portion of population
- D. Entire population

Answer: C

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228. Heart is four chambered in reptile

- A. Amphibia
- B. Fishes
- C. Mammals

D. Reptiles

Answer: C



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229. Homologous organs are

- A. Human eyes are squid eyes
- B. Gills of fish and lungs of man
- C. Hands of man and wings of bat
- D. Leaf of moss and frond of fern

Answer: C



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230. Coal has been mainly formed by

A. Bryophytes

B. Pteridophytes/pteridosperms

C. Angiosperms

D. Algae

Answer: B

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231. Darwin's finches provide evidence of evolution from

A. Anatomy

B. Morphology

C. Biogeography

D. All the above

Answer: C

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232. Which one is not vestigial in humans?

- A. Third molar
- B. Coccyx
- C. Segmental abdominal muscles
- D. Finger nails

Answer: D



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233. Vestigial pelvic girdle and bones of hind limbs are the characteristic of

- A. Whale
- B. Dolphin
- C. Shark

D. Seal

Answer: A



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234. The sequence in evolution of horse was

- A. Equus, Eohippus, Mesohippus, Merychippus
- B. Eohippus, Mesohippus, Merychippus, Equus
- C. Mesohippus, Eohippus, Equus, Mesohippus
- D. Merychippus, Mesohippus, Eohippus, Equus

Answer: B



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235. Origin of life occurred in

A. Carboniferous

B. Cambrian

C. Pre-Cambrian

D. Ordovician

Answer: C



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236. Tasmanian wolf is a marsupial while wolf is a placental mammal. This shows

A. Convergent evolution

B. Divergent evolution

C. Parallelism

D. Inheritance of acquired characters

Answer: A



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237. The pioneers in the field of 'organic evolution' are

- A. Darwin, Lamarck, Landsteiner ,and de Vries
- B. Darwin , de Vries , Lamarck, Huxley
- C. Lamarck, Landsteiner , Malthus, de Vries
- D. Landsteiner , de Vries , Malthus, Darwin

Answer: B



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238. Occurrence of higher number of endemic species in South America and Australia is due to

- A. Retrogressive evolution
- B. Continental separation

C. These species have become extinct from other regions

D. Absence of terrestrial links between these places.

Answer: B



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239. Similarities between organisms of different genotypes due to

A. Convergent evolution

B. Divergent evolution

C. Microevolution

D. Macroevolution

Answer: A



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240. Presence of tail and coarse hair in human baby is

- A. Radiation
- B. Atavism
- C. Mutation
- D. Crossing - over

Answer: B



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241. Unit of evolution is

- A. Population
- B. Species
- C. Individual
- D. Subspecies

Answer: A



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242. Possibility of occurrence of coal in an area is determined by study of

- A. Microfossils
- B. Ecology
- C. Economic botany
- D. Mining contents

Answer: A



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243. Darwin's finches occur in

- A. Australia

B. Galapagos Island

C. Siberia

D. India

Answer: B



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244. Evolution does not occur in case of

A. Parasitism

B. Mutualism

C. Both (1) and (2)

D. Commensalism

Answer: D



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245. Ancestral amphibians were tetrapods that evolved during :

- A. Carboniferous period
- B. Cretaceous period
- C. Jurassic period
- D. Devonian period

Answer: D



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246. Most interacting populations are :

- A. Symbiotic
- B. Mutualistic
- C. Parasitic
- D. Coevolved

Answer: D



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247. Archaeopteryx, toothed fossil bird, occurred during

- A. Jurassic
- B. Triassic
- C. Cretaceous
- D. Permian

Answer: B



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248. Mesozoic era is known as golden age of

- A. Fishes

B. Amphibians

C. Reptiles

D. Molluscs

Answer: C



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249. Continental drift explains

A. Mass extinctions

B. Distribution of fossils on earth

C. Geographical upheavals

D. All the above

Answer: D



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250. Reptilian feature of Archaeopteryx is

- A. U-shaped furcula
- B. Beak
- C. Abdominal ribs
- D. Feathers

Answer: C



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251. Which is not vestigial in man ?

- A. Tail vertebrae
- B. Nails
- C. Nictitating membrane
- D. Vermiform appendix

Answer: B



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252. The development of adaptations along parallel lines in unrelated group of animals is

- A. Adaptive convergence
- B. Adaptive radiation
- C. Adaptive divergence
- D. Adaptive induction

Answer: A



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253. Which of the followins is vestigial in humans

A. Mammary glands in males

B. Knee bones

C. Nictitating membrane

D. Ear pinna

Answer: C



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254. which is a pair of vestigial organs?

A. Coccyx and intercostal muscles

B. Coccyx and auricular muscles

C. Facial hairs in ladies

D. Coccyx and premolars

Answer: B



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255. Convergent evolution is illustrated by

- A. Rat and dog
- B. Bacterium and protozoan
- C. Starfish and cuttlefish
- D. Dogfish and whale

Answer: D



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256. Which one correctly describes homologous structures ?

- A. Organs with anatomical similarities but performing different functions

B. Organ with anatomical similarities but performing different functions .

C. Organs that have no function now but had an important function in ancestors

D. Organs appearing only in embryonic stage and disappearing later in the adult .

Answer: A



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257. The early stage human embryo distinctly possesses

A. Gills

B. Gill slits

C. External ear (pinna)

D. Eye brows

Answer: B



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258. Age of fossils was previously determined by radioactive elements. More precise recent method which has led to revision to evolutionary periods is

- A. Study of carbohydrate and protein in fossils
- B. Study of conditions of fossilization
- C. Electron spin resonance and fossil DNA
- D. Presence of carbohydrate and protein in rocks

Answer: C



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259. Flippers of seal are modified

A. Hindlimbs

B. Forelimbs

C. Fins

D. Gills

Answer: B

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260. Potato and sweet potato have edible parts that are

A. Homologous

B. Analogous

C. Recent introductions

D. Two species of the same genus

Answer: B

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261. Being all mammals, whale, dolphins, bat, monkey and horse have some common character but they also show conspicuous differences.

This is due to phenomenon of

- A. Divergence
- B. Convergence
- C. Genetic drift
- D. Normalization

Answer: A



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262. Which of the following pairs of structures is homologous?

- A. Wings of grasshopper and forelimbs of flying squirrel
- B. Tentacles of Hydra and arms of starfish

C. Forelimbs of a bat and forelegs of a horse

D. Wings of a bird and wings of a moth

Answer: C



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263. Which is relatively most accurate method of dating of fossils ?

A. Radiocarbon method

B. Potassium-argon method

C. Electron spin -resonance method

D. Uranium-lead method

Answer: C



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264. What is the correct arrangement of period of Paleozoic era in ascending order in geological time scale ?

A. Cambrian → Devonian → Ordovician → Silurian →

Carboniferous → Permian

B. Cambrian → Ordovician → Silurian → Devonian →

Carboniferous → Permian

C. Cambrian → Ordovician → Devonian → Silurian →

Carboniferous → Permian

D. Silurian → Devonian → Cambrian → Ordovician → Permian

→ Carboniferous

Answer: B



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265. An important evidence in favour of organic evolution is the occurrence of :

- A. Homologous and analogous organs
- B. Homologous and vestigial organs
- C. Analogous and vestigial organs
- D. Homologous organs only

Answer: A



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266. Jurassic period of the Mesozoic era is characterised by

- A. Flowering plants and first dinosaurs appear
- B. Gymnosperms are dominant plants and first birds appear
- C. Radiation of reptiles and angiosperm
- D. Dinosaurs become extinct and angiosperms appear

Answer: B



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267. The evolutionary history of an organism is known as

- A. Ontogeny
- B. Phylogeny
- C. Ancestry
- D. Palaeontology

Answer: B



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268. Duck - billed platypus is connecting link between

- A. Echinodermata and Chordata

B. Arthropoda and Mollusca

C. Reptilia and Mammalia

D. Reptilia and Aves

Answer: C



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269. Tendrils of Cucurbita and thorns of Bougainvillea are

A. Homologous organs

B. Analogous organs

C. Vestigial organs

D. Atavistic divergence

Answer: A



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270. Parallelism is due to

- A. Adaptive divergence
- B. Adaptive convergence
- C. Adaptive convergence of unrelated species
- D. Adaptive convergence of closely related species

Answer: D



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271. Which one is correct ?

- A. There is no evidence of presence of gills in mammalian embryos.
- B. Ontogeny repeats phylogeny
- C. All plant and animals cells are totipotent.
- D. Stem cells are specialized cells.

Answer: B



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272. Finches of Galapagos provide evidence for

- A. Retrogressive evolution
- B. Special creation
- C. Biogeographical evolution
- D. Evolution due to mutation

Answer: C



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273. Two species of different genealogy show resemblance due to similar adaptation, the phenomenon is

A. Convergent evolution

B. Divergent evolution

C. Microevolution

D. Coevolution

Answer: A



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274. Adaptive radiation is

A. Evolution of different species from a common ancestor

B. Adaptation due to geographical isolation

C. Migration of members of a species to different geographical areas

D. Power of adaptation of an individual to a variety of environments

Answer: A



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275. What is common to whale, seal , and shark ?

- A. Homoiothermy
- B. Seasonal migration
- C. Thick subcutaneous fat
- D. Convergent evolution

Answer: D



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276. Life has existed on earth for the last

- A. 2.3 billion years
- B. 3.9 billion years
- C. 4.3 billion years

D. 5.0 billion years

Answer: B



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277. Darwin's finches show

A. Adaptive radiation

B. Parallel evolution

C. Homology

D. Natural selection

Answer: A



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278. Connecting link between annelida and mollusca is

A. Nautilus

B. Neopilina

C. Glochidium

D. Veliger larva

Answer: B



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279. Which one of the following periods is largely associated with extinction of dinosaurs and the increase in flowering plants and reptiles

A. Triassic

B. Jurassic

C. Cretaceous

D. Permian

Answer: C

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280. Tachyglossus is a connecting link between

- A. Reptiles and mammals
- B. Reptiles and birds
- C. Amphibians and reptiles
- D. Birds and mammals

Answer: A

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281. Phylogeny is

- A. Evolutionary history
- B. life history
- C. Group of phyla

D. Genetics of animals

Answer: A



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282. As per Allen's rule , mammals of cold regions conserve body heat through

- A. Larger body mass
- B. Small body mass
- C. Longer extremities
- D. Smaller extremities

Answer: D



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283. Peripatus is a connecting link between :

- A. Porifera and coelenterata
- B. Ctenophora and Platyhelminthes
- C. Mollusca and Echinodermata
- D. Annelida and Arthropoda

Answer: D



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284. After the industrial revolution, melanic moths survived because

- A. They had black colour
- B. They had gray body colour
- C. They shifted to different habitat
- D. They reproduced vigorously

Answer: A



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285. The vestiges of girdles are found in

A. Rattle snake

B. Krait

C. Cobra

D. Python

Answer: D



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286. An evolutionary pattern characterised by a rapid increase in number and kinds of closely related species is called

- A. Divergent evolution
- B. Convergent evolution
- C. Adaptive radiation
- D. Parallel evolution

Answer: C

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287. The first seed plants appeared during

- A. Cretaceous era
- B. Carboniferous era
- C. Devonian era
- D. Silurian era

Answer: B

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288. Given below are four statements (a-d) with one or two blanks. Select the option which fills up the blanks in two statements.

(a) Wings of butterfly and birds look alike and are the result of

(i).....evolution

(b) Miller showed that CH_4 , H_2 , NH_3 and(i).....when exposed to electric discharge in flask resulted in the formation of(ii)..... Evidence of evolution.

(c) Vermiform appendix is a(i)..... Organ and(ii).....

(d) According to Darwin evolution look place due to.....(i).....and(ii) of the fittest.

A. (d)-(i) small variation, (ii) survival, (a)-(i) convergent

B. (a)-(i) convergent,(b)-(i) oxygen, (ii) nucleolides

C. (b)-(i) water vapour, (ii) amino acids , (c)-(i) rudimentary , (ii) anatomical

D. (c)-(i) vestigial , (ii) anatomical , (d)-(i) mutations, (ii) multiplication

Answer: A



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289. The age of evolution of man is measured by

- A. Electron microscope
- B. C-14 Chemical reaction
- C. Radioactive dating
- D. Ultraviolet radiation

Answer: C



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290. Modern birds rose in

- A. Palaeozoic

B. Coenozoic

C. Mesozoic

D. Archeozoic

Answer: B



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291. Which of the following is not atavistic in humans ?

A. Tail in some babies

B. Enlarged canines

C. Six fingers

D. Dense body hair

Answer: C



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292. Which are not homologous?

- A. Forearms of humans and fins of fishes
- B. Wings of bat and insects
- C. Fins of fishes and flippers of whales
- D. Human forearms, bat's wings, and flippers of whale

Answer: B



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293. Abiogenesis is

- A. Origin of life from non-living organisms
- B. Origin of microbes from living organisms
- C. Spontaneous
- D. Origin of microbes and viruses

Answer: C



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294. Mesozoic era was dominated by

- A. Birds
- B. Fishes
- C. Reptiles
- D. Mammals

Answer: C



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295. The classical example of adaptive radiation during formation of new species is

A. Marsupials of Australia

B. Darwin's finches

C. Giant tortoise

D. All the above

Answer: D



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296. Archaeopteryx is connecting link between

A. Fishes and amphibians

B. Amphibians and birds

C. Amphibians and reptiles

D. Reptiles and birds

Answer: D



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297. Which of the following was formed in S. Miller's experiment?

- A. Microsphere
- B. Nucleic acids
- C. Amino acids
- D. UV radiations

Answer: C



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298. In their experiment to prove origin of life, Miller and Urey took gases

- A. Methane, ethane, hydrogen, ammonia
- B. Methane, ethane, ammonia, water vapours
- C. Methane, ammonia, water vapours

D. Ammonia , water vapours, butane, hydrogen

Answer: C



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299. A living connective link which provides evidence for organic evolution

- A. Sphenodon between reptiles and birds
- B. Archaeopteryx between reptiles and birds
- C. Lung fishes between pisces and reptiles
- D. Duck-billed platypus between reptiles and mammals.

Answer: D



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300. Miller performed experiment to prove abiogenetic molecular evolution of life. Which molecule was not present in Miller's experiment

- A. Water
- B. Methane
- C. Oxygen
- D. Ammonia

Answer: D



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301. Which is incorrect

- A. J.B.S Haldane-Law of continuity of germplasm
- B. Louis Pasteur-Germ theory of disease and immunology
- C. de Vries- Mutation theory
- D. Lemaitre - Big bang theory

Answer: A



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302. Mark the correct statement .

- A. Homo erectus lived in east and central Asia and used hides to protect their bodies
- B. Agriculture came around 18000 years back
- C. The skull of modern human resembles more closely to baby chimpanzee than the adult chimpanzee
- D. All of these

Answer: C



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303. Which one(s) is/are correct ?

- A. Thomas Mathus is well known for his book on populations
- B. The work of Thomas Mathus on population did not influence Darwin
- C. There must be a genetic basic for gettic selected and to evolve
- D. All the finches on the Galapagos island are descended from a common ancestor

A. All

B. All except B

C. C and D only

D. None

Answer: B



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304. Which of the following statement are true for genetic drift ?

- I. It upsets the Hardy-Weinberg equilibrium

II. It operates only in small population

III. It is responsible for preserving certain genes

IV. It is responsible for eliminating certain genes

A. I,II,III

B. II,III,IV

C. I,II,IV

D. I,II,III,IV

Answer: A



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305. The sequence of origin of life may be

A. Inorganic material → Organic material → Colloidal aggregate
→ Eobiont → Cell

B. Organic material → Inorganic material → Colloidal aggregate

→ Eobiont → Cell

C. Inorganic material → Organic material → Eobiont → cell →

Colloidal aggregate

D. Organic material → Inorganic material → Eobiont → cell →

Colloidal aggregate

Answer: A



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306. Which one provides correct sequence of events in origin of species according to Darwinism ?

1. Natural selection
2. Variations and their inheritance ?
3. Survival of fittest
4. Struggle for existence

A. a,b,c,d

B. b,d,c,a

C. d,b,c,a

D. b,c,a,d

Answer: C



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307. Which of the following statement is false ?

- I. The rule of embryonic development were given by Von Bear.
- II. Recapitulation theory was proposed by Haeckel.
- III. Haeckel's theory of recapitulation states that ontogeny repeats phylogeny .
- IV. Ontogeny recapitulates phylogeny is the brief definition of Biogenetic law.

A. I and II

B. III and IV

C. All

D. None

Answer: D



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308. Evolution -

A. Is descent with modification .

B. Is gradual for Darwin

C. Is a change , in the frequency of an allele within a population , caused by differential reproduction in response to local environmental conditions.

D. Is irreversible

A. A and B are correct

B. C and D are correct

C. All are correct

D. None are correct

Answer: C

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309. Arrange the periods of palaeozoic era in ascending order in a geological time scale :

A. Cambrian → Ordovician → Silurian → Devonian →
Carboniferous → Permian

B. Cambrian → Devonian → Ordovician → Silurian →
Carboniferous → Permian

C. Cambrian → Ordovician → Devonian → Silurian →
Carboniferous → Permian

D. Silurian → Devonian → Cambrian → Ordovician → Permian

→ Carboniferous

Answer: A



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310. The following are some major events in the early history of life.

P. First heterotrophic prokaryotes

Q. First genes

R. First eukaryotes

S. First autotrophic prokaryotes

T. First animals

Which option below places these events in the correct order?

A. PQRST

B. QSPTR

C. QPSRT

D. QSPRT

Answer: C



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311. How many of these periods belong to the Paleozoic era ? Cretaceous, Jurassic, Triassic, Permian, Carboniferous, Devonian , Silurian

A. 1

B. 2

C. 3

D. 4

Answer: C



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312. Which of the following diagrams is not a correct representation of convergent evolution ?

A. 

B. 

C. 

D. 

Answer: C



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313. Which is true about Homo erectus ?

A. Brain capacity is 900 cc approx.

B. Ate meat

C. Found in java and exist 1.5 mya

D. All of the above

Answer: D



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Exercise Assertion Reasoning Question

1. Assertion :Interspecific hybrids are usually sterile.

Reason : Interspecific hybrids receive chromosomes from two different species.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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2. Assertion : Mangolias , tulips, and Sassafras are found in Eastern United States and Eastern China only.

Reason : These are examples of restricted distribution .

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: C



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3. Assertion : Cretaceous period is called age of dinosaurs .

Reason : Fishes originated in Devonian period.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D



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4. Assertion : Theory of special creation attributes the origin of life to a vitalistic event.

Reason :According to this theory, the God is creator of life.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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5. Assertion : Both mule and hinny are sterline .

Reason : These are the examples of hybrid sterility.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: B

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6. Assertion : The earliest organisms were anaerobes, having arisen in a sea of organic molecules, and were chemoheterotrophs

Reason : Before the supply of organic molecules exhausted, some of the heterotrophs might have evolved into autotrophs.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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7. Assertion : There are chance of breakdown of isolating mechanism in allopatric speciation.

Reason: Allopatric speciation is rapid process of speciation.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: C



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8. Assertion : Balanced polymorphism is directly related with directional selection.

Reason : Directional selection favor the maximum dominancy of characters.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: D



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9. Assertion : Artificial selection is highly beneficial for humans .

Reason:Artificial selection is carried out by man

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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10. Assertion : Batesian mimicry is a form of mimicry in which can edible species resembles an inedible one.

Reason : Batesian mimicry is a form of protective mimicry.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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11. Assertion : There is no life on moon.

Reason : Water is absent on moon.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: A

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12. Assertion : The first living organisms on earth were autotrophs.

Reason : They were capable of performing chemosynthesis.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D

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13. Assertion : Base analogs induced transition.

Reason : Base analogs perform forbidden pairing.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: A

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14. Assertion : Sympatric species are geographically isolated.

Reason : Sympatric species are reproductively isolated.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D



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15. Assertion :- Somatic mutations are sometime inheritable.

Reason : Some organism show vegetative propagation.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: A



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16. Assertion : Plants having odd number of sets of chromosomes are fertile .

Reason : Plants having even number of sets of chromosomes are sterile.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D

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17. Assertion :- Colchicing induces polyploidy

Reason : Colchicine causes disjucation of chromosomes.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: C



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18. Assertion : Change in structure of chromosome is called chromosomal aberration.

Reason : Substitution is an example of chromosomal aberration.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: C



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19. Assertion : The first life originated in water .

Reason : Conditions were favorable for the origin of life in water.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: A



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20. Assertion : A single mutation may produce a new species .

Reason : Mutation may cause major variation in genetic material and

these are inheritable .

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: A



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21. Assertion:Evolution is not occurring at present .

Reason:Evolution takes a very long time to occur

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D

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22. Assertion :-Analogous organs show common ancestory.

Reason :-Analogous organ show evolution.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)

B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).

C. If Assertion is true, but Reason is false , then mark (3)

D. If both Assertion and Reason are false. , then mark (4)

Answer: D

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23. Assertion : Lung fish is connective link between fishes and amphibia.

Reason : Lung fishes show characters of both fishes and amphibia.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: A

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24. Assertion : Bird's embryo shows tooth buds for some time.

Reason : Ontogeny repeats phylogeny.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: A



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25. Assertion : Liger in a hybrid animal.

Reason : Liger is fertile.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark (1)
- B. If both Assertion and Reason are true ,but the Reason is not the correct explanation of the Assertion, then mark (2).
- C. If Assertion is true, but Reason is false , then mark (3)
- D. If both Assertion and Reason are false. , then mark (4)

Answer: B



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Archives

1. One of the important consequences of geographical isolation is
- A. Random creation of new species
- B. No change in the isolated fauna

C. Preventing Speciation

D. Speciation through reproductive isolation

Answer: D



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2. Adaptive radiation refers to

A. Power of adaptation in an individual to a variety of environments.

B. Adaptation due to geographical isolation

C. Evolution of different species from a common ancestor

D. Migration of members of a species to different geographical areas.

Answer: C



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3. Industrial melanism as observed in peppered moth proves that

A. Melanism is a pollution - generated feature

B. The true black melanic forms arise by a recurring random mutation

C. The melanic form of the moth has no selective advantages over lighter form in industrial area

D. The lighter -form the moth has no selective advantage either in polluted industrial area or non-polluted area

Answer: B



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4. What is common of Whale, Seal and Shark?

A. Homoiothermy

B. Seasonal migration

C. Thick subcutaneous fat

D. Convergent evolution

Answer: D



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5. Which one of the following is a matching pair of a body feature and the animal possessing it ?

A. Ventral heart - Scorpion

B. Post-anal tail - Octopus

C. Ventral central nervous system - Leech

D. Pharyngeal gill slits Absent in embryo - Chamaeleon.

Answer: C



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6. What is common between parrot, platypus and kangaroo ?

- A. Oviparity
- B. Homoithermly
- C. Toothless jaws
- D. Functional post-anal tail

Answer: C



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7. The finches of Galapagos islands provide an evidence in favour of

- A. Biogeographical Evolution
- B. Special creation
- C. Evolution due to Mutation
- D. Retrogressive Evolution

Answer: A



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8. The concept of chemical evolution is based on

- A. Possible origin of life by combination of chemicals under suitable environment conditions
- B. Crystallization of chemicals
- C. Interaction of water, air and clay under intense heat
- D. Effect of solar radiation on chemicals.

Answer: A



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9. Which one of the following statement is correct ?

- A. Ontogeny repeats phylogeny
- B. Stem cells are specialized cells
- C. There is no evidence of the existence of gills during embryogenesis of mammals.
- D. All plant and animal cells are totipotent

Answer: A



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10. Among the human ancestors the brain size was more than 1000 CC in

- A. Homo habilis
- B. Homo neanderthalensis
- C. Homo erectus
- D. Ramapithecus

Answer: B



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11. Which one of the following is incorrect about the characteristics of proptobionts (coacervates and microspheres) as envisaged in the abiogenic origin of life?

- A. They were partially isolate from surrounding
- B. They could maintain an internal environment .
- C. They were able to reproduce.
- D. They could separate combination of molecules from the surroundings.

Answer: D



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12. Which one of the following pairs of items correctly belongs to the category of organs mentioned against it

A. Nephridia of earthworm and malpighian tubules of cockroach-

Excretory organs.

B. Wings of honey bee and wing of crow- Homologous organs

C. Thorn of Bougainvillea and tendrils of Cucurbita - Analogous organs

D.

Answer: A



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13. Thorn of Bougainvillea and tendril of Cucurbita are examples of :

A. Vestigial organs

B. retrogressive evolution

C. analogous organs

D. homologous organs

Answer: D



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14. Which one of the following scientist's name is correctly matched with the theory put forth by him?

- A. de Vries- Natural selection
- B. Mendel- Theory of pangenesis
- C. Weimann- Theory of continuity of germplasm
- D. Pasteur - Inheritance of acquired Characters

Answer: C



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15. Which one of the following in birds, indicated their reptilian ancestry

- A. Two special chambers crop and gizzard in their digestive tract
- B. Eggs with a calcareous shell

C. Scales on their hind limbs

D. Both (2) and (3)

Answer: B



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16. Peripatus is connecting link between

A. Coelenterata and Porifera

B. Ctenophora and Platyhelminthes

C. Mollusca and Echinodermata

D. Annelida and Arthropoda

Answer: D



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

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

Answer: A



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18. 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: C



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19. Which one of the following options gives one correct example each of convergent evolution and divergent evolution ?

Convergent evolution

- (1) Thorns of Bougainvillea and tendrils of Cucurbita
- (2) Bones of forelimbs of vertebrates
- (3) Thorns of Bougainvillea and tendrils of Cucurbita
- (4) Eyes of octopus and mammals

Divergent evolution

- Wings of butterflies
- Wings of butterflies
- Eyes of octopus and
- Bones of forelimbs of



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20. The prehistoric ancestor of man which existed during late pleistocene, is

Or

The extinct human who lived 1,00,000 to 40,000 years ago, in Europe, Asia and parts of africa, with short stature, heavy eyebrows, retreating fore

heads, large jaws with heavy teeth, stocky bodies a lumbering gait and stooped posture was

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

Answer: A



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21. Evolution of different species in a given area starting from a point and spreading to other geographical areas

- A. Natural selection
- B. Migration
- C. Divergent evolution

D. Adaptive radiation.

Answer: D



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22. The process by which organisms with different evolutionary history evolve similar phenotypic adaptations in response to a common environmental challenge is called :

- A. Convergent evolution
- B. Non-random evolution
- C. Adaptive radiation
- D. Natural selection

Answer: A



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23. Variation in gene frequencies within populations can occur by chance rather than by natural selection. This is referred to as

- A. Genetic drift
- B. Random mating
- C. Genetic load
- D. Genetic flow

Answer: A

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

- A. Interspecific competition
- B. Competition within closely related species
- C. Reduced feeding efficiency in one species due to the presence of interfering species

D. Intraspecific competition

Answer: A



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25. The eye of octopus and eye of cat show different patterns of structure, yet they perform similar function. This is an example of

- A. Homologous organs that have evolved due to convergent evolution
- B. Homologous organs that have evolved due to divergent evolution
- C. analogous organs that have evolved due to convergent evolution
- D. analogous organs that have evolved due to divergent evolution

Answer: C



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26. Which one of the following are analogous structures

- A. Wings of Bat and Wings of Pigeon
- B. Gills of Prawn and Lungs of Man
- C. Thorn of Bougainvillea and tendrils of Cucurbita
- D. Flippers of Dolphin and legs of Horse.

Answer: B



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27. Forelimbs of cat, lizard used in walking , fore-limbs of whale used in swimming and forelimbs of bats used in flying are an example of :

- A. Analogous organs
- B. Adaptive radiation
- C. Homologous organs
- D. Convergent evolution

Answer: C



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28. Which of the following had the smallest brain capacity

- A. Homo habilis
- B. Homo erectus
- C. Homo sapiens
- D. Homo neanderthalensis

Answer: A



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29. Select the wrong statement :

- A. Mosaic disease in tobacco and AIDS in human being are caused by viruses.
- B. The viroids were discovered by D.J. Ivanowski.
- C. W.M. Stanley showed that viruses could be crystalized.
- D. The term ' contagium vivum fluidum ' was coined by M. W. Beijerinck.

Answer: B



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30. The wings of a bird and the wings of an insect are

- A. homologous structures and represent convergent evolution
- B. homologous structures and represent divergent evolution
- C. analogous structures and represent convergent evolution
- D. analogous structures and represent divergent evolution

Answer: C



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31. Industrial melanism is an example of

- A. Neo Lamarckism
- B. Neo Darwinism
- C. Natural selection
- D. Mutation

Answer: C



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32. Which of the following structures is homologous to the wing of a bird?

- A. Dorsal fin of a Shark
- B. Wing of a Moth
- C. Hind limb of Rabbit

D. Flipper of Whale .

Answer: D



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33. Following are the statements regarding the origin of life

(A) The earliest organisms that appeared on the earth were non-green and presumably anaerobes

(B) The first autotrophic organisms were the chemoautotrophs that never released oxygen. Of the above statements which one of the following options is correct

A. (a) is correct but (b) is false

B. (b) is correct but (a) is false

C. Both (a) and (b) are correct .

D. Both (a) and (b) are false.

Answer: A



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34. Analogous structures are a result of

- A. Divergent evolution
- B. Convergent evolution
- C. Shared ancestry
- D. Stabilizing selection

Answer: B



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35. In Hardy-Weinberg equation, the frequency of heterozygous individual is represented by

- A. pq
- B. q^2

C. p^2

D. $2pq$

Answer: D



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36. The chronological order of human evolution from early to the recent

is:

A. Ramapithecus → Homo habilis → Australopithecus → Homo erectus

B. Australopithecus → Homo habilis → Ramapithecus → Homo erectus

C. Australopithecus → Ramapithecus → Homo habits → Homo erectus

D. Ramapithecus → Australopithecus → Homo habilis → Homo erectus

Answer: D



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37. Which of the following is the correct sequence of events in the origin of life

- I. Formation of protobionts
- II. Synthesis of organic monomers
- III. Synthesis of organic polymers
- IV. Formation of DNA-based genetic systems

A. II,III,I,IV

B. II,III,IV,I

C. I,II,III,IV

D. I,III,II,IV

Answer: A



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38. Interspecific hybridization is the mating of

- A. Superior males and females of different breeds
- B. More closely related individuals within same breed for 4-6 generations
- C. Animals within same breed without having common ancestors
- D. Two different related species

Answer: D



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