

BIOLOGY

BOOKS - S DINESH & CO BIOLOGY (HINGLISH)

EVIDENCES OF EVOLUTION

Multiple Choice Questions

1. The term evolution in biology means that

- A. Fossils are old
- B. Living things constantly change
- C. Life began in sea
- D. Man descended from apes

Answer: B



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2. Haeckel's theory of recapitulation means

- A. Life history of an organism reflects its evolutionary history.
- B. All organisms apart as an egg.
- C. Progency resembles with parents.
- D. Lost body parts are regenerated.

Answer: A



3. Connecting link between chordates and non-chordates is

A. Peripatus

B. Balanoglossus

C. Sphenodon

D. Tachyglossus.

Answer: B



4. In which period of paleozoic era first vertebrate appeared.

A. Ordovician

B. Devoninan

C. Silurian

D. Mississipian

Answer: A



21 Trinch annual actual acca in parcozore cre	5.	Which	animal	dominated	in	paleozoic era
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- A. Reptlies
- B. Fishes
- C. Birds
- D. Mammals

Answer: B



6. Fossilization occurs where

- A. Organisms are buried and preserved by natural processes.
- B. Animals are destroyed by environment
- C. Animals are destroyed by scavengers.
- D. Animals are buried by natural processes.

Answer: A



7. The greatest evolutionary change enabling the land vertebrates to be completely free from water, was the development of

- A. Four eggs
- B. Lungs
- C. Shelled eggs and internal fertilization
- D. Four chambered heart.

Answer: C



8. Archaeozoic	era is	considered	as	the	age	of
:						

- A. Fishes
- B. Marine life
- C. Protists
- D. Amphibians.

Answer: C



9. Age of man' in geology is: A. Proterozoic B. Mesozoic C. Coenozoic D. Psychozoic **Answer: D Watch Video Solution**

10. Coenozoic era is known as

- A. Age of Amphibia and lycopods
- B. Age of Marine and gymnosperms
- C. Age of reptile sand gymnosperms
- D. Age of Mammals and Modern flora.



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11. The extreme specialization and extinction of great reptiles occurred in :

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



- 12. A fossil is a
 - A. Laboratory preserved animal

- B. Dead animal of the past
- C. Organic relic of the past
- D. Stuffed animal.

Answer: C



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13. The featrue which enabled reptiels to dominate the land fauna for 100 million years, was

B. Heavy armour C. Large teeth D. Large eggs. **Answer: B Watch Video Solution** 14. The epoch of man in geological period is A. Pliocene

A. Large size

- B. Oligocene
- C. Miocene
- D. Pleistocene.



- **15.** Fossils are dated by:
 - A. Stratigraphic postition
 - B. Amount of calcium residue

- C. Association with other animals
- D. Radio-active carbon from



- 16. Prototherians have evolved from
 - A. Reptiles
 - B. Birds
 - C. Eutherians

D. Amphibians.

Answer: A



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17. Evolution is best defined as

A. Inheritance of acquired characters.

B. Descent by modification.

C. Spontaneous generation

D. Struggle for existence.

Answer: B



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18. As evident from fossil records which era has no life ?

- A. Azoic
- B. Proterozoic
- C. Paleozoic
- D. Coenozoic.

Answer: A



- **19.** A living connective link which provides evidence for organic evolution
 - A. Archeopterys between reptiles and mammals.
 - B. Lund fish between pisces and reptiles

C. Duck bill Platypus between reptiles and mammals.

D. Sphenondon between reptiles and birds.

Answer: C



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20. During the days of Dinosaurs, mammals had

A. Already evolved

- B. A size of rats and mice
- C. Both A and B
- D. Not yet evolved.

Answer: C



- 21. Which is a vestigeal organ of python
 - A. Nose
 - B. Scales

C. Teeth

D. Hind limbs.

Answer: D



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22. 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. Normalisation
- B. Genetic drift
- C. Convergence
- D. Divergence.



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23. Birds and mammals in geological development of earth arose in period

B. Carboniferous C. Jurassic D. Oligocene and Ecoene. **Answer: C Watch Video Solution 24.** Homologous organs are: A. Same origin but different functions

A. Permain

- B. Different origin but same functions.
- C. Same origin and same functions.
- D. Different origin and different functions.

Answer: A



- 25. Which of the following is vestigal organ
 - A. Wisdom tooth
 - B. Nails

- C. Scalp hair
- D. All the above

Answer: A



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26. Apperance of teeth in the embroy of a bird proves that

- A. Ontogeny repeats phylogency
- B. Evolution has taken place

- C. Birds have evolved from reptlies
- D. All the above.



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27. Who is regarded as father of evolutionary concept

- A. Linnaeus
- B. Lamarck

- C. Darwin
- D. Buffon



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28. Which of the following is the connecting link?

- A. Peripatus
- B. Echinda

- C. Proterospongia
- D. All of the above



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29. Which of the following is called living fossil?

- A. Sphenodon
- B. Limulus

- C. Peripatus
- D. All of the above



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30. Blood precipitation test was proposed by

- A. Wallace
- B. Nuttal
- C. Bateson

D. Needham

Answer: B



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31. Blood Precipitation test are used in

- A. Blood grouping
- B. Antigen-antibody reaction
- C. Animal relations
- D. Immunity

Answer: C



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32. The dating of rocks is done by calculating the ratio between

- A. Uranium-lead
- B. Potassium-argon
- C. Rubidium-strontium
- D. All the above



- **33.** Which one of the following sets of structure includes only analogous organs
 - A. Wings of butterfly, sparrow and bat
 - B. Hind legs of horse, grass-hopper and bat
 - C. Hands of man, monkey and kangaroo

D. Mandibles of cockroach, mosquito and boney bee.

Answer: A



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34. Dinosaurs are

- A. extinct amphibians
- B. Extinct reptiles
- C. Primitive mammals

D. Living reptiles

Answer: B



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35. Flippers of seal are

A. Fins

B. Skins outgrowth/webs

C. Fore limbs

D. Hind limbs.

Answer: C



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36. Non-functional wings occur in

A. Emu, Owl nad Dodo

B. Ostrich, Kiwi and Stork

C. Kiwi, Emu and Ostrich

D. Rhea, Eagle and Cassowary

Answer: C



37. Which of the following would be easily fossilized

A. Heart

B. Tooth

C. Skin

D. Liver.

Answer: B



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38. Seedling of Acacia have

A. Simple leaves

B. Compound leaves

C. Stipular spines

D. Both B and C

Answer: A



39. Saplins of oaks of Northean USA posses

- A. Deciduous leaves
- B. Evergreen leaves
- C. Highly dissected leaves
- D. Axillary thorns

Answer: B



40. Who is called father of modern embrybology

- A. Ernst Haeckel
- B. Aristotle
- C. Von Bear
- D. Dollo

Answer: C



41. Vestigal organ present in Greenland Whale is

A. Fore limbs

B. Pelvic girdle

C. Hind limbs

D. Both B and C

Answer: D



42. Pistillode occurs in

- A. Male flowers of Cucurbits
- B. Female Flowers of cucurbits
- C. Bisexual flowers of Salvia
- D. Disc florets of Sunflower.

Answer: A



43. Who observed that embroys never pass through adult stages of their ancestors

- A. Von Baer
- **B.** Charles Darwin
- C. Ernst Haeckel
- D. Richard Owen

Answer: A



44. Which are vestigial in humans?
A. Tail vertebrate

- B. Auricular muscles
- C. Scalp muscles
- D. All the above

Answer: D



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45. Nictitating membrane is vestigial in

- A. Frog
- B. Rabbit
- C. Human
- D. All the above

Answer: C



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46. Flippers of Panguin and Dolphin are considered analogous through they are modifed forelimbs because

- A. Absence of certain bones
- B. Development from different lineages
- C. Structural difference
- D. Functional difference.

Answer: B



- 47. An example of analogous organs is
 - A. Tubers of Potato and Sweet Potato

- B. Tubers of Dahlia and Sweet Potato
- C. Tubers of Potato and Jerusalem

Artichoke

D. All the above

Answer: A



- 48. In land animals blood vascular system has
 - A. Single circulation

- B. Venous heart
- C. Arterial heart
- D. Arteriovenous heart

Answer: D



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49. In absolute dating, age of the rock/fossil is determined by

A. Depth of rock

- B. Exposure of rock
- C. Decay of radio isotope
- D. Rate of surface erosion of rock.

Answer: C



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50. Geological time scale was first developed by

A. Leonardo da Vinci

- B. Georges Cuvier
- C. Giovanni Avadunia
- D. Boltwood.

Answer: C



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51. When did all the major subdivision of vascular plants arose on earth

A. 400 million years in Devonian

- B. 345 million years in carboniferrous
- C. 445 million years in Ordovician
- D. 540 million years in carboniferous

Answer: B



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52. The major taxonomic groups of vascular plants are distinguished by

A. Position of sporangia

- B. Types of leaves
- C. Types of vascular strands
- D. All the above

Answer: A



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53. In the most primitive psilopsids, sporangia are

A. In whorls

- B. Terminal
- C. At leaf bases
- D. Over leaves

Answer: B



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54. Origin of seed in land plants occured about

A. 160 million years ago

- B. 240 million years ago
- C. 285 million years ago
- D. 345 million years ago

Answer: D



- 55. Flowering plants arose about
 - A. 30 million years ago
 - B. 140 million years ago

C. 225 million years ago

D. 345 million years ago

Answer: B



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56. EVOLUTION OF HORSE

A. Lengthening of limbs and increases in size

B. Progressive loss of digits and lenthening of retained digits causing shifting of soft footed to paddil,e footed.

C. Increased complexity of molars and molarisation of premolars.

D. All the above.

Answer: D



- **57.** Which ones are homologous organs
 - A. Tendrils of Cucurbita and thorns of Bougainvillea
 - B. Tendrils of Pea and thorns of

 Bougainvillea
 - C. Phylloclades of Opuntia and phyllodes of
 - Acacia
 - D. Spines of Acacia and tendrils of

 Passiflora

Answer: A



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58. Pouched mammals attained diversity in

- A. New Zealand
- B. South Africa
- C. Australia
- D. South America

Answer: C

59. Development of similar habits in pouched and placental mammals found in similar habitals is called

- A. Divergent evolution
- B. Convergent evolutions
- C. Adaptive radiation
- D. Macroevolution

Answer: B

60. The name Galapagos islands has been given on the basis of occurrence of

A. Black cooled lava

B. Giant Tortoises

C. Giant igunnas

D. All the above

Answer: B



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61. Which types of birds are absent on Galapagos islands when they were surveyed by Darwin

- A. Warblers and wood peckers
- **B.** Carnivores
- C. Cactus feeding
- D. Seed eating.

Answer: A

62. Concept of ladder of nature (Scala

Naturae) was developed by

A. Empedocles

B. Plato

C. Aristotle

D. Erasmus Darwin

Answer: C



63. Scala Naturae is also called

- A. Historia Animals
- B. Great chain of Beings
- C. De partibus Animalium
- D. Generations Animalium

Answer: B



64. The term Dalwin's finches was given to Galapagos finches by

- A. Huxley
- B. Spencer
- C. Wallace
- D. Lack.

Answer: D



65. A connecting/missing link between reptiles and birds is

- A. Archaeopterys
- B. Platypus
- C. Java Ape man
- D. Whale.

Answer: A



66. Correct order is:

A. Palaeozoic → Archaeozoic

Coenozoic

B. Archaeozoic → Palaeozoic

Proterozoic

C. Palaeozoic \rightarrow Mesozoic \rightarrow Coenozoic

D. Mesozoic \rightarrow Archaeozoic

Proterozoic.

Answer: C



67. Homologous organs are:

A. Dissimilar origin and dissimilar structures

B. Dissimilar origin but similar functions.

C. Similar origin with similar or dissimilar functions.

D. Similar origin with dissimilar functions.

Answer: C

68. Process of evolution is

A. Discontinuous

B. Discontinous in the past but continous presently

C. Continous in the past but discontinuous

presently

D. Continuous

Answer: D



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69. `Golden Age of Dinosaurs'/Age of reptiles was

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

Answer: A



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70. Parallelism is

- A. Adaptive divergence
- B. Adaptive divergence of widely separated species.
- C. Adaptive convergence of widely different species.

D. Adaptive convergence of closely related groups.

Answer: D



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71. Resemblance between widely different groups due to a common adaptation is

A. Parallel evolution

B. Divergence evolution

- C. Convergent evolution
- D. Retrogressive evolution.

Answer: C



- **72.** Which will be true in sedimentary rocks
 - A. Upper strata older and lower younger
 - B. Upper strats younger and lower older
 - C. There is no stratification

D. None of the above.

Answer: B



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73. Homologus organs are

A. Trails of bird, monkey and scorpion

B. Stings of honey bee, scorpion nad fangs of snake.

C. Wings of butterfly, flying fish and bird

D. Paddle of whale, front legs of horse and arms of humans/legs of duck, hind limbs of pig, hind limbs of kangaroo.

Answer: D



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74. Analogous organs are:

A. Different origin but similar functions.

B. Common origin and common functions

- C. Different origin and different functions.
- D. Common origin but different functions.

Answer: A



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75. Homologous organs are

- A. Wings of Pigeon nad Butterfly
- B. Wings of Pigeon and Housefly
- C. Wings of Pigeon and arms of Humans

D. Wings of bat, housefly and Butterfly.

Answer: C



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76. Biogenetic laws/recapitulation theory was proposed by

- A. Wallace
- B. Lamarck
- C. Haeckel

D. Mendel

Answer: C



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77. Which one is not a vestigal structure in humans

- A. Epiglottis/Intestine
- B. Vermiform appendix
- C. Wisdom teeth

D. Body of hair.

Answer: D



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78. Which of the following sets represents vestigial organs

A. Vermiform appendix, body hair and patella

B. Wisdom teeth, body hair and atlas vertebra

C. Ear muscles, cochlea and coccyx

D. Vermiform appendix, ear muscles and coccys.

Answer: D



79. Haeckel's recapitulation theory/biogeneitc law states.

- A. Ontogeny repeats phylogency
- B. High rates of reproduction.
- C. Alternation of generations
- D. Inheritance of acquired characters.

Answer: A



80. Fossilisation is

- A. Organisms destroyed by scavengers
- B. Organism eaten by predators
- C. Animals buried and preserved by nature process.
- D. Organisms destroyed by calamities.

Answer: C



81. Archaeopterys is known as missing/connecting link because it is a fossil and has characters between

- A. Fishes and amphibians
- B. Birds and reptiles
- C. Reptiles and mammals
- D. Chordates and nonchordates.

Answer: B



82. Which is a set of evidence of evolution

A. Homologous and analogous organs

B. Homologous and vestigial organs

C. Analogous and vestigial organs

D. All the above.

Answer: D



83. Basic principles of embryonic development were stated by

- A. Van Baer
- B. Weismann
- C. Haeckel
- D. Morgan

Answer: A



84. Origin of first mammals occurred:

A. 500 million yrs

B. 220 million yrs

C. 1600 million yrs

D. Over 1600 million yrs ago.

Answer: B



85. Fossil reptile having mammalian traits was .

- A. Peripatus
- B. Pelycosaurus
- C. Tyrannasaurus
- D. Archaeopterys

Answer: B



86. Name the law that states 'Embryonic Development of an animal repeats the embryonic stages of ancestors'?

- A. Biogenetic law
- B. Anaximander's Law
- C. Florkins's Law
- D. Law of Segregation.

Answer: A



87. Dinosaurs were dominant during

- A. Devonian
- **B.** Plesocence
- C. Permain
- D. Jurassic

Answer: D



- A. Wings of Bird and Butterfly
- B. Wings of Bird and Bat
- C. Limbs of Horse and Human
- D. Teeth of human and Gorilla

Answer: A



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89. Which one is vestigial in humans?

A. Extra-abdominal muscle

- B. Body hair
- C. Thumb
- D. Conjuction

Answer: B



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90. Which animal has become extinct recently

?

A. Draco

- B. Dinosaur
- C. Mammoth
- D. Pteridosperms

Answer: C



- 91. Dinosaurs disappeared during
 - A. Jurassic
 - B. Triassic

- C. Cretaceous
- D. Permian

Answer: C



- **92.** Age of mammals and birds is
 - A. Mesozoic
 - B. Coenozoic
 - C. Archaeozoic

D. Palaeozoic.

Answer: B



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93. Fossil X is older than fossil Y because:

A. Fossil X was found in deeper sedimentation

B. Fossil Y was found in deeper sedimentation

C. Fossil Y has homologus and analogous organs of X

D. Fossil Y has some vestigial organs functional in X

Answer: A



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94. Evolutionary convergence is the development of :

- A. Common set of characters in groups of different ancestry
- B. Dissimilar characters in closely groups
- C. Common set of characters in closely related groups.
- D. Random mating.

Answer: A



95. Which one is vestigial in humans?

- A. Pinna muscles
- B. Eye lids
- C. Canine teeth
- D. Nails.

Answer: A



96. Biogenetic law was propounded by

- A. Von Bear and Haeckel
- B. Von Bear and Aristotle
- C. Haeckel and Mendel
- D. Mendel and Griffith

Answer: A



97. Homologous organs are

- A. Wings of insects and Bat.
- B. Gills and Fish and lungs of Rabbit
- C. Pectoral fins of Fish and fore limbs of Horse.
- D. Wings of Grasshopper and Crow.

Answer: C



A. Monkey	
B. Dinosaur	
C. Horse	
D. Man	
Answer: C	
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	,

99. Which were dominant in mesozoic

98. Fossils indicate the evolution of

- A. Ferms
- B. Mammals
- C. Dinosaurs
- D. Fishes

Answer: C



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100. Existence of coal or petroleum can be known from the study of :

- A. Ecology
- B. Economic Botany
- C. Palaeobotany
- D. Bacteriology

Answer: C



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101. Fossils are dated by :

A. Amount of calcium

- B. Radioactive carbon contest
- C. Association with mammals
- D. Stratigraphic age.

Answer: B



- 102. Which one is not vestigial in humans
 - A. Tail vertebrate
 - B. Veriform Appendix

- C. Muscles of pinnae
- D. Mallaeus/Pinna

Answer: D



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103. The earliest fossil form in the phylogeny of horse is

- A. Merychippus
- B. Mesohippus

C. Eohippus

D. Equus.

Answer: C



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

A. Atavism

- B. Palaenontology/fossils
- C. Vestical organs
- D. Galapagos island fauna

Answer: B



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105. Fossil remains of Archaeopteryx indicates

that:

A. It was flying reptiles from Triassic

- B. It was a flying reptile from Permain
- C. Reptiles gave rise to birds during

 Permain
- D. Reptiles gave rise to birds during Jurassic.

Answer: D



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106. Study of fossils is

- A. Organic evolution
- B. Palaeogeography
- C. Palaeontology
- D. Herpetology

Answer: C



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107. In human beings vestigial organs are

A. Wisdom tooth, coccyx, nail, eye lid and vermiform appendix

B. Wisdom tooth, coccys, vermiform appendix, pancreas and elbow joint

C. Wisdom tooth, coccys, vermiform appendix, nictitating membrane and auricular muscles

D. Coccys, wisdom tooth, nail, auticulur muscles.

Answer: C

108. Famous palaeontologist/palaeobotanist of India was

A. P. Maheswari

B. S.R. Kashyap

C. B. Sahni

D. B.P. Pal

Answer: C



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109. Two zoogeographical regions separated by high mountain ranges are :

A. Oriental and Australian

B. Palaearctic and Oriental

C. Nearctic and Palaearctic

D. Neotropical and Ethiopian

Answer: B



110. The presence of gill slits in the embryos of all vertebrates supports the theory of :

- A. Organic evolution
- B. Biogenesis
- C. Metamorphosis
- D. Recapitulation

Answer: D



111. Wings of pigeon, mosquito and bat show

A. Divergent evolution

B. Convergent

C. Atavism

D. Parallel.

Answer: B



112. Basic principles of embryonic development were stated by

- A. Van Baer
- B. Haeckel
- C. Mendel
- D. Darwin

Answer: A



113. BirBal Sahni worked on:

A. Algae

B. Fossil plants

C. Angiosperms

D. Bryophytes

Answer: B



114. Animals have shorter and smaller extremities in colder areas.It is

- A. Allen's law
- B. Cope's law
- C. Bergmann's law
- D. Dollo's law

Answer: A



115. Archaeopteryx shows origin of

A. Birds from reptiles

B. Mammals from reptiles

C. Reptiles from amphibians

D. Birds from amphibians

Answer: A



116. Organisms present at different places without any traces in between show

- A. Speciation
- B. Discontinous distribution
- C. Punctured equilibrium
- D. Migration

Answer: B



117. Mammals occur on hand, air and water. It is

A. Convergent evolution

B. Microevolution

C. Adaptation

D. Adaptive radiation.

Answer: D



118. A vestigial organ in man is

A. Mammary gland

B. Pelvic gland

C. Vermiform appendix

D. Sebaceous glands.

Answer: C



119. The wings of an insect and a bat exhibit

A. Analogy

B. homology

C. Connecting link

D. Atavism

Answer: A



120. Phylogeny is

- A. Castles of flies
- B. Development of an organ
- C. Developmental history of race.
- D. Evolutionary history

Answer: D



121. Hand of man, wing of bat and flipper of seal represent :

- A. Analogous organs
- B. Vestigial organs
- C. Homologous organs
- D. Evolutionary organs.

Answer: C



122. In the developmental history of mammalian heart. It is observed that it passes through a two chambered fish like heart, three chambered frog like heart and finally four chambered stage. To which hypothesis can this above cited statement be approximated?

- A. Biogenetic law
- B. Hardy-Weinberg law
- C. Mendelism
- D. Lamarckism

Answer: A



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123. Existence of marsupials in Australia and

New Zealand proves

- A. Continential drift
- B. Geological period
- C. New evolution
- D. Both A and B

Answer: D



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124. Evolution is

- A. Development of DNA from nucleotides
- B. Development of organisms through time
- C. Development of a cell from chemicals
- D. Cloning.

Answer: B

125. Birbal Sahni Institute of Palaeobotany is situated in :

A. Lucknow

B. Delhi

C. Calcutta

D. Jodhpur

Answer: A



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126. A connecting link between two phyla is

A. Archaeopterys- Aves and Mammalia

B. Amphioxus- Echinodermata and

Chordata

C. Peripatus- Annelida and Arthropoda

D. Ornithorhyncus - Aves and Reptilia.

Answer: C



127. A vestigial organ in human is

- A. Ear pinna
- B. Nictitating membrane
- C. Mammary glands in males
- D. Knee bone.

Answer: B



128. Which of the following eras, in geological time scale corresponds to the period when life had not originated upon the earth?

- A. Palaeozoic
- B. Archaeozoic
- C. Azoic
- D. Mesozoic

Answer: C



129. branch of botany dealing with internal organisation of plants is

- A. Ecology
- B. Phytogeography
- C. Phytology
- D. Phytoecology

Answer: B



130. The wings of an insect and a bat exhibit

A. Vestigial organs

B. Exoskeletal structures

C. Homologos organs

D. Analogous organs.

Answer: D



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131. A vestigial tooth is

- A. Incisor
- B. Molar
- C. Premolar
- D. Canine

Answer: D



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132. Adaptive similarities in animals of the same habitat constitute

- A. Adaptive radiations
- B. Parallel evolutions
- C. Convergent evolution
- D. Divergent evolution

Answer: C



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133. Homologous organs exhibit `:

A. Divergent evolution

- B. Convergent evolution
- C. Parallel evolution
- D. Both B and C

Answer: A



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134. 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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135. Recapitulation theory (Biogenetic law) explains "Ontogeny repeats Phylogeny". It was given by

- A. Mendel
- B. Haeckel
- C. Erasmus Darwin
- D. Weismann

Answer: B



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

- A. Identical to those of man
- B. Identical to those of anthropod apes
- C. Somewhat similar to white persons
- D. Not identical to those of man.

Answer: A



- **137.** Organic evolution is changes in
 - A. Single individual

- B. Major portion of population
- C. Major portion of population
- D. Entire populations.

Answer: C



- 138. A bird with teeth is
 - A. Kiwi
 - B. Ostrich /king Vulture

- C. Dodo
- D. Archaeopterys.

Answer: D



- 139. Heart is four chambered in
 - A. Amphibia
 - B. Fishes
 - C. Mammals

D. Reptiles

Answer: C



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140. Living organism with oldes history is:

A. Dinosaur

B. Archaeopterys

C. Horse

D. Man

Answer: C



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141. Homologous organs are

- A. Human eyes and 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

142. Coal has been mainly formed by

- A. Bryophytes
- B. Pteridophytes/pteridosperms
- C. Angiosperms
- D. Algae

Answer: B



143. Darwin's finches provide an excellent evidence in favour of evolution. This evidence comes from the field of :

- A. Anatomy
- B. Morphology
- C. Biogeography
- D. All the above

Answer: C



144. Which one is not vestigial in humans?

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

Answer: D



145. Vestigeal pelvic girdle and bones of hind

limbs are the characteristic of

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

Answer: A



146. The statement ' Nothing in biology makes sense except in the light of evolution was given by

- A. Dobzhansky
- B. Darwin
- C. Oparin
- D. Hooker

Answer: A



147. The sequence in evolution of horse was

A. Equus, Eohippus, mesohippus,

Merychippus

B. Eohippus, Mesohippus, Merychippus,

Equus

C. Mesohippus, Eohippus, Merychippus,

Equus

D. Merychippus, Eohippus, Equus,

Mesohippus

Answer: B



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148. Origin of life occurred in

A. Carboniferous

B. Cambrian

C. Pre-cambrian

D. Ordovician

Answer: C



149. Evolution of a species or group can be studied through

A. Fossils

B. Carbon dating

C. DNA analysis

D. All the above

Answer: A



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150. Phenomenon of organisms having similar structure with a similar origin is

A. Mimicry

B. Analogy

C. Homology

D. Both A and B

Answer: C



151. Homologous organs indicate

- A. Convergent evolution
- B. Parallel evolutions
- C. Natural evolution
- D. Common descent.

Answer: D



152. Age of evolution of man is measured by

A. Electron microscope

B. Chemical reaction

C. Radioactive dating

D. Ultraviolet radiation.

Answer: C



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153. Modern birds rose in

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

Answer: B



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154. Tasmanian wolf is a marsupial while wolf is a placental mammal. This shows:

- A. Convergent evolution
- B. Divergent evolution
- C. Parallelism
- D. Inheritence of acquired characters.

Answer: A



- 155. Ontogeny recapitulates phylogeny. This is
 - A. Hardy Weinberg's law

- B. Pauling law
- C. Biogenetic law
- D. Thomas law

Answer: C



- **156.** The Jurassic period belongs to the era:
 - A. Palaeozoic
 - B. Mesozoic

C. Coenozoic

D. Preterozoic

Answer: B



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157. 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. Lansteiner, De Vries, Malthus, Darwin

Answer: B



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

- A. Retrogressive evolution
- B. Continential separations
- C. These species have become extinct from other regions
- D. Absence of terrestrial links between these places.

Answer: B



159. Similarity in organisms with different genotypes indicates :

- A. Convergent evolution
- B. Divergent evolution
- C. Microevolution
- D. Macroevolution

Answer: A



160. Half-life of $.^{14}$ C is :

A. 50 years

B. 500 years

C. 5000 years

D. $5 imes 10^5$ years

Answer: C



161. Which of the following is not an atavistic character?

A. Tain in some babis

B. Enlarged canines

C. Six fingers

D. Dense body hair.

Answer: C



- 162. Which are not homologous?
 - A. Fore arm of humans and fins of fishes
 - B. Wings of bat and insects
 - C. Fins of fishes and flippers of whales
 - D. Human fore arms, Bat's wings and flippers of whale.

Answer: B



163. Presence of two chambered heart and gills in tadpole is example of

- A. Neo-Darwinism
- B. Gause's law
- C. Chargaffs law
- D. Biogenetic law

Answer: D



164. Presence of two chambered heart and gills in tadpole is example of

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

Answer: B



165. Now unit of evolution is called

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

Answer: A



166. 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



167. Darwin's finches occur i	n

A. Australia

B. Galapagos islands

C. Siberia

D. India.

Answer: B



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168. Coevolution does not occur in case of

- A. Parasitism
- B. Mutualism
- C. both A and B
- D. Commensalism

Answer: D



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169. Ancestral amphibians were tetrapods that evolved during :

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

Answer: D



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170. Evidences for evolution from fossils belong to the domain of

- A. Biogeography
- B. Embryology
- C. Palaeontology
- D. Anatomy

Answer: C



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171. Dinosaurs were dominant during

A. Jurassic

- **B.** Cretaceous
- C. Triassic
- D. Palaeocene

Answer: A



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172. Which of the following is not correctly paired

A. Mesozoic- Age of mammals

- B. Study of fossils- Palaeontology
- C. Mutation theofy Hugo de Vries.
- D. Origin of Speices- Charles Darwin

Answer: A



- **173.** Study of plant fossils is
 - A. Paedology
 - B. Palynology

- C. Palaeoinsectology
- D. Palaeobotany

Answer: D



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174. Most interacting populations are:

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

D. Coevolved.

Answer: D



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175. Fossil bird having reptilian character evolved during which period ?

A. Jurassic

B. Triassic

C. Cretaceous

D. Permian

Answer: A



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176. Mesozoic era is the age of:

A. Fishes

B. Amphibians

C. Reptiles

D. Molluscs

Answer: C



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177. Continential drift explains

A. Mass extinctions

B. Distributions of fossils on earth

C. Geographical upheavals

D. All the above

Answer: D

178. Reptilian feature of Archaeopteryx:

A. U-shaped furcula

B. Beak

C. Abdominal ribs

D. Feathers

Answer: C



179. Archaeopteryx is connecting link between

- A. Fishes and amphibians
- B. Amphibians and reptiles
- C. Reptiles and birds.

D.

Answer: D



180.	Which	is	not a	vestigial	organ	in	man?
					J . O		

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

Answer: B



181. Development of unrelated groups of animals along parallel lines in adaptation to a similar environment is called

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

Answer: A



182. Which of the followins is vestigial in humans

- A. Mammaary glands in males
- B. Knee bones
- C. Nictitating membrane
- D. Ear pinna

Answer: C



- **183.** which is a pair of vestigial organs?
 - A. Coccys and intercostal muscles.
 - B. Coccys and auricualr muscles.
 - C. Facial hairs in ladies.
 - D. Coccys and premolars.

Answer: B



184. Which one is used for dating archaeological specimens like bones, shells and wood?

- A. (3)H
- B. (14)C
- C. $\hat{}$ (121)I
- D. (32)P

Answer: B



185. Which is sequenced during study of phylogency?

A. mRNA

B. rRNA

C. tRNA

D. DNA

Answer: D



186. Convergent evolution is illustrated by

- A. Rat and Dog
- B. Bacterium and Protozoan
- C. Starfish and Cuttle fish
- D. Dogfish and Whale.

Answer: D



- **187.** Which one of the following correctly describes the homologous structures?
 - A. Organs with anatomical similarities but performing different functions
 - B. Organs with anatomical dissimilarities but performing same functions.
 - C. Organs appearing only in embryonic stage and disappearing later in the adult.

D.

Answer: A



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188. 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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189. Mesozoic era was dominated by

A. Birds

B. Fishes

C. Reptiles

D. Mammals.

Answer: C



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190. Law of embryonic development was proposed by

- A. Darwin
- B. Von Baer
- C. Haeckel
- D. Mendel

Answer: B



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191. Wings of bird and bat are

- A. Homologous with no analogy
- B. Analogous with no homology
- C. Neither homologous nor analogous
- D. Both homologous and analogous

Answer: D

192. Which one is not a vestigial organ?

- A. Flipper of Seal
- B. Coccys of man
- C. Pelvic of python
- D. Wing of kiwi.

Answer: A



193. Organs related through common descent but now functionally different are

- A. Analogous organs
- B. Homologous
- C. Divergent organs
- D. Prallel organs.

Answer: B



194. Which one is incorrect.

A. Wings of insects and birds are analogous

B. Wings of bat and birds are homologous

C. wings of insects and bat are analogous

D. Wings of insects and birds are homologous.

Answer: D



195. Age of fossils in the past was generally determined by radiocarbon method and other methods involving radioactive elements found in the rocks. More precise methods, which were used recently and led to the revision of the evolutionary periods for different groups of organisms, includes

A. Study of carbohydrates and protein in fossils.

B. Study of conditions of fossilisation

- C. Electron spin resonance and fossils DNA
- D. Presence of carbohyrates and protien in rocks.

Answer: C



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196. Flippers of seal are modified:

- A. Hind limbs
- B. Fore limbs

- C. Fins
- D. Gills

Answer: B



- 197. Sweet potato and potato are example of:
 - A. Homologous
 - B. Analogous
 - C. Recent introductions

D. Two species of the same genus.

Answer: B



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198. Assertion (A): Natural selection is the outcome of difference in survival and reproduction among individuals that show variation in one or more traits.

Reason (R): Adaptive forms of a given trait

tent to become more common, less adaptive ones become less common or disappear.

- A. A
- B. B
- C. C
- D. D

Answer: A



199. The organs which perform different functions but have the same basic structure are known as:

- A. Homologous organs
- B. Analogous organs
- C. Metalogous organs
- D. Vestigial organs.

Answer: B



200. The classical example of adaptive radiation in development of new species is :

- A. Marsupials of Australia
- B. Darwin's finches
- C. Giant Totroise
- D. All the above

Answer: D



201. 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. Normalisation

Answer: A



202. Below mentioned pairs of structures is considered to be 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 bird and wings of Moth.

Answer: C

203. According to Darwinism fossil of organisms found in south America resembles most, the fossil of

Or

Most primitive living mammals which provided an evidence or organic evolution from geographical distribution are found in

A. North America

B. Africa

- C. Australia
- D. Both B and C

Answer: D



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204. The biogenetic law of Haeckel is

- A. Omnis vivum e vivum
- B. Omnis cellula e cellula
- C. Ontogency repeats phylogency

D. Phylogency repeats ontogeny

Answer: C



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205. Given below are assertion and reason.

Point out if both are true with reason is not true explanation (A) both true but reason is not true explanation (B), assertion true but reason is wrong (C), both are wrong, (D).

Assertion: Comparative biochemistry provides

a strong evidence in favour of common ancestry of living beings. Reason: Genetic code is universal.



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206. 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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207. Dinosaurs were present during the

- A. Palaeozoic era
- B. Coenozoic era
- C. Mesozoic era
- D. Precambrian era.

Answer: C



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208. Which is correct?

- A. $99\,\%$ of existed species are extinct
- B. 65~% of existed species are extinct
- C. $40\,\%$ of existed species are extinct
- D. $30\,\%$ of existed species are extinct.

Answer: A

209. Identify the correct arrangement of periods of palaeozoic era in ascending order in geological time scale.

A. Cambrian $\;
ightarrow\;$ Devonian $\;
ightarrow\;$ Ordovician

$$ightarrow$$
 Silurian $ightarrow$ Carboniferous $ightarrow$

Permain

B. Cambrian ightarrow Ordovician ightarrow Silurian

$$ightarrow$$
 Devonian $ightarrow$ Carboniferrous $ightarrow$

Permain

C. Cambrian ightarrow Ordovician ightarrow Devonian

ightarrow Silurian ightarrow Carboniferous ightarrow

Permian.

D. Silurian ightarrow Devonian ightarrow Cambrian

ightarrow Ordovician ightarrow Permain. ightarrow

Carboniferous

Answer: B



210. 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



211. Jurassic period of the Mesozoic era is characterised by

A. Flowering plants and first dinosaurs appear

B. Gymnospers are dominant plants and first birds appear

C. Radiation of reptiles and angiosperms appear

D. Dinosaurs become extinct and

angiosperms appear.

Answer: B



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212. The evolutionary history of an organism is known as

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

Answer: B



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213. Which is correct Aristotle's ladder of nature?

A. Inanimate matter ightarrow Lower plants ightarrow

Higher plants ightarrow Zoophyta ightarrow

Entoma ightarrow Ostracoderma ightarrow Malacia

ightarrow Malacostraca ightarrow Fish ightarrow

Oviparous quadrupeds o Cetacea o

Birds ightarrow Viviparous quadrupeds ightarrow

Humans

B. Inanimate matter ightarrow Lower plants ightarrow

Higher plants ightarrow Zoophyta ightarrow Entoma

ightarrow Malacostraca ightarrow

Ostracoderma Fish ightarrow Oviparous

quadrupeds Cetacea ightarrow Birds ightarrow

Viviparous quadrupeds $\,
ightarrow\,$ Humans

C. Inanimate matter \rightarrow Lower plants \rightarrow Higher plants ightarrow Zoophyta ightarrowMalacia ightarrow Entoma ightarrow Malacostraca ightarrow Ostracoderma ightarrow Fish ightarrowOviparous quadrupeds $\,
ightarrow\,$ Cetacea $\,
ightarrow\,$

Birds ightarrow Viviparous quadrupeds ightarrow

Humans

D. Inanimate matter ightarrow Lower plants ightarrow

Higher plants ightarrow Zoophyta ightarrow

Entoma ightarrow Ostracoderma ightarrow

Malacostraca ightarrow Malacia ightarrow Fish ightarrow

Cetacea ightarrow Oviparous quadrupeds ightarrow

Birds ightarrow Viviparous quadrupeds ightarrow

Humans

Answer: D



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214. Major radiation of mammals, birds and pollinating insects took place in which epoch?

- A. Oligocene
- B. Palaeocene
- C. Pilocene
- D. Eocene

Answer: B



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215. Which is correct?

A. Wings of birds and insects are

homologous

B. Archaeopteryx lithographia is missing link between birds and mammals

C. Paired fins of fish and flippers of whale are analogous

D. Caecum and appendix in Rabbit and man are analogous.

Answer: C



216. First mammal occur in which era -period?

A. Permian.....Palaezoic

B. Triassic.....Mesozoic

C. Tertoary.....Coenozoic

D. None of these.

Answer: B



217. Most of the fossils occur in rocks

- A. Sedimentary Metamorphic
- B. Igneous
- C. None of the above

D.

Answer: A



218. Duck-billed Platypus is connecting link between

- A. Echinodermata and chordata
- B. Arthropoda and mollusca
- C. Reptilla and mammalia
- D. Reptilia and aves.

Answer: C



219. Plants and animals of Galapagos islands resemble most closely to plants and animals of

- A. Noth Africa
- B. South Africa
- C. North America
- D. South America

Answer: D



220. Fossil found in Mandla district of MP is

- A. 260 million years old
- B. 100 million years old
- C. 50 million years old
- D. 20 million old.

Answer: C



221. Tendrils of Cucurbita and thorns of Bougainvillea are

- A. Homologous organs
- B. Analogous organs
- C. Vestical organs
- D. Atavistic divergence.

Answer: A



222. Paralelism is due to

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

Answer: D



223. Which one is correct

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

Answer: B



224. Finches of Galapogos provide evidence for

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

Answer: C



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225. Two species of different geneology show resemblance due to similar adaptation, the phenomenon is

- A. Convergent evolution
- B. Divergent evolution
- C. Micro-evolution
- D. Co-evolution.

Answer: A



226. Adaptive radiation is

- A. Evolution of different species from a common ancestor
- B. Adaption due to geographical isolation
- C. Migration of members of a species to different geographical areas
- D. Power of adaption of an individual to a variety of environments.

Answer: A

227. The humming bird, hawk and the humming moth illustrate

Or

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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- **228.** Which one of the following groups are not analogous organs
 - A. Wings of birds and wings of butterfly
 - B. Eye of Octopus and eye of mammals
 - C. Flippers of penguins and flippers of

Dolphin

D. Thorns of Bongainvillea and tendril of

Cucurbita

Answer: D



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229. Descendent of fossil Protylopus is

A. Giraffe

B. Camel

C. Elephant

D. Cow.

Answer: B



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230. Vestigal organs provide evidence of organic evolution in the category

- A. Anatomical
- B. Embryological
- C. Morphological

D. Palaeontological

Answer: C



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231. 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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232. Darwin's finches show

- A. Adaptive radiation
- B. Parallel evolution
- C. Homology
- D. Natural selection.

Answer: A

233. Connecting link between annelida and mollusca is

A. Nautilus

B. Neopilina

C. Glochidium larva

D. Veliger larva.

Answer: B



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234. Which of the following is the earliest era

A. Coenozoic

B. Mesozoic

C. Palaeozoic

D. Pre-cambrian.

Answer: D



235. Wings	of birds a	and forel	limbs of	horse a	are
org	ans				

- A. Vestigal
- B. Analogous
- C. Homologous
- D. None of the above.

Answer: C



236. Closely related varying different in trait expresses

A. Convergent evolution

B. divergnet evolution

C. Parallel evolution

D. None of the above.

Answer: B



237. Which isotope is used in finding age of fossil of more than 4500 years?

A.
$$\cdot^{238}$$
 U

$$\mathsf{B..}^{235}\,U$$

$$C..^{235} Po$$

D.
12
 C

Answer: A



238. 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



239. Mass extinction at the end of Mesozoic era was probably due to

- A. Continental drift
- B. Massive glaciation
- C. Collision of earth with large meteorite
- D. Change in earth's orbit.

Answer: C



240. Tachyglossus is a connecting link between

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

Answer: A



241. Phylogeny is

- A. Evolutionary history
- B. Life history
- C. Group of phyla
- D. Genetics of animals.

Answer: A



242. Relatedness of two species is tested through

- A. RNA and proteins
- B. DNA and proteins
- C. Antibiodies and transposons
- D. None of the above.

Answer: B



243. According to Allen's rule, mammals In cold regions have to conserve body heat.

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

Answer: D



244. Peripatus is connecting link between

- A. Porifera and coelenterata
- B. Ctenophora and platyhelminthes
- C. Mollusca and echinodermata
- D. Annelida and arhtropoda

Answer: D



245. Origin of first toothed birds and gymnoperms took place during

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

Answer: C



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

A. Sphenodon between reptiles and birds

B. Archaeopteryx between reptiles and

C. Lung fishes between pisces and reptiles.

D. Duck-billed Platypus between reptiles and mammals.

Answer: D

birds



247. After the industrial revolution, melanic moths survived because

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

Answer: A



248. In evolution of horse, two most important anatomical and morphological changes brought about are

- A. Limbs and tail
- B. Limbs and teeth
- C. Teeth and tail
- D. Limbs and height

Answer: B



249. The vestiges of girdles are found in

- A. Rattle snake
- B. Krait
- C. Cobra
- D. Python.

Answer: D



250. 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



251. The first seed plants appeared during

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

Answer: B



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252. Which was the biggest land dinosaur

- A. Protoceratops
- B. Amptosaurus
- C. Tyrannosaurus rex
- D. Ichthyosaurus.

Answer: C



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253. Organs that perform same function but are not similar in structural details and origin are called

- A. Analogous organs
- B. Homologous organs
- C. Vestigial organs
- D. None of these.

Answer: A



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254. Homologous organs have

A. Similar morphology

- B. Similar anatomy
- C. Different anatomy
- D. All of the above

Answer: B



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255. Given below are four statements (A-D) each with one or two blanks. Select the option which correctly fills up the blanks in two statements.

- (A) Wings of butterfly and birds look alike and are the results of i evolution.
- (B) Miller showed that $CH_4,\,H_2,\,NH_3$ and i when exposed to electric discharge in a flask resulted in formation of ii
- (C) Vermiform appendix is a i organ and an ii evidence of evolution.
- (D) According to Darwin, evolution took place due to i and ii or the fittest.

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

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

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

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

Answer: A



256. Forelimbs of humans and wings of birds are

- A. Analogous organs
- B. Homologous organs
- C. Parallel organs
- D. Vestigial organs.

Answer: B



257. Besides radio dating which method can be used to find out whether a fossil is of oder era?

- A. Lava deposits
- B. Igneous rocks
- C. Metamorphic rocks
- D. Sedimentary strata.

Answer: D



258. Age of fishes	is
---------------------------	----

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

Answer: C



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259. Fossilished faecal materials are known as

- A. Caprolites
- B. Compressions
- C. Moulds
- D. Casts.

Answer: A



- 260. Example of homologous structures is/are
 - A. Optic lobes of brain

- B. Heart of vertebrates
- C. Cerebrum of brain
- D. All of the above.

Answer: D



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261. Which is the correct order of increasing geological time scale for a hypotehtical vertebrate evolution?

A. Cenzoic, mesozoic, palaeozoic, precambrian B. Cenozoic, palaeozoic, mesozoic, precambrain C. Precambrian, cenozoic, palaezoic, mesozoic D. Precambrian, palaezoic, mesozoic, cenzoic. **Answer: A**

262. Analogous organs are a result of

- A. Divergent evolution
- B. Gentic drift
- C. Convergent evolution
- D. Artificial selection.

Answer: C



263. Which one among the following is an example for homology?

- A. Wings of butterfly and bird
- B. Eyes of Octopus and mammals
- C. Flipper of penguins and dolphin
- D. Thorn of Baugainvillea and tendril of

Cucurbita

Answer: D



264. Tendrils in plants are an example of

- A. Adaptive radiation
- **B.** Coevolution
- C. Convergent evolution
- D. Divergent evolution.

Answer: C



265. Which is correct

Convergent Evolution	Divergent Evolution
(A) Eyes of Octopus and Mammals	Bones of vertebrate fore-limbs
(B) Bones of vertebrate fore-limbs	Wings of Butterfly and birds
(C) Bougainvillea thorns and Cucurbita tendrils	Eyes of Octopus and Mammals
(D) Bougainvillea thorns and Cucurbita tendrils	Wings of butterfly and birds.
	(CRSE 2



266. Which of the following is a vestigial structure in man?

A. Caecum

B. Pinna of ear

C. Wisdom tooth

D. Muscles of glottis.

Answer: C



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267. Which is incorrect

A. Wings of insects and bats are homologous

- B. Wings of insects and bats are analogous
- C. Wings of bats and birds are analogous.

D. Wings of insects and birds are analogous.

Answer: A



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268. Precious stones, such as gem stones, are products of

- A. Volcanic rocks
- B. Sedimentory rocks

- C. Metamorphic rocks
- D. Igneous rocks.

Answer: D



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269. Coenozoic era is age of

- A. fishes
- B. Amphibians
- C. Mammals

D. Reptiles.

Answer: C



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270. In which geological era did microbes originate

- A. Precambrian
- B. Proterozoic
- C. Azoic

D. Palaeozoic.

Answer: B



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271. The origin of mammal like reptiles occurred in

A. Jurassic

B. Triassic

C. Permian

D. Tertiary.

Answer: C



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

A. Analogous organs that have evolved due to divergent evolution

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

Answer: D



273. Which is not vestigial in humans

- A. Ear pinna, patella, olecranon process
- B. Scalp muscles, coccygeal vertebrae
- C. Ear muscles, third molars
- D. Vermiform appendix, nictitating membrane.

Answer: A



- A. Ear of Bat
- B. Wing of Butterfly
- C. Fore leg of Horse
- D. Tail of Rabbit.

Answer: C



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275. Which one is part of Palaezoic era

- A. Devonian
- B. Jurassic
- C. Tertiary
- D. Cretaceous

Answer: A



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276. Which one cannot determine phylogenetic relationships

- A. Physiology
- B. Morphology
- C. Biogeography
- D. Embryology.

Answer: B



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277. Choose the correct statements with reference to organic evolution(a) Flippers of Whale and wings of bat exhibit

analogy (b) Wings of Butterfly and wings of bat exhibit homolgy (c) Organs with dissimilar structure are called analogous organs (d) Organs with similar structure and origin are called homologous organs. A. a and c B. b and d C. a and b D. c and d

Answer: D



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278. The rise of first primates occurred in____ epoch.

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

Answer: A



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279. Choose the wrong statement

- A. Louis Pasteur demonstrated that life comes only from pre-existing life
- B. S.L. Miller observed that electric discharge in a flask containing $CH_4,\,H_2,\,$

 NH_3 and water vapours at 800° C

formed amino acids

C. Flippers of penguins and dolphins examples of homology

D. Homology indicates common ancestry

Answer: C



280. Forelmbs of cat, lizard used in walking, forelimbs of whale used in swimming and forelimbs of bats used in flying are an example of

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

Answer: B



Water video Solution

281. Which one of the following are analogous structures

A. Gills of Prawn and lungs of Man

B. Thorns of Bougainvillea and tendrils of

Cucurbita

C. Flippers of Dolphin and legs of Horse

D. Wings of Bat and wings of Pigeon.

Answer: A

282. This is an example of analogous organs

- A. Brain of fish and humans
- B. Thorns and tendrils in plants
- C. Wings of birds and butterfly
- D. Fore limbs of frog and horse.

Answer: C



283. This is believed to have not evolved in cenozoic period :

- A. Bryophytes
- B. Ferns
- C. Conifers
- D. Cycads.

Answer: A



- **284.** Fossils act as evidence of organic evolution. Which one of these features does not justify feature of fossils?
 - A. They are remains of hard parts of life forms that existed in past
 - B. They are remains of decayed and decomposed body parts
 - C. Fossils present in lower strata of the earth are older than those present in the upper strata

D. Study of fossils of different sedimentary

layers indicate the geological period in which they existed.

Answer: B



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285. Choose the wrong pair

A. Divergent evolution — Fore limbs of

whales, bats, cheetah and human

B. Convergent evolution — Flippers of

penguins and dolphins

C. Homologous structures — Vertebrate hearts

D. Analogous structures — Tendril of Bougainvillea and Cucurbita.

Answer: D



286. How many years are considered in one minute in Geological clock

- A. 52,000 years
- B. 3,250,000 years
- C. 187,500,000 years
- D. 190,000 years.

Answer: B



287. Wings of butterfly and wings of birds are examples of

- A. Vestigial organs
- B. Analogous organs
- C. Homologous organs
- D. Atavistic organs.

Answer: B



288. Match the following with references to geological time scale

- (a) Origin of trilobites (i) Silurian
 (b) Origin of ostracoderms (ii) Carboniferous
 (c) Origin of fishes (iii) Cambrian
 (d) Origin of amphibians (iv) Ordovician
 (e) Origin of cotylosaurs (v) Devonian
 - A. (a=iii), (b-c), (c-i), (d-iv), (e-ii)
 - B. (a-ii), (b-v), (c-i), (e-iii)
 - C. (a-iii), (b-iv), (c-ii), (d-v), (e-i),
 - D. (a-iii), (b-iv), (c-i), (d-v), (e-ii)

Answer: D

289. Select the correct pair

A. Adaptive radiation — Darwin's Finches

B. Connecting Link — Peppered Moth

C. Industrial melanism — Archaeopteryx.

D.

Answer: A



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

A. Homologous structures and represent divergent evolution

B. Analogous structures and represent convergent evolution

C. Phylogenetic structures and represent divergent evolution

D. Homologous structures and represent convergent evolution.

Answer: B



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291. One of the following period witnessed the maximum diversity of reptiles

A. Cretaceous

B. Jurassic

- C. Pleistocene
- D. Triassic.

Answer: A



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292. Conecting link between fish and amphibia

is

- A. Lung fish and Protopterus
- B. Latimeria

- C. Seymouria and Sphenodon
- D. All of the above

Answer: A



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293. From evolutionary point of view , the tendrils of Pea plant and Grape Vine are

- A. Homologous organs
- B. Analogous organs

- C. Connecting links
- D. Missing links.

Answer: B



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294. Which one of the following is reptilian ancestor of birds?

- A. Hesperornis
- B. Ichthyornis

- C. Archaeopteryx
- D. Lychaenops.

Answer: C



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295. With the help of carbon dating technique which one of the following can be measured

- A. Age of fossil
- B. Age of a rock

- C. Age of a monument
- D. Age of universe.

Answer: A



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296. Which of the following sets in homologous

A. Paddle of whale, front leg of horse and arms of man

- B. Sting of honey bee, sting of scorpin and poison fang of snake
- C. Wings of butterfly, wings of flying fish, wings of birds
- D. Tail of scorpion, tail of bird, tail of monkey.

Answer: A



297. Founder of modern palaeontology is:

- A. Linnaeus
- B. Aristotle
- C. Cuvier
- D. Lanmarck.

Answer: C



298. This peroid belonged to palaezoic era

- A. Triassic
- B. Cambrian
- C. Jurassic
- D. Creataceous.

Answer: B



299. Which one is the first vertebrates to have evolved

- A. Jawless Fish
- B. Monkey
- C. Frog
- D. Horse.

Answer: A



300. A pair of analogous organs is

A. Wing of bird and flipper of whale

B. Fore limbs of horse and man

C. Wing of bird and fore limb of horse

D. Wing of insect and wing of bird.

Answer: D



301. Which oen is a correct match

(i) Coenozoic : 2 — 65 mya : Origin of vertebrates

(ii) Palaezoic : 500 — 165 mya : Rise of egg laying mammals

(iii) Mesozoic : 135 — 225 mya : Reptiles dominant

(iv) Proterozoic : 350 — 500 mya : Trilobites dominant

A. i

B. ii

C. iii

D. iv.

Answer: C



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302. Which of the following structures is homologus to the wing of a bird?

A. Flipper of whale

B. Dorsal fin of shark

C. Wing of a moth

D. Hind limb of rabbit.

Answer: A



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303. Given below are assertion and reason. Point out if both are true with reason being correct explanation (A), both true but reason is not correct explanation (B), assertion true but reason is wrong (C), both are wrong (D).

Assertion: Analogous organs are a result of divergent evolution

Reason: Eye of Octopus and that of mammals depict divergent evolution.

A. (A)

B. (B)

C. (C)

D. (D)

Answer: D



304. Documented microfossils have been found that are as old as

- A. 2.5 million years
- B. 3.5 billion years
- C. 1.5 billion years
- D. 2.5 billion years

Answer: B



Check Your Grasp

1.	Founder	of modern	palaeontology is	:
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- A. Birbal Sahni
- B. Steward
- C. Cuvier
- D. Leonard de Vinci.

Answer:



2.	Birbal	Sahni	Institute	of	Palaeobotany	is
sit	uated i	n:				

- A. Lucknow
- B. Calcutta
- C. Pune
- D. Banglore.

Answer:



- 3. In human beings canine teeth are
 - A. Useless
 - B. Required for tearing food parts
 - C. Chewing teeth
 - D. Used for nibbling food arctiles.

Answer:

