

Chapter-07 Evolution

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NEET Biology MCO CHAPTER-7 EVOLUTION

1. Alternative forms of a gene are called
a) loci b) multiples c) Chromosomes d) Alleles
Ans: d
2. Heredity or inheritance of specific traits became clearer due to
a) Lamarck's theory
b) Mendel worked on garden peas
c) Darwinism
d) Neo-Darwinism
Ans: b
3. Which of the following sentences is true about the evolutionary process?
a) There is no real 'progress' in the idea of evolution.
b) humans are unique, a totally new type of organism.
c) progress is nature's religion.
d) Evolution of life forms was rapid in the beginning ages.
Ans: a
4. Microevolution takes place due to
a) somatogenic variation b) blastogenic variation
c) continuous variation d) Successive variation
Ans: b

5. The difference between Homo sapiens and the Homo erectus was
- a) Homo sapiens originated in Africa while Homo erectus was in Asia
 - b) Homo erectus were much smaller in size than homo sapiens.
 - c) Homo erectus stayed in Africa while Homo sapiens did not.
 - d) The size of their brain of Homo eructus was smaller to homo sapiens

Ans: d

6. By studying analogous structures we look for
- a) similarities in appearance and function but different in structure.
 - b) similarities in appearance but differences in functions.
 - c) Similarities in organ structure.
 - d) Similarities in cell make up.

Ans: a

7. Was a predecessor of Darwin and he developed the theory of acquired characteristics.
- a) Weismann
 - b) Mendel
 - c) Malthus
 - d) Lamarck

Ans: d

8. Which of these is not a living fossil?
- a) Archaeopteryx
 - b) Duck-billed platypus
 - c) Lungfish
 - d) Frog

Ans: a

9. Which of the following are not the examples of analogous structures?
- a) Wings of bat and butterfly
 - b) Wings of bat and forelimb of cattle.
 - c) Thorn and spine.
 - d) Tendril of Lathyrus and tendril of Gloriosa.

Ans: b

10. The scientist who cut off the tails of mice of successive generations to prove Lamarck's theory was wrong was

a) Weismann b) Haeckel c) Darwin d) Wallace

Ans: a

11. Human being belongs to the species of
- a) Homo erectus
 - b) Homo habilis
 - c) Homo sapiens
 - d) Hominidae

Ans: c

12. Links between organisms that show branching pattern of evolutionary relationships are shown by
- a) living fossils
 - b) comparative embryology
 - c) phylogenetic trees
 - d) two fossil layers

Ans: c

13. Speciation is the evolutionary process by which
- a) a new gene pool is formed
 - b) evolutionary paths of species converge
 - c) hybrid species formed
 - d) Shows up differences in physical traits

Ans: a

14. Evidences of evolutionary relationships is found in
- a) atmosphere
 - b) fossils
 - c) ocean beds
 - d) rocks

Ans: b

15. Which of the following is not a source of variation in a population?
- A. Inherited genetic differences.
 - B. Differences due to health.
 - C. Differences due to age.
 - D. None of the above.

Ans: D

16. Which of the following examples of variation is not important from an evolutionary standpoint?
- A. Genetic differences between individual organisms comprising the population.
 - B. Inherited differences between individual organisms comprising the population.
 - C. Differences due to diet, health, age or accident that have no affect on an individual's ability to survive and reproduce.
 - D. A and B

Ans: C

17. Why is genetic variation important from an evolutionary standpoint?
- A. If all organisms were the same, the entire population would be vulnerable to particular pathogens, like viruses.
 - B. All evolutionary adaptations (e.g. the origin of forelimbs) are the result of the gradual build up of genetic differences between organisms over geologic time.
 - C. Evolution (at the population level) refers to changes in the frequencies of genes in the population over time.
 - D. All of the above.

Ans: D

18. Which of the following is an example of genetic variation?
- A. Two children have different eye colors.
 - B. One person is older than another.
 - C. One person has a scar, but her friend does not.
 - D. Tod eats meat, but his brother Rod is a vegetarian.

Ans: A

19. Which of the following is an example of environmental variation?
- A. Apu is a tongue roller, but his brother Sangay is not.
 - B. Marge dyes her hair blue.
 - C. Homer inherited baldness from his father's side of the family.
 - D. Patti and Selma have hanging earlobes.

Ans: B

20. What's the difference between natural selection and sexual selection?
- A. Sexual selection occurs during sex.
 - B. Natural selection is a type of sexual selection.
 - C. Sexual selection is a type of natural selection.
 - D. Sexual selection occurs within demes, natural selection does not.

Ans: C

21. What's the difference between genetic drift and change due to natural selection?
- A. Genetic drift does not require the presence of variation.
 - B. Genetic drift does not involve competition between members of a species.
 - C. Genetic drift never occurs in nature, natural selection does.
 - D. There is no difference.

Ans: B

22. According to our reading, how did George Cuvier account for extinctions in nature?
- A. Extinctions never occur--there are unexplored parts of the globe where organisms that appear to have gone extinct may still live.
 - B. Extinctions occur when the slow adaptation of organisms over time to their environment is not quick enough to help them respond to changing conditions.
 - C. Extinctions occur at random, they do not reflect God's will.
 - D. Extinctions are due to catastrophic events.

Ans: D

23. Why, according to our reading, did Darwin take so long to publish the Origin of Species?
- A. Darwin wanted to share his theory as quickly as possible once he returned from his voyage on the Beagle.
 - B. It took twenty years for Darwin to develop a theory.
 - C. Darwin suffered from a number of illnesses.
 - D. Darwin was concerned about the reaction of others to the implications of his theory.

Ans: B

24. In which of the following ways is natural selection not analogous to artificial selection?
- A. With natural selection "picking" is due to the fit of an organism with its environment; whereas in artificial selection, the breeder "picks" which organisms will breed.
 - B. Natural selection depends upon the presence of variation, artificial selection does not.
 - C. Natural selection occurs within populations, artificial selection does not.
 - D. There is a limit to how much change can be brought about by natural selection, no such limit exists for artificial selection.

Ans: A

25. Why is the advent of reproductive isolation important from an evolutionary standpoint?
- A. When the organisms comprising two populations of a species can no longer interbreed, the flow of genetic material between them stops.
 - B. It is not important from an evolutionary standpoint. The question is based on a false assumption.
 - C. Reproductive isolation increases the mutation rate.
 - D. Reproductive isolation may slow reproduction.

Ans: A

26. If the theory of natural selection is the survival of the fittest, and the fittest are identified as those who survive, why isn't it regarded as a tautology (a statement that is true only because of the meaning of the terms) ?
- A. The effect of traits on the fitness of an organism can be assessed independently of whether the organism indeed survives.
 - B. It is regarded as a tautology - the question is based on a false assumption.
 - C. There may be some statements in science that are useful even if they are not falsifiable or refutable in principle.
 - D. A and C.

Ans: D

27. The variation natural selection operates on is due to random mutations. What does this imply about natural selection?
- A. Natural selection is also a random process.
 - B. Natural selection is nevertheless a directed process- the likelihood one variant will be favored in a given environment over another is predictable, even if the origin is not.
 - C. There is no possibility God could be involved in this process.
 - D. A, B and C.

Ans: B

28. How was Mendel's work ultimately reconciled with Darwin's theory of natural selection during the evolutionary synthesis in the 1930s and 1940s?
- A. Scientists recognized that once one thinks about species as populations, rather than individuals, there is no incompatibility between them.
 - B. Mendel's theory was replaced by the mutation theory.
 - C. It was recognized much of the variation we observe in nature is due to recombination, rather than mutation.
 - D. A and C.

Ans: D

29. Which of the following is the evidence for Darwin's theory of common descent?
- A. There are patterns in the fossil record that suggest other species have diverged from a single ancestor species.
 - B. There are biogeographic patterns in the distribution of species, for instance distinct bird species on an island tend to resemble one another, suggesting a common ancestor.
 - C. There are common stages in the early embryological development of organisms representing several distinct vertebrate groups.
 - D. All of above

Ans: D

30. What is the relationship between the wing of a bird and the wing of a bat?
- A. They are homologous because they represent modified forms of a trait present in a common ancestor (forelimbs).
 - B. They are analogous because while each carries out the same function (flight), this trait has arisen independently as a result of convergence (i.e. the common ancestor of both did not have a forelimb that allowed it to fly).
 - C. A and B.
 - D. They represent derived homologies.

Ans: C

31. Which of the following is not an example of a macro evolutionary process?
- A. One lion species splits to form two lion species over geological time.
 - B. The same trait evolves independently in two different taxa (e.g. wings in birds and in insects).
 - C. As a result of their activities, humans drive Dodos (a bird species) extinct.
 - D. Over a short period of time, the frequency of a single gene declines from 10 to 8%.

Ans: D

32. Which of the following is an example of an ancestral homology?
- A. Almost all modern reptiles, birds and mammals have forelimbs, a trait they also share with contemporary amphibians.
 - B. The first birds and all their descendant species have feathers, a trait that is unknown in any other group.
 - C. Humans and many insect species have eyes.
 - D. All of the above.
 - E. None of the above.

Ans: A

33. Which of the following is not an example of micro evolutionary change?
- A. The dark form of many moth species has increased in areas darkened by pollution.
 - B. Penicillin resistant forms of bacteria have arisen since the introduction of antibiotics.
 - C. The proportion of left and right bending moths in cichlid fish remains roughly 50:50.
 - D. The last American eagle dies off, leading to the extinction of the species.

Ans: D

34. Which of the following are difficult to explain in terms of natural selection?
- A. Male peacocks evolve tail feathers that would appear to make them more rather than less vulnerable to predators.
 - B. Male deer evolve antlers that are not used to defend themselves against predators.
 - C. A bird issues a warning cry that puts it at greater risk of being noticed by a predator.
 - D. Some traits appear to have no adaptive value.**

Ans: D

35. Which of the following is not an example of a monophyletic taxon?
- A. The first fish species and every living organism that looks like a fish.**
 - B. The first mammal species and all its descendants.
 - C. The first bird species and all its descendants.
 - D. All of the above.

Ans: A

36. Which of the following are kingdoms?
- A. Monera.
 - B. Protista.
 - C. Animalia.
 - D. All of the above.**

Ans: D

37. Which of the following must increase over geological time according to evolutionary biologists?
- A. Size .
 - B. Complexity
 - C. Speed of evolutionary processes such as mutation.
 - D. All of the above.**

Ans: D

38. Why is similarity misleading when it comes to inferring evolutionary relationships?
- A. Organisms that look alike may be very distantly related to one another.
 - B. Similarities between two species may be due to common descent, without indicating how closely the two are related to one another.
 - C. A and B only.**
 - D. The presence of a shared derived character state is often misleading when it comes to inferring relationships between species .

Ans: C

39. Which of the following are the most distantly related to one another?
- A. Sunfish and dolphins. B. Tree frogs and snakes.
C. Vampire bats and birds. D. Bears and whales.

Ans: A

40. How does an evolutionary biologist explain why a species of bird has evolved a larger beak size?

- A. Large beak size occurred as a result of mutation in each member of the population.
B. The ancestors of this bird species encountered a tree with larger than average sized seeds. They needed to develop larger beaks in order to eat the larger seeds, and over time, they adapted to meet this need.
C. Some members of the ancestral population had larger beaks than others. If larger beak size was advantageous, they would be more likely to survive and reproduce. As such, large beaked birds increased in frequency relative to small beaked birds.
D. The ancestors of this bird species encountered a tree with larger than average sized seeds. They discovered that by stretching their beaks, the beaks would get longer, and this increase was passed on to their offspring. Over time, the bird beaks became larger.

Ans: C

41. How might an evolutionary biologist explain why a species of salamander becomes blind after colonizing a cave?

- A. It is possible that in the cave there is a source of pollution that increases the mutation rate for a gene that makes salamanders blind. Over time, due to exposure to this chemical, the members of the population lose their sight.
B. Members of the ancestral population that colonized the cave differed in their ability to see. If maintaining the ability to see in the cave was a waste of energy, blind salamanders might actually have more offspring than those who could see.
C. There is no way to explain this in terms of natural selection.
D. The members of this salamander species no longer needed to use their eyes. Over time, due to lack of use, they lost the ability to see.

Ans: B

42. Which of the following is the most fit in an evolutionary sense?

- A. A lion who is successful at capturing prey but has no cubs.
B. A lion who has many cubs, eight of which live to adulthood.
C. A lion who overcomes a disease and lives to have three cubs.
D. A lion who cares for his cubs, two of which live to adulthood.

Ans: B

43. How is extinction represented in a tree diagram?
A. A branch splits. **B. A branch ends.**
C. A branch shifts along the X axis. D. A branch shifts along the Y axis.
Ans: B
44. A biologist is trying to infer how five closely related species of snakes are related to one another. She notices that some of the snakes have forked tongues and others do not. Which of the following would help her distinguish the ancestral state?
A. She looks among snake fossils for evidence that being forked is a characteristic of the ancestor of this group, but determines no such fossils exist.
B. She locates a specimen of a more distantly related snake to see if it has a forked tongue.
C. She looks at a representative mammal species to see if it has a forked tongue.
D. She flips a coin.
Ans: B
45. The surface temperature of the sun is -
(A) 6000° C (B) 9000° C (C) 1000° C (D) 10,000° C
Ans: A
46. The earth like other planets formed from
(A) aggregates of uranium **(B) cloud of gas and dust**
(C) division of pre-existing planets (D) collisions of meteorites
Ans: B
47. The experiment to show the production of mice in 21 days from a dirty shirt placed in contact with kernels of wheat was carried out by
(A) Francesco Redi
(B) Jean Baptiste Van Helmont
(C) Aristotle
(D) Louis Pasteur
Ans: B
48. The first formed organism (riboorganism) used onlyfor catalyzing reactions.
(A) DNA (B) amino acids (C) fatty acids **(D) RNA**
Ans: D

49. Anaerobic photosynthetic bacteria appeared on the earth about
(A) 500 million years ago (B) 1500 million years ago
(C) 2500 million years ago (D) 3500 million years ago
Ans: D
50. The sequence of origin of life may be considered as
(A) Amino acid Protein Chlorophyll (B) Chlorophyll Starch Glycogen
(C) Nucleic acid Amino acid Chlorophyll (D) Chlorophyll Nucleic acid Amino acid
Ans: C
51. The primitive cell-like colloidal particles capable of growth and division were
(A) prokaryotes (B) coacervates (C) eobionts (D) chemoautotrophs
Ans: C
52. The stage for the evolution of autotrophs was set with the evolution
(A) RNA (B) DNA (C) ozone (D) chlorophyll
Ans: D
53. The first organism to be found on a bare rock is a(an) _____.
(A) moss (B) alga (C) lichen (D) fern
Ans: C
54. The doctrine of evolution is concerned with
(A) gradual changes (B) abiogenesis (C) biogenesis (D) none of the above
Ans: C
55. The era called age of prokaryotic microbes is
(A) archaean (B) precambrian (C) phanerozoic (D) proterozoic
Ans: A
56. To determine which molecules might have formed spontaneously on early earth, Stanley Miller used an apparatus with an atmosphere containing
(A) oxygen, hydrogen and nitrogen
(B) oxygen, hydrogen, ammonia and water vapour
(C) oxygen, hydrogen and methane
(D) hydrogen, ammonia, methane and water vapour
Ans: D

57. The utilization of elements and compounds in nature generation theory because
(A) life cycles (B) cyclic pathway (C) material cycles (D) recycling

Ans: C

58. What is ethnobotany ?
(A) Relationship between primitive plants and people
(B) Study to soil
(C) Cultivation of flower yielding plants
(D) Use of plants and their parts

Ans: A

59. The first photoautotroph organisms were _____
(A) bryophytes (B) algae (C) cyanobacteria (D) bacteria

Ans: D

60. Who performed this famous experiment to prove origin of life ?
(A) Oparin and Haldane (B) Spallanzani and Pasteur
(C) Urey and Miller (D) Fox and Pasteur

Ans: C

61. How much temperature was used for the gases to react ?
(A) 10°C (B) 1300°C (C) 1000°C (D) 50°C

Ans: B

62. What was the mixture of gases used in chamber marked A ?
(A) Methane (CH₄), ammonia (NH₃), hydrogen (H₂), and water (H₂O)
(B) Oxygen (O₂), ammonia (NH₃), hydrogen (H₂), and water (H₂O)
(C) Oxygen (O₂), ozone (O₃), hydrogen (H₂), and water (H₂O)
(D) all above

Ans: A

63. What was the resultant found in place marked E ?
(A) Glucose, fatty acids and lipids
(B) Some fatty acids and organic acids
(C) Some amino acids as glycine and alanine and
(D) Organic esters only

Ans:C

64. Match the appropriate: Column - Column -11

A. Cosmozoan theory (i) Oxidizing environment rich in autotrophs like cyanobacteria

B. Spontaneous generation (ii) Microspheres

C. Primary abiogenesis (iii) Hot ball of gases

D. Atmosphere (iv) Oparin and Haldane

E. Atmosphere III(v) Panspermia

F. Sydney Fox (vi) Abiogenesis

A B C D E F A B C D

(A) (v) (vi) (iv) (iii) (i) (ii)

(B) (i) (ii) (iii) (iv)

(C) (ii) (iii) (i) (v) (vi) (iv)

(D) (vi) (iv) (iii) (v)

Ans: A

65. The first molecules formed for replicating cells were most probably RNA. R. This was proved by origin of ribozyme in 1987 by T. Cech in Tetrahymena.

(A) If A and R both are true and R is correct explanation of A

(B) If A and R both are true but R is not correct explanation of A

(C) If A is true and R is wrong

(D) If A is wrong and R is true

Ans: A

66. Pick up the correct match

I. Core of the earth A. Archaeozoic era

II. Life originated B. Fechner

III. Stromatolites C. Inter-micromolecular assembly

IV. TMC is an example D. Photosynthesizing algae

(A) I - B, II - A, III - D, IV - C

(B) I - A, II - B, III - C, IV - D

(C) I - B, II - D, III - C, IV - A

(D) I - A, II - B, III - D, IV - C A.

Ans: A

67. Arrhenius considered the panspermia mainly responsible for transfer for germs from other planets to Earth.

R. Present day study of meteorites as Allan Hills-84001 knocked out from Mars in Antarctica is rich aromatic hydrocarbons deposited by biological activity.

(A) If A and R both are true and R is correct explanation of A

(B) If A and R both are true but R is not correct explanation of A

(C) If A is true and R is wrong

(D) If A is wrong and R is true A.

Ans: A

68. The first molecules formed for replicating cells were most probably RNA. R. This was proved by origin of ribozyme in 1987 by T. Cech in Tetrahymena.

- (A) If A and R both are true and R is correct explanation of A
- (B) If A and R both are true but R is not correct explanation of A
- (C) If A is true and R is wrong
- (D) If A is wrong and R is true

Ans: A

69. Coacervates are

- (A) colloidal droplets
- (B) contain nucleoprotein
- (C) (A) and (B)
- (D) protobiont

Ans: C

70. The diagram represents Miller experiment. Choose the correct combination of labelling.

- (A) A - electrodes, B - $\text{NH}_3 + \text{H}_2 + \text{H}_2\text{O} + \text{CH}_4$, C - cold water, D - Vacuum, E - U trap
- (B) A - electrodes, B - $\text{NH}_4 + \text{H}_2 + \text{CO}_2 + \text{CH}_3$, C - hot water, D - Vacuum, E - U trap
- (C) A - electrodes, B - $\text{NH}_3 + \text{H}_2\text{O}$, C - hot water, D - tap, E - U trap
- (D) A - electrodes, B - $\text{NH}_3 + \text{H}_2 + \text{H}_2\text{O} + \text{CH}_4$, C - steam, D - Vacuum, E - U trap

Ans: A

71. The earliest organisms were

- (A) heterotrophic and anaerobic
- (B) autotrophic and anaerobic
- (C) heterotrophic and aerobic
- (D) autotrophic and aerobic

Ans: A

72. Which one of the following is present today but was absent about 3.5 billion years ago ?

- (A) Oxygen
- (B) Nitrogen
- (C) Hydrogen
- (D) Methane

Ans: A

73. Coacervates were experimentally produced by

- (A) Sydney Fox and Oparin
- (B) Fischer and Huxley
- (C) Jacob and Monod
- (D) Urey and Miller

Ans: D

74. Urey and Miller in their experiment used a mixture of gases corresponding to primitive earth. These were

- (A) C₃, NH₃, H₂, CO₂ (B) O₂, NH₃, CH₄, H₂
(C) NH₃, CH₄, H₂O, CO₂ (D) CH₄, NH₃, H₂, H₂O

Ans: D

75. According to abiogenesis life originate from _

- (A) non-living matter (B) pre-existing life
(C) chemicals (D) extra-terrestrial matter

Ans: A

76. Mega - evolution is _

- (A) Changes in the gene pool (B) evolution due to mutations
(C) origin of a new biological group (D) the evolution that takes centuries

Ans: C

77. Evolutionary convergence is characterised by

- (A) development of dissimilar characteristics in closely related groups
(B) development of a common set of characteristics in the groups of different ancestry
(C) development of characteristics by random mating
(D) Replacement of common characteristics in different groups.

Ans: D

78. Parallelism is

- (A) adaptive divergence
(B) adaptive convergence
(C) adaptive convergence of far off species
(D) adaptive convergence of closely related groups.

Ans: D

79. Mesozoic era is associated with mass extinction of

- (A) flowering plants (B) trilobites (C) Dodo (D) dinosaurs

Ans: D

80. Serial homology is exhibited by.
(A) Organs of same individual occupying different levels of the body
(B) Organs of different organisms with same function
(C) appendages of various parts of prawn body
(D) both (A) and (C)
Ans: D
81. Vermiform appendix in man, nictitating membrane and wisdomteeth are
(A) homologous organs (B) analogous organs
(C) vestigial organs (D) none of the above
Ans: C
82. Which one of the following terms would most correctly describe the relationship between the flight organs of animals like locust, bat, swallow, and flying fish ?
(A) Atavism (B) Analogous (C) Homologous (D) Vestigial
Ans: B
83. Appearance of facial hair in some people is an example of
(A) mongolism (B) analogous organs (C) atavism (D) all above
Ans: C
84. A living connecting link which provides evidence for organic evolution is
(A) Archaeopteryx between reptiles and mammals
(B) lung fish between pisces and reptiles
(C) duck billed platypus between reptiles and mammals
(D) Sphenodon between reptiles and birds
Ans: C
85. Von Baer supports the theory of evolution on the basis of
(A) embryological character (B) germ layers
(C) somatic variations (D) genetic variations
Ans: A
86. Which of the following bird will be called most successfully evolved ?
(A) Lays 2 eggs, 2 hatch and 2 reproduce
(B) Lays 9 eggs, 9 hatch and 3 reproduce
(C) Lays 5 eggs, 5 hatch and 5 reproduce
(D) Lays 10 eggs, 5 hatch and 4 reproduce
Ans: C

87. Biogenetic law states that

- (A) ontogeny repeats phylogeny
- (B) phylogeny repeats ontogeny
- (C) no two living organisms are alike
- (D) the favourable acquired characters are inherited

Ans: A

88. A study of evolution has established the systematic positions in many animals. In some animals chordate characters are absent in adult stage, but present in larval stage, eg. Herdmania has been included in

- (A) crustacea
- (B) protochordata
- (C) dermaptera
- (D) onychophora

Ans: B

89. Many of the animals and plants found on islands are

- (A) endemic
- (B) exotic
- (C) sympatric
- (D) none of these

Ans: A

90. The Haeckel's theory of biogenetic Law means that

- (A) all organisms start as an egg
- (B) life history of an organism reflects its evolutionary history
- (C) nonliving matter from life
- (D) progeny resembles parents

Ans: B

91. The best way of dating fossils recent origin is by -

- (A) radio carbon method
- (B) uranium lead method
- (C) potassium argon method
- (D) a combination of all these

Ans: D

92. The age of rock is calculated on the basis of

- (A) types of fossils present
- (B) number of strata present
- (C) amount of uranium present
- (D) none above

Ans: C

93. It is not a true fossil.

- (A) Placoderm
- (B) Limulus
- (C) Archeopteryx
- (D) Therapsid

Ans: B

94. All mammals, whale, dolphin, bat, monkey and horse have some common trait, but they also show conspicuous differences. This is due to the phenomenon of
(A) normalization (B) genetic drift (C) convergence (D) divergence

Ans: D

95. These are some examples of vestigial structures in man

- (A) wisdom tooth vermiform appendix, hair
(B) Wisdom tooth, vermiform appendix, coccyx
(C) wisdom tooth, head, nails
(D) none of these

Ans: B

96. Precipitation test gives evidence from

- (A) comparative embryology (B) comparative anatomy
(C) comparative serology (D) none above

Ans: C

97. In external appearance the krait and lycodon are indistinguishable. This is an example of

- (A) analogy (B) imitation (C) mimicry (D) homology

Ans: C

98. Postanal tail can be traced in

- (A) cobra (B) earthworm (C) scorpion (D) centipede

Ans: A

99. The Jurassic period belongs to the era.

- (A) proterozoic (B) archezoic (C) Mesozoic (D) cenozoic

Ans: C

100. Which of the following cannot determine phylogenetic relationships

- (A) Physiology (B) Morphology (C) Biogeography (D) Embryology

Ans: B

101. Mark the correct set. Column

Column I

A. Non-progressive

B. Aristotle

C. Bird wing and butterfly wing

D. Wing of bird and horse limb

I. Slow evolution

II. Environment is responsible for evolution

III. Homologous

IV. Analogous organ

(A) I-A, II - B, III - D, IV - C

(B) I - B, II - A, III - D, IV - C

(C) I - B, II - A, III - C, IV - D

(D) I - B, II - C, III - D, IV - A

Ans: A

102. A. Ear muscles of external ear in man are poorly developed. R. These muscles are useful which move external ear freely to detect sound efficiently.

(A) If A and R both are true and R is correct explanation of A

(B) If A and R both are true but R is not correct explanation of A

(C) If A is true and R is wrong

(D) If A is wrong and R is true

Ans: C

103. Mesozoic era is called golden period of

(A) birds

(B) amphibians

(C) reptiles

(D) pisces

Ans: C

104. Which of the following leads to evolution ?

(A) Separation of species leading to evolution

(B) Differentiation of species

(C) Loss of few advanced characters

(D) Differentiation and adaption of species as unique entities

Ans: D

105. Evolution and natural selection is demonstrated by

(A) DDT resistance in mosquito

(B) sickle cell anaemia in pygmies

(C) industrial melanism (D) all above

Ans: D

106. 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
Ans: B
107. Potato and sweet potato
(A) have edible parts which are homologous organs
(B) have edible part which are analogous organs
(C) have been introduced in India from the same place
(D) None of the above
Ans: B
108. Which one is not a vestigial organ in man ?
(A) Wisdom teeth
(B) Muscles of external ear-pinna
(C) Fossa ovalis
(D) Ileum
Ans: D
109. The tracking of evolutionary history of organisms is
(A) ontogeny
(B) phylogeny
(C) analogy
(D) homology
Ans: B
110. An old view about evolution states that the organisms were created by a super organism in the same condition as they exist now. This theory is called
(A) theory of special creation
(B) theory of natural selection
(C) Lamarck's theory of evolution
(D) theory of spontaneous generation
Ans: A
111. Who gave evolutionary concept of determinants ?
(A) Dolzansky
(B) Wright
(C) Weismann
(D) Lamarck
Ans: B
112. Darwin's theory of natural selection is objected, because it
(A) stresses upon slow and small variations
(B) explains the adaption of certain inherited characters
(C) stresses on interspecific competition
(D) explains that natural calamities take a heavy annual toll of lives
Ans: B

Ans: C

119. A. Mutations occurring in the germinal cells of the gonads are called germ mutations. R. They are heritable raw materials for natural selection lead to origin of new species.

(A) If A and R both are true and R is correct explanation of A
(B) If A and R both are true but R is not correct explanation of A
(C) If A is true and R is wrong
(D) If A is wrong and R is true

Ans: A

120. A. All the finches on the Galapagos Islands descended from common ancestor. R. They show variations only in their beaks as they got adapted to different feeding habits.

(A) If A and R both are true and R is correct explanation of A
(B) If A and R both are true but R is not correct explanation of A
(C) If A is true and R is wrong
(D) If A is wrong and R is true

Ans: B

121. Cosmozoic theory was given by

(A) Darwin (B) Richter (C) Aristotle (D) Von Baer

Ans: C

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

(A) Development of transgenic animals
(B) Production of 'Dolly' the sheep by cloning
(C) Prevalence of pesticide resistant insects
(D) Development of organs from 'stem cells' for organ transplantation

Ans: B

123. Retrogressive evolution is shown by.

(A) man (B) birds (C) tunicates (D) fish

Ans: A

124. Match the correct set. Column 1

Column 1

A. 345-405 million years ago

B. Fossilium

C. 425-500 million years ago

I. Fossil

II. Devonian period

III. Cambrian period

IV. Ordovician period

D. 500-600 million years ago

(A) I - B, II - A, III - D, IV - C

(B) I - A, II - B, III - C, IV - D

(C) I - B, II - C, III - D, IV - A

(D) I - B, II - D, III - C, IV - A

Ans: A

125. A. Genetic drift refers to change in allelic frequencies of a gene pool due to chance and occurs both in large and small populations. R. Small populations will, therefore, suffer more than larger ones.

(A) If A and R both are true and R is correct explanation of A

(B) If A and R both are true but R is not correct explanation of A

(C) If A is true and R is wrong

(D) If A is wrong and R is true

Ans: A

126. In a population, group of individuals of similar phenotypes are formed due to differential reproduction due to

(A) genetic drift (B) natural selection (C) migration (D) selective hybridization

Ans: A

127. Phylogenetic evolution refers to

(A) genetic relationship and evolutionary sequence

(B) similar habitat

(C) natural affinity of genes

(D) similar character

Ans: C

128. Genetic drift occurs when few individuals of a colony, the phenomenon is

(A) bottleneck effect

(B) assortative mating

(C) founder's effect

(D) random mating

Ans: D

129. Sympatric speciation arises due to

(A) non-overlapping population of the same area

(B) geographical isolation

(C) overlapping population of the same area

(D) non-reproductive population of the same area

Ans: D

130. Hardy – Weinberg equilibrium is known to be effected by gene flow,genetic drift, mutation, genetic recombination and

- (A) evolution (B) limiting factor (C) saltation (D) natural selection

Ans: A

131. Assertion : According to Hardy - Weinberg Equilibrium, the frequency of an allele remains the same generation after genenation. Reason : The only way to bring about a change is by natural selection.

- (A) A is correct and R is its explanation.
(B) A and R both are correct but R is not an explanation to A
(C) A is correct and R is false
(D) A is false and R is correct

Ans: D

132. Which is not applicable to the Biological species concept ?

- (A) hybridization (B) natural population
(C) reproductive isolation (D) gene pool

Ans: A

133. Mass extinction of the end of Mesozoic era was probably due to ?

- (A) continental drift (B) the collision of earth with large meteorites
(C) massive glaciations (D) change in earth's orbit

Ans: C

134. Apes shareblood groups with man

- (A) A, B, AB (B) A, B, O (C) AB, O (D) A and B only

Ans: C

135. Present age of human known as

- (A) atomic age (B) iron age (C) bronze age (D) silver age

Ans: D

136. Who was the first civilized man?

- (A) Cro-magnon man (B) Neanderthal man
(C) Java ape man (D) Peking man

Ans: A

137. Leakey and Leakey discovered the fossils of

- (A) apeman (B) erect man (C) Peking man (D) the tool maker

Ans: A

138. The correct sequence of course of cultural evolution from cromagnon to modern man is

- (A) Palaeolithic – Mesolithic – Neolithic – Bronze – Iron – Atomic
- (B) Mesolithic – Bronze - Neolithic – Iron – Atomic
- (C) Palaeolithic - Neolithic – Iron - Bronze – Atomic
- (D) None above

Ans: A

139. Neanderthal man differs from modern man is

- (A) receding jaw
- (B) protruding jaw
- (C) could make good tools
- (D) could make good picture

Ans: A

140. (Pitldown man' is

- (A) Homo habilis
- (B) Eoanthropus
- (C) Homo sapiens
- (D) Pithecanthropine

Ans: D

141. The most recent in human evolution is

- (A) mesolithic
- (B) neolithic
- (C) upperpalaeolithic
- (D) middle palaeolithic

Ans: D

142. Which one of the following statement is correct ?

- (A) Homo erectus is the ancestor of man
- (B) Fossils of Cro-magnon has been found in Ethiopia
- (C) Australopithecus is the real ancestor of modern man
- (D) Neanderthal man is the direct ancestor of Homo sapience

Ans: A

143. The evolution of genera 'Homo' occured in

- (A) Pleistocene
- (B) Pliocene
- (C) Miocene
- (D) oilgocene

Ans: B

144. Closest primate to man is

- (A) gorilla
- (B) rhesus monkey
- (C) orangutan
- (D) lemur

Ans: A

145. Which is correct according to cranial capacity from the figure given as examples?

Gibbon Orungutan Gorilla Chimpanzee man

(A) A = 104 cc, B = 355 cc, C = 500 cc, D = 405 cc, E = 1400 cc

(B) A = 355 cc, B = 104 cc, C = 500 cc, D = 405 cc, E = 1400 cc

(C) A = 104 cc, B = 355 cc, C = 405 cc, D = 500 cc, E = 1400 cc

(D) A = 355 cc, B = 104 cc, C = 405 cc, D = 500 cc, E = 1400 cc

Ans: A

146. Match the correct set Column-1

Column - 1

A. Old world monkeys

B. New world monkeys

C. Prosimians

D. Simians

1. Tree shrews, the ancestors of primates

2. Wide nostrils and prehensile tail

3. Narrow nostrils and non prehensile tail

4. Monkey and apes

(A) 2 3 1 4

(B) 3 2 1 4

(C) 2 1 3 4

(D) 1 3 2 4

Ans: C

147. Match the features from the columns

Column - 1

A. Ape like primate

B. Ancestor of modern apes

C. Connecting link between ape and man

D. First to use fire

Column - 11

1. Homo erectus

2. Australopithecus

3. Dryopithecus

4. Propliopethecus

ABCD

(A) 3 4 2 1

(C) 3 4 1 2

Ans: B

ABCD

(B) 4 3 2 1

(D) 4 2 1 3

148. A Java man and peking men were called Homo erectus by Mayer.R. They appeared same as both used fire.

(A) A is correct and R is its explanation.

(B) A and R both are correct but R is not an explanation to A

(C) A is correct and R is false

(D) A is false and R is correct

Ans: A

149. A. From evolutionary point of view, human gestation period is believed to be shortening. R. One major evolutionary trend in humans has been the larger head undergoing relatively faster growth rate in the foetal stage. Read the above statement the answer according

- (A) If A and R both are correct and R is an explanation to A
- (B) If A and R both are correct and R is an explanation to A
- (C) If A is correct and R is wrong
- (D) If A is wrong and R is correct

Ans: D

150. There are two opposing views about origin of modern man, According to the 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 Africa than in Asia
- (B) Variation only in Asia and no variation in Africa
- (C) Greater variation in Asia than in Africa
- (D) Similar variation in Africa and Asia

Ans: C

151. The first man to use fire was

- (A) neanderthal man
- (B) Homo erectus
- (C) cro-magnon man
- (D) Australopithecus

Ans: B

152. A human species who were more intelligent than the present human beings

- (A) Ramapithecus
- (B) Australopithecus africanus
- (C) Homo erectus
- (D) Homo fossilis

Ans: D

153. Human evolution actually started in

- (A) France
- (B) America
- (C) Central Asia
- (D) Africa France

Ans: D

154. Peking man is known as

- (A) Australopithecus
- (B) Sinanthropus
- (C) Pithcanthropus
- (D) Homo sapiens

Ans: B

Which of the following is correct match regarding cranial capacity and location of respective fossil.

(A) Australopithecus – Africa (450 600 CC)

(B) Java man - Germany (800 CC)

(C) Neanderthal – Africa (500–600 CC)

(D) Homo sapiens - South east Asia

Ans: A

156. Which one of the following ancestors of man first time showed bipedal movement ?

(A) Australopithecus

(B) Cro-magnon

(C) Java apeman

(D) Peking man

Ans: A

157. One of the oldest, best preserved and most complete hominid fossil commonly known as 'Lucy' belongs to the genus.

(A) Oreopithecus

(B) Dryopithecus

(C) Pithecanthropus

(D) Australopithecus

Ans: D

From Rajesh Kumar Principal, KV, Devlali