Evolution

Question 1.
The theory of spontaneous generation stated that
(a) life arose from living forms only
(b) life can arise from both living and non-living
(c) life can arise from non-living things only
(d) life arises spontaneusly, neither from living nor from the non-living.
Answer:
(c) life can arise from non-living things only

Question 2.
Animal husbandry and plant breeding programmes are the examples of
(a) reverse evolution
(b) aritifical selection
(c) mutation
(d) natural selection.
Answer:
(d) natural selection.

Question 3.
Palaentological evidences for evolutaion refer to the
(a) development of embryo
(b) homologous organs
(c) fossils
(d) analogous organs.
Answer:
(c) fossils

Question 4.
The bones of forelimbs of whale, bat, cheeah and man are similar in structure, because
(a) one organism has given rise to another
(b) they share a common ancestor
(c) they perform the same function.
(d) the have biochemical similarities.
Answer:
(b) they share a common ancestor

Question 5.
Analogous organs arise due to
(a) divergent evolution
(b) artificial selection
(c) genetic drift
(d) convergent evolution.
Answer:
(d) convergent evolution.

Question 6.
$(p+q)^2 = p^2 + 2pq + q^2 = 1$ represents an equation used in

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(a) population genetics
(b) Mendilian genetics
(c) biometircs
(d) molecular genetics.
Answer:
(a) population genetics

Question 7.
Appearnace of antibiotic-resistant bacteria is an example of
(a) adaptive radiation
(b) transduction
(c) pre-existing variation in the population
(d) divergent evolution.
Answer:
(c) pre-existing variation in the population

Question 8.
Fossils are generally found in
(a) sedimentasry rocks
(b) igneous rocks
(c) metamorphic rocks
(d) any type of rock.
Answer:
(a) sedimentasry rocks

Question 9.
Which type of selection is industrial melanism observed in moth, Biston betularia?
(a) Stabilising
(b) Directional
(c) Disruptive
(d) Artificial
Answer:
(b) Directional

Question 10.
Which of the following is an example for link species ?
(a) Lobe fish
(b) Dodo bird
(c) Seaweed
(d) Chimpanzee
Answer:
(a) Lobe fish

Question 11.
Variations during mutations of meiotic recombinations are
(a) random and directionless
(b) random and directional
(c) random and small
(d) random small and directional

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Answer:
(a) random and directionless

Question 12.
One of the possible early sources of energy was/were
(a) CO_2
(b) chlorophyll
(c) green plants
(d) UV rays and lightning.
Answer:
(d) UV rays and lightning.

Question 13.
Abiogenesis theory of origin supports
(a) spontaneous generation
(b) origin of life from blue-green algae
(c) origin of life is due to pre-existing organisms
(d) organic evolution is due to chemical reactions.
Answer:
(a) spontaneous generation

Question 14.
Who proposed that the first form of the could have come from pre-existing non-living organic molecules ?
(a) S.L. Miller
(b) Oparin and Haldane
(c) Charles Darwin
(d) Alfred Wallace
Answer:
(b) Oparin and Haldane

Question 15.
According to one of the most widely accepted theories, earth's atmosphere before origin of life was
(a) oxidising
(b) oxidising along with H_2
(c) reducing with free O_2 in small amount
(d) reducing with oxygen absent in O_2 form.
Answer:
(b) oxidising along with H_2

Question 16.
According to Oparin, which one of the following was not present in the primitive atmosphere of the earth ?
(a) Methane
(b) Oxygen
(c) Hydrogen
(d) Water vapour

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Answer:
(b) Oxygen

Question 17.
The correct sequence for the manufacture of the compounds on the primitive earth is
(a) NH_3, CH_4, protein and carbohydrate
(b) protein, carbohydrate, water and nucleic acid
(c) NH_3, CH_4, carbohydrate and nucleic acid
(d) NH_3, carbohydrate, protien and nucleic acid.
Answer:
(d) NH_3, carbohydrate, protien and nucleic acid.

Question 18.
Early at mosphere contained methane and other hydrocarbons. They have been now replaced by
(a) nitrogen
(b) oxygen
(c) carbon dioxide
(d) hydrogen.
Answer:
(c) carbon dioxide

Question 19.
The first life originated
(a) on land
(b) in air
(c) in water
(d) all of these.
Answer:
(c) in water

Question 20.
Coacervates are
(a) colloid droplets
(b) nucleoprotein containing entities
(c) microspheres
(d) both (a) and (b)
Answer:
(d) both (a) and (b)

Question 21.
First life from on earth was a
(a) cyanobacterium
(b) chemoheterotroph
(c) autotroph
(d) photoautotroph.
Answer:
(b) chemoheterotroph

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Question 22.
Presence of gills in the tadpole of frog indicated that
(a) fishes were amphibious in the past
(b) fishes evolved from frog-like ancestors
(c) frogs will have gills in future
(d) frogs evolved from gilled ancestors.
Answer:
(d) frogs evolved from gilled ancestors.

Question 23.
The character that proves that frogs have evolved from fishes is
(a) their ability to swim in water
(b) tadpole larva in frogs
(c) similarity in the shape of the head
(d) their feeding on aquatic plants.
Answer:
(b) tadpole larva in frogs

Question 24.
Identify the correct arrangement of periods of Palaeozoic era in ascending order in geological time scale.
(a) Cambrian → Devonian → Ordovician → Silurian → Carboniferous → Permian
(b) Cambrian → Ordovician → Silurian → Devonian→Carboniferous → Permian
(c) Cambrian → Ordovician → Devonian → Silurian → Carboniferous → Permian
(d) Silurian → Devonian → Cambrian → Ordovician → Permian → Carboniferous
Answer:
(b) Cambrian → Ordovician → Silurian → Devonian → Carboniferous → Permian

Question 25.
Which is the correct order of increasing geological time scale for a hypothetical vertebrate evolution ?
(a) Cenozoic, Mesozoic, Palaeozoic, Proterozoic
(b) Cenozoic, Palaeozoic, Mesozoic, Proterozoic
(c) Proterozoic, Cenozoic, Palaezoic, Mesozoic
(d) Proterozoic, Palaeozoic, Mesozoic, Cenozoic
Answer:
(d) Proterozoic, Palaeozoic, Mesozoic, Cenozoic

Question 26.
The 'Devonian period' is considered to be as
(a) age of fishes
(b) age of amphibians
(c) age of reptiles
(d) age of mammals.
Answer:
(a) age of fishes

Question 27.
Amphibians were dominant during _____ period.
(a) Carboniferous

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(b) Silurian
(c) Ordovician
(d) Cambrian
Answer:
(a) Carboniferous

Question 28.
The primate which existed 15 mya was
(a) Homo habilis
(b) Australopithecus
(c) Ramapithecus
(d) Homo erectus
Answer:
(c) Ramapithecus

Question 29.
The extinct stone ancestor, who ate only fruits and hunted with stone weapons was
(a) Ramapithecus
(b) Australophecus
(c) Dryopithecus
(d) Homo erectus
Answer:
(b) Australophecus

Question 30.
One of the oldest, best preserved and most complete hominid fossil commonly known as 'Lucy' belongs to the genus
(a) Austraolopithecus
(b) Oreopithecus
(c) Dryopithecus
(d) Pithecanthropus
Answer:
(a) Austraolopithecus

Question 31.
The brain capacity of Homo eractus was about
(a) 650 c.c.
(b) 900 c.c.
(c) 1500 c.c.
(d) 1400 c.c.
Answer:
(b) 900 c.c.

Question 32.
The ship used by Charles Darwin during the sea voyages was
(a) HMS Beagle
(b) HSM Beagle
(c) HMS Eagle
(d) HSM Eagle.

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Answer:
(a) HMS Beagle

Question 33.
Fitnes according to Darwin refers to
(a) number of species in a community
(b) useful variation in population
(c) strength of an individual
(d) reproductive fitness of an organism.
Answer:
(d) reproductive fitness of an organism.

Question 34.
Alfred Wallace worked in
(a) Galapagos Island
(b) Australian Island Continent
(c) Ma lay Archipelago
(d) none of these.
Answer:
(c) Ma lay Archipelago

Question 35.
The theory of natural selection was given by
(a) Lamarck
(b) Alfred Wallace
(c) Charles Darwin
(d) Oparin and Haldane.
Answer:
(c) Charles Darwin

Question 36.
The preserved fossil remains of Archaeopteryx show that
(a) it was a flying reptile from the Permian period
(b) reptiles gave rise to birds during Jurassic period
(c) it was a flying reptile in the Triassic period
(d) reptiles gave rise to birds during Permian period.
Answer:
(b) reptiles gave rise to birds during Jurassic period

Question 37.
Which of the following isotopes is used for Finding the fossil age maximum about 35,0000 years ?
(a) ^{238}U
(b) ^{14}C
(c) ^{3}H
(d) ^{206}Pb
Answer:
(b) ^{14}C

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Question 38.
Which of the following statements is True ?
(a) Wings to birds and insects are homologous organs.
(b) Human hands and bird's wings are analogous organs.
(c) Human hands and bat's wings are analogous organs.
(d) Flipper of penguin and dolphin are analogous organs.
Answer:
(d) Flipper of penguin and dolphin are analogous organs.

Question 39.
Replacement of the lighter-coloured variety of peppered moth (Biston betularia) to its darker variety (Biston carbonaria) in England is the example of
(a) natural selection
(b) regeneration
(c) genetic isolation
(d) temporal isolation.
Answer:
(a) natural selection

Question 40.
Phenomenon of 'industrial melanism' demonstrates
(a) geographical isolation
(b) reproductive isolation
(c) natural selection
(d) induced mutation.
Answer:
(c) natural selection

Question 41.
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.
Answer:
(c) Prevalence of pesticide resistant insects

Question 42.
The phenomenon 'ontogeny repeats phylogeny' is explained by
(a) recapitualtion theory
(b) Inheritcance theory
(c) mutation theory
(d) natural selection theory.
Answer:
(a) recapitualtion theory

Question 43.
The presence of gill slits, in the embryos of vertebrates, supports the theory of
(a) metamorphosis

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(b) biogenesis
(c) organic evolution
(d) recapitulation
Answer:
(d) recapitulation

Question 44.
Which is not a vestigial organ in man ?
(a) Nictitating membrane
(b) Tail vertebrae
(c) Vermiform appendix
(d) Nails
Answer:
(d) Nails

Question 45.
Which one is not a vestigia organ ?
(a) Wings of kiwi
(b) Coccyx in man
(c) Pelvic girdle of python
(d) Flipper of seal
Answer:
(d) Flipper of seal

Question 46.
By the statement 'survival of the fittest', Darwin meant that
(a) the strongest of all species survives
(b) the most intelligent of the species survives
(c) the cleverest of the species survives
(d) the species most adaptable to changes survives.
Answer:
(d) the species most adaptable to changes survives.

Question 47.
Which of the following are the two key concepts of Darwinian theory of evolution ?
(a) Genetic drift and mutation
(b) Adaptive radiation and homology
(c) Mutation and natural selection
(d) Branching descent and natural selection
Answer:
(d) Branching descent and natural selection

Question 48.
According to Lamarckism, long necked giraffes evolved because
(a) nature selected only long necked ones
(b) humans preferred only long necked ones
(c) short necks suddenly changed into long necks
(d) of stretching of necks over many generations by short necked ones.
Answer:
(d) of stretching of necks over many generations by short necked ones.

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Question 49.
Which of the following evidences does not favour the Lamarckian concept of inheritance of acquired characters ?
(a) Lack of pigment in cave-dwelling animlas
(b) Melanisation in peppered moth
(c) Absence of limbs in snakes
(d) Presence of webbed toes in aquatic birds
Answer:
(b) Melanisation in peppered moth

Question 50.
"Human population grows in geometric ratio while food materials increase in arithmetic proportion". It is a statement from
(a) Darwin
(b) Bateson
(c) AmartyaSen
(d) Malthus.
Answer:
(d) Malthus.

Question 51.
Which one of the following scientist's name is correctly matched with the theory put forth by him ?
(a) de Vries – Theory of natural selection
(b) Darwin – Theory of pangenesis
(c) Weismann – Theory of continuity of germplasm
(d) Pasteur – Theory of inheritance of acquired charcters
Answer:
(c) Weismann-Theory of continuity of germplasm

Question 52.
Single step large mutation leading to speciation is also called
(a) founder effect
(b) saltation
(c) branching descent
(d) natural selection
Answer:
(b) saltation

Question 53.
At a particular locus, frequency of allele A is 0.6 and that of allele a is 0.4. What would be the frequency of heterozygotes in a random mating population at equilibrium ?
(a) 0.36
(b) 0.16
(c) 0.24
(d) 0.48
Answer:
(d) 0.48

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Question 54.
Hardy-Weinberg equilibrium is known to be affected by gene flow, genetic drift mutation, genetic recombination and
(a) evolution
(b) limiting facrtors
(c) saltation
(d) natural selection.
Answer:
(d) natural selection.

Question 55.
The Hardy-Weinberg principle cannot operate if
(a) a population does not migrate for a longtime to a new habitat.
(b) frequent mutations occur in the population
(c) the population has no chance of interaction with other populations
(d) free interbreeding occurs among all members of the population.
Answer:
(b) frequent mutations occur in the population

Question 56.
Genetic drift operates only in
(a) larger populations
(b) Mendelian populations
(c) island populations
(d) smaller populations.
Answer:
(d) smaller populations.

Question 57.
Which of the following is most important for speciation ?
(a) Seasonal isolation
(b) Reproductive isolation
(c) Behavioural isolation
(d) Tropical isolation
Answer:
(b) Reproductive isolation

Question 58.
The factors involved in the formation of new species are
(a) Isolation and competition
(b) gene flow and competition
(c) competition and mutation
(d) isolation and variation.
Answer:
(d) isolation and variation.

Question 59.
Stabilising selection favours
(a) both extreme forms of a trait
(b) intermediate forms of a trait

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(c) environmental differences
(d) one extreme form over the other extreme form and over intermediate forms of a trait.
Answer:
(b) intermediate forms of a trait

Question 60.
The different forms of interbreeding species that live in different geographical regions are called
(a) sibling species
(b) sympatric species
(c) allopatric species
(d) polytypic species.
Answer:
(c) allopatric species

Question 61.
Which of following represents correct order of evolutiton ?
(a) Amoeba → Leucosolenia → Hydra → Ascaris
(b) Leucosolenia → Hydra → Amoeba → Ascaris
(c) Ascaris → Amoeba → Leucosolenia → Hydra
(d) None of these
Answer:
(a) Amoeba → Leucosolenia → Hydra → Ascaris

Question 62.
The extinct human who lived 1,00,000 to 40,000 years ago, in East and Central Asia, used hides to protect their bodies and had brain capacity of 1400 c.c. were
(a) Homo habilis
(b) Neanderthal man
(c) Cro-Magnon man
(d) Ramapithecus.
Answer:
(b) Neanderthal man

Question 63.
Which of the following statements is correct ?
(a) Australopithecus has large brain around 900 c.c.
(b) Neanderthal man lived in East Africa and the fruits.
(c) Homo erectus had brain capacity 900 c.c.
(d) Homo sapiens arose in Central Asia and moved to other continuents and developed into distinct races.
Answer:
(c) Homo erectus had brain capacity 900 c.c.

Question 64.
Which of the following statements js correct regarding evolution of mankind ?
(a) Homo erectus is preceded by Homo habilis.
(b) Neanderthal man and Cro-Magnon man were living at the same time.
(c) Australopithecus was living in Australia.
(d) None of these

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Answer:
(a) Homo erectus is preceded by Homo habilis.

Question 65.
The cranial capacity was largest among the
(a) Peking man
(b) Java ape man
(c) African man
(d) Neanderthal man.
Answer:
(d) Neanderthal man.

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