

1. Which one of the following sequences of prehistoric fossil horses correctly represents the oldest to the most recent ?
(a) Plesippus → Merychippus → Meshippus
(b) Orohippus → Meshippus → Pliohippus
(c) Eohippus → Meshippus → Merychippus
(d) Protohippus → Orohippus → Meshippus
2. Common between leech, cockroach and scorpion is that they
(a) breathe by tracheae (b) excrete by nephridia
(c) are parasitic and poisonous
(d) have a solid and ventral nerve cord
3. The thick bird on a rhinoceros, or the sea anemone on hermit crab would exemplify
(a) commensalisation (b) antibiosis
(c) protocoeperation (d) mutualism
4. How many Barr bodies would be present in cells of a person showing Klinefelter's syndrome XXXXY ?
(a) 1 (b) 2 (c) 3 (d) 4
5. An arteriole breaks up into capillaries which normally rejoin to form a venule. In which one of the following, the capillaries from an arteriole rejoin to form another arteriole ?
(a) intestinal villi (b) liver
(c) glomerulus (d) alveoli of lung
6. In mammalian lung, the wall between the neighbouring alveoli is formed of
(a) single layer of flattened squamous cells
(b) 2 layers of squamous epithelial cells with blood capillaries in between
(c) 2 single layers of ciliated epithelium with a network of blood capillaries between them
(d) a network of blood capillaries only
7. What is true about the location of Islets of Langerhans in human pancreas ?
(a) they are uniformly distributed throughout the pancreas
(b) these are specially crowded in the centre all along the long axis of the pancreas
(c) these are concentrated all along the periphery of the pancreas
(d) these are more numerous towards the end away from the ducts in the loop
8. An opening in the inside wall of the middle ear, closed by the base of stapes is known as
(a) third ventricle (b) foramen magnum
(c) oval window (d) round window
9. Which one of the following parts of human eye helps it to adjust the focal length of the lens ?
(a) cornea (b) aqueous humous
(c) conjunctiva (d) ciliary body
10. Which one of the following diseases can be transmitted by either sex of its vector ?
(a) dengue fever (b) filariasis
(c) sleeping sickness (d) yellow fever
11. An animal whose body temperature fluctuates with that of the environment is
(a) endothermic (b) homoiothermic
(c) thermophilic (d) ectothermic
12. Fully erect posture of the body of modern man has resulted in
(a) shortening of arms (b) lengthening of legs
(c) S-shaped curve of the back bone
(d) increase in size of brain
13. A man with blood group A marries a woman of blood group B and their first child shows the blood group O. What is the probability of the second child showing blood group AB ?
(a) 0% (b) 25% (c) 50% (d) 75%
14. Which one of the following writings influenced Charles Darwin's formation of theory of natural selection ?
(a) Wallace papers on survival
(b) Malthus essay on population
(c) Weismann's theory of germ-plasm
(d) Mendel's work on inheritance in pea
15. According to Whittaker's 5-kingdom-classification, which one of the following species of organisms is included in Kingdom Monera ?
(a) Ulothrix, Oscillatoria, Paramecium
(b) Anabaena, Mucor, Green S-bacterium
(c) Anabaena, Diphtheria bacillus, Pnemococcus
(d) Spirogyra, Anabaena, Mucor
16. Strong resemblance of embryos of vertebrates during early stages of development has been explained on the basis of theory of
(a) special creation (b) recapitulation
(c) parallel evolution (d) natural selection
17. In sickle-cell hemoglobin, glutamic acid is replaced at one point in amino acid chain by
(a) valine (b) histidine (c) leucine (d) proline
18. The epithelium lining the inner surface of arteries, veins as well as heart is known as
(a) vascular epithelium (b) endothelium
(c) mesothelium (d) tunica intima
19. Type of coelomic cavity in earthworm is
(a) schizocoel (b) pseudocoel
(c) enterocoel (d) haemocoel
20. Which part of digestive system of a mammal has skeletal as well as smooth muscles ?
(a) stomach (b) oesophagus
(c) small intestine (d) large intestine
21. All the animals mentioned below belongs to subkingdom Metazoa and division Triploblastica. Which one of those is a pseudocoelomate and belongs to phylum Acanthocephala ?
(a) spiny-headed worm (b) ribbon worm
(c) tapeworm (d) eel worm
22. Cysticercus in the human beings is caused by
(a) tapeworm (b) liverfluke
(c) Entamoeba histolytica (d) Ascaris

23.	Protists which are haploid reproduce sexually by bringing about (a) zygotic meiosis (b) cyst formation (c) binary fission (d) gametic meiosis	35.	Flow of glomerular filtrate from glomerulus into Bowman's capsule is the result of (a) exosmosis (b) diffusion (c) blood pressure on the capillary walls (d) active transport of blood plasma
24.	Function of cytophyge in Paramecium is (a) to filter the food particles (b) osmoregulation (c) absorb nutrients from digested food particles (d) to throw out undigested food matter	36.	Refractory period of a nerve fibre is one in which (a) nerve impulse is passing along (b) nerve fibre is fully polarized (c) nerve fibre is getting repolarized (d) sodium pump stops working
25.	Which one of the following mammals is not an eventooed ungulate ? (a) zebra (b) giraffe (c) camel (d) hippopotamus	37.	An animal that can tolerate wide variations in salinity is termed as (a) osmoconformer (b) osmoregulator (c) euryhaline (d) stenohaline
26.	Colourblind man has a normal brother and a colourblind sister. With respect to the phenotypes of the parents, it is likely that (a) father is colourblind and mother with normal vision (b) father with normal vision and mother is colourblind (c) both father and mother are colourblind (d) both father and mother are with normal vision	38.	Salt vaccine is meant for the protection against (a) typhoid (b) poliomyelitis (c) mumps (d) measles
27.	Which one of the following endangered animals has become extinct from India since last 40 years ? (a) great Indian bustard (b) lion-tailed macaque (c) cheetah (d) snow leopard	39.	A tissue of CNS consisting of cell bodies, unmyelinated fibres and glial cells is the (a) ganglion (b) cerebral cortex (c) white matter (d) grey matter
28.	Middle piece of mammalian sperm shows cioni of (a) mitochondria (b) peroxisome (c) lysosomes (d) actin filaments	40.	In ABO system of blood groups, which one of the following transtusions can be given safely ? (a) group A blood into group O receipient (b) group B blood into group A receipient (c) group AB blood into group O receipient (d) group O blood into group AB receipient
29.	In an organism that is heterozygous for 3 independently assorting traits (AaBbCc), how many of the gamets will contain all the recessive genes ? (a) none (0 %) (b) 1/8 of total (c) 1/4 of total (d) 1/2 of total	41.	If we judge success solely by the number of different species in existence, which one of the following is the most successful group ? (a) mammals (b) molluscs (c) insects (d) crustaceans
30.	Development and maturation of ovum in human female is controlled by (a) FSH - LH (b) FSH - Estrogen (c) Estrogen - Progesteron (d) LH - LTH	42.	A patient shows swollen lips, thick pigmented skin of hands and legs and irritability. Which one of the following is the most successful group ? (a) protein-kwashiorkar (b) nicotinamide-pellagra (c) cobalmine-pernicious anaemia (d) retinol-xerophthalmia
31.	Which one of the following characters is exclusively found in Hydrozoa and not in other coelenterates ? (a) radial symmetry (b) gonads without gonoducts (c) gonads ectodermal (d) non-cellular mesoglea	43.	Which one of the following is a matching set of an enzyme, its substrate and end product ? (a) pepsin proteins lysine + leucine (b) salivary amylase starch glucose (c) maltase maltose glucose (d) sucrase sucrose glucose + galactone
32.	Which one of the following sets of adaptation is most helpful to bird for an aerial mode of life ? (a) bipedal locomotion, pneumatic bones and synsacrum (b) modification of forelimbs into wings, ventral keel and air sacs (c) body fusiform, right ovary and oviduct atrophied and feet covered with scales (d) long bones with air spaces but without marrow, presence of epidermal feathers, stomach divided into gizzard and proventriculus	44.	Copper-containing respiratory pigment of molluscs and crustaceans is (a) haemocyanin (b) haemoerythrin (c) heavy meromyosin (d) chlorcruorin
33.	Black fur of the guinea pig is a dominant trait over the white fur. In a cross between 2 guinea pigs, 3 black and 1 white young ones are born. What was the genotype of the two parents, presuming that B stands for dominant allele and b for recessive allele ? (a) BB, Bb (b) BB, bb (c) Bb, Bb (d) Bb, bb	45.	Largest antelope reported from India is (a) black buck (b) musk deer (c) barasingha (d) nylghaie
34.	The two bones which participate in the ball and socket joint in the forelimbs of man are (a) humerus & suprascapula (b) humerus & scapula (c) humerus & clavicle (d) humerus and ulna	46.	A convergent evolution of 2 species is usually indicated by the presence of (a) a recent common ancestor (b) analogous organs (c) homologous organs (d) vestigial organs

47. If one wishes to reduce his/her body weight then the diet should have an excess of
 (a) starch (b) glycogen
 (c) protein (d) lipid
48. Certain species of hydra have a symbiotic relationship for nutritional benefits with unicellular green algae, *Chlorella vulgaris*. This algae is present in
 (a) epitheliomuscular cells of ectodermis
 (b) epitheliomuscular cells of gastrodermis
 (c) mesoglea (d) interstitial cells
49. Which one of the following enzymes facilitates the entry of sperm into an egg ?
 (a) proteinase (b) glycosidase
 (c) acid phosphatase (d) hyaluronidase
50. Neurons/synapse that release epinephrin or norepinephrin when stimulated are known as
 (a) adrenergic (b) cholinergic
 (c) aminergic (d) peptidergic
51. Longitudinal channels in the compact bones of mammals are known as
 (a) Volkmann's canals (b) Haversian canals
 (c) osteal canals (d) Vascular canals
52. Common feature between fishes, amphibians, reptiles and birds is that they have
 (a) exoskeleton (b) telolecithal eggs
 (c) mesonephric kidney (d) 12 pairs of cranial nerves
53. Which one of the following has gill slits but no gill cover ?
 (a) Scoliodon (b) Labeo
 (c) Catla (d) goldfish
54. Which one of the following developmental stages gets implanted in the uterus of humans ?
 (a) 64-cell-stage (b) morula
 (c) blastocyst (d) gastrula
55. Which one of the following persons proposed the Binomial Nomenclature for animals
 (a) Aristotle (b) Darwin
 (c) Weismann (d) Linnaeus
56. Which one of the following is true for all mammals
 (a) they give birth to young ones
 (b) they are terrestrial animals
 (c) they have enucleate RBC
 (d) they suckle their young-ones
57. Common terms used to group reptiles, birds and mammals together is
 (a) oviviparous (b) amniotes
 (c) tetrapodes (d) endotherms
58. Surgical removal of thymus in a newly-born mammal result in failure to produce
 (a) B-lymphocytes (b) T-lymphocytes
 (c) monocytes (d) basophil
59. Functional unit of kidney is
 (a) Malpighian body (b) nephron
 (c) glomerulus (d) collecting tubule
60. Compared to blood, lymph is devoid of
 (a) erythrocytes only
 (b) erythrocytes and some plasma proteins
 (c) all cellular elements (d) only some plasma proteins