

ZOOLOGY

1. Totipotent cells of sponges are :
 - (A) Myocytes
 - (B) Thesocytes
 - (C) Archaeocytes
 - (D) Chromocytes
2. Which one of the following molluscan groups is primarily used in the pearl formation ?
 - (A) Monoplacophorans
 - (B) Cephalopods
 - (C) Gastropods
 - (D) Pelecypods
3. The sporozoites of *Plasmodium* first attack :
 - (A) R.B.C.
 - (B) Liver cells
 - (C) Muscles
 - (D) Intestine
4. *Wuchereria bancrofti* is transmitted by :
 - (A) Sand fly
 - (B) Tsetse fly
 - (C) *Anopheles* mosquito
 - (D) *Culex* mosquito
5. Shell is absent in :
 - (A) *Pila*
 - (B) *Sepia*
 - (C) *Octopus*
 - (D) Clams, mussels and oysters

6. Auricularia is the larva of :
- (A) Holothuroidea
 - (B) Asteroidea
 - (C) Crinoidea
 - (D) Echinoidea
7. The enzyme hexokinase which catalyses glucose to glucose 6-phosphate in glycolysis is inhibited by glucose 6-phosphate. This is an example of :
- (A) Feedback allosteric inhibition
 - (B) Positive feedback
 - (C) Competitive inhibition
 - (D) Non-competitive inhibition
8. Which of the following is important in oxidative fat metabolism ?
- (A) Acetyl Co-A
 - (B) CO_2
 - (C) Glucose
 - (D) Pyruvic acid
9. The harmful ammonia is converted into urea in the liver cells under ornithine cycle. It is known as :
- (A) Ammonification
 - (B) Transamination
 - (C) Excretion
 - (D) Deamination
10. Pyridoxine is :
- (A) Vitamin B_1
 - (B) Vitamin B_6
 - (C) Vitamin B_{12}
 - (D) Vitamin C

11. Accretionary growth is due to :
- (A) Reserve cells
 - (B) Meristematic cells
 - (C) Embryonic cells
 - (D) Differentiated cells
12. Mitochondria can be separated by :
- (A) Electrophoresis
 - (B) Centrifugation
 - (C) Both (A) and (B)
 - (D) Lysis
13. When a carrier protein transports a solute across the membrane, the process is called :
- (A) Uniport
 - (B) Symport
 - (C) Antiport
 - (D) Cotransport
14. A key event in apoptosis is the activation of a series of enzymes called :
- (A) Phosphatases
 - (B) Caspases
 - (C) Lipases
 - (D) Esterases
15. Desmosomes are concerned with :
- (A) Cell adherence
 - (B) Cell division
 - (C) Cellular excretion
 - (D) Cytolysis

16. The unit of gap junction is named as :
- (A) Connexon
 - (B) Axon
 - (C) Glycocalyx
 - (D) Terminal bar
17. Cancer cells are more easily damaged by radiation than normal cells because they :
- (A) are different in structure
 - (B) are non-dividing
 - (C) are starved by nutrition
 - (D) undergo rapid division
18. Which occurs in frog's development from blastula to gastrula ?
- (A) Epiboly, cleavage and morula
 - (B) Epiboly, invagination and cleavage
 - (C) Involution, invagination and emboly
 - (D) Epiboly, involution and invagination
19. Foetal membrane which keeps the embryo shock proof is :
- (A) amnion
 - (B) chorion
 - (C) allantois
 - (D) yolk sac
20. Compensatory hypertrophy is referred to the phenomenon when :
- (A) an organ redevelops
 - (B) a small piece of body produces complete animal
 - (C) one of the paired organs is lost and the other begins to grow in size
 - (D) an organ is automatically shed

21. In fishes, the neuromast organs are :
- (A) chemoreceptors
 - (B) gustoreceptors
 - (C) olfactoreceptors
 - (D) rheoreceptors
22. Most important characteristic of a mammal is :
- (A) presence of thecodont dentition
 - (B) a four chambered heart
 - (C) presence of corpus callosum in brain
 - (D) presence of diaphragm
23. Stratum corneum is absent in :
- (A) fishes
 - (B) amphibians
 - (C) reptiles
 - (D) aves
24. A portal system is one in which :
- (A) a vein starts from an organ and ends up in the heart
 - (B) an artery breaks up in an organ and restarts by union of its capillaries
 - (C) the blood from the gut is brought into kidneys before it is poured into post caval
 - (D) a vein breaks up in an organ into capillaries and restarts by their union as a new vein in the same organ
25. The dorsal root of spinal cord contains :
- (A) Somatic sensory fibres
 - (B) Somatic motor fibres
 - (C) Visceral sensory fibres
 - (D) Visceral motor fibres

26. Reabsorption of useful substances back into the blood from the filtrate in a nephron occurs in :
- (A) proximal convoluted tubule
 - (B) loop of Henle
 - (C) distal convoluted tubule
 - (D) collecting duct
27. Fishes which spend a major part of their lives in freshwater and migrate to sea to breed are known as :
- (A) Anadromous fishes
 - (B) Catadromous fishes
 - (C) Potamodromous fishes
 - (D) Oceanodromous fishes
28. O₂ dissociation curve of Hb is :
- (A) Hyperbolic
 - (B) Linear
 - (C) Sigmoid
 - (D) Stationary
29. Which one of the following steps in the clotting of blood will *not* occur in the absence of vitamin K ?
- (A) Formation of thromboplastin
 - (B) Synthesis of prothrombin
 - (C) Conversion of prothrombin to thrombin
 - (D) Conversion of fibrinogen to fibrin
30. In mammals, the spermatogenesis is controlled by :
- (A) FSH
 - (B) LH
 - (C) GH
 - (D) LH and GH

31. Which *one* is a test cross ?
- (A) $Tt \times Tt$
 - (B) $TT \times Tt$
 - (C) $TT \times TT$
 - (D) $Tt \times tt$
32. When linked characters or genes are inherited together through two or more generations, it is called :
- (A) Complete linkage
 - (B) Continuous linkage
 - (C) Incomplete linkage
 - (D) Consistent linkage
33. Epistasis implies ;
- (A) one pair of genes can completely mask the expression of another pair of genes
 - (B) one pair of genes independently controls a particular phenotype
 - (C) one pair of genes enhances the phenotype expression of another pair of genes
 - (D) many genes collectively control a particular phenotype
34. A man who carries a sex linked gene on his Y chromosome will transmit this gene to :
- (A) Half of his sons
 - (B) Half of his daughters
 - (C) All his sons
 - (D) All his daughters
35. A person with 47 chromosomes due to an additional Y chromosome suffers from a condition called :
- (A) Turner's syndrome
 - (B) Klinefelter's syndrome
 - (C) Super female
 - (D) Down's syndrome

36. The genes which remain confined to differential region of Y-chromosome only are :
- (A) Holandric genes
 - (B) Autosomal genes
 - (C) Mutant genes
 - (D) Completely sex-linked genes
37. Okazaki fragments are seen during :
- (A) Replication
 - (B) Transduction
 - (C) Transcription
 - (D) Translation
38. The process of *m*-RNA synthesis in DNA template is known as :
- (A) Transcription
 - (B) Translation
 - (C) Transduction
 - (D) Transformation
39. Hardy-Weinberg's law is for :
- (A) frequency of distribution of male and female in a population
 - (B) frequency of distribution of genes in a Mendelian population
 - (C) frequency of genetic drift in a population
 - (D) frequency of evolution of new species in a population
40. Genetic drift :
- (A) is an orderly change in gene frequencies
 - (B) produces greatest fluctuations in large populations
 - (C) is the random change in gene frequencies
 - (D) has nothing in common with inbreeding

41. Pebrine is a disease of :
- (A) Honey-bee
 - (B) Fish
 - (C) Silkworm
 - (D) Lac insect
42. Queen is specified for :
- (A) Administration
 - (B) Making hive
 - (C) Egg laying
 - (D) Collection of food
43. The immunity acquired after the introduction of a vaccine is called :
- (A) Passive immunity
 - (B) Active immunity
 - (C) Acquired immunity
 - (D) Natural immunity
44. Antibody formation and immunity production is done by a protein called globulin present in the :
- (A) Stroma of R.B.C.
 - (B) Haemoglobin of R.B.C.
 - (C) Plasma
 - (D) Blood platelets
45. Among the following, which technique is being used in recent years for separation of large size DNA molecules, sometimes representing whole chromosomes ?
- (A) Gel Electrophoresis technique
 - (B) Polyacrylamide Gel Electrophoresis technique
 - (C) Pulsed field Gel Electrophoresis technique
 - (D) All of the above

46. The technique used for blot-transfer of RNA is described as :
- (A) Western blotting
 - (B) Northern blotting
 - (C) Southern blotting
 - (D) Autoradiography
47. Which of the following are examples of input devices ?
- (A) Visual display unit, dot matrix printer, laser printer
 - (B) Keyboard, mouse, optical mark reader
 - (C) Arithmetic and logic unit, control unit
 - (D) RAM, ROM, PROM
48. 1 byte is equal to :
- (A) 2 bits
 - (B) 8 bits
 - (C) 16 bits
 - (D) 32 bits
49. TCP/IP is necessary if one is to connect to the :
- (A) Phone lines
 - (B) LAN
 - (C) Internet
 - (D) Server
50. An organisation's introductory webpage is called its :
- (A) Portal
 - (B) Vortal
 - (C) Homepage
 - (D) Website

51. In which of the ecosystems, the species diversity is lowest ?
- (A) Deciduous forests
 - (B) Deserts
 - (C) Grasslands
 - (D) Tundra
52. A force which acts against the achievement of the highest possible level to population growth is known as :
- (A) Population pressure
 - (B) Saturation level
 - (C) Carrying capacity
 - (D) Environmental resistance
53. The rate at which the consumers resynthesize the energy yielding substances is termed as :
- (A) Gross productivity
 - (B) Secondary productivity
 - (C) Primary productivity
 - (D) Net productivity
54. Some animals turn parasite if they get an opportunity. They are called :
- (A) Ectoparasites
 - (B) Endoparasites
 - (C) Facultative parasites
 - (D) Obligatory parasites
55. Most serious threat to wild-life comes from :
- (A) Introduction of exotic species
 - (B) Over exploitation
 - (C) International trade
 - (D) Habitat destruction

56. The toxic effect of carbon monoxide is due to its great affinity for haemoglobin as compared to oxygen by approximately :
- (A) 1000 times
 - (B) 200 times
 - (C) 20 times
 - (D) 2 times
57. Evolution is best defined as :
- (A) Inheritance of acquired characters
 - (B) Descent by modifications
 - (C) Spontaneous generation
 - (D) Struggle for existence
58. The evolution of a species is based upon sum total of adaptive changes preserved by :
- (A) Natural selection
 - (B) Man conservation
 - (C) Isolation
 - (D) Speciation
59. If an animal learns slowly after several trials and errors, it is known as :
- (A) Selective learning
 - (B) Insight learning
 - (C) Both (A) and (B)
 - (D) None of the above
60. The males of an ant colony are also known as :
- (A) Aners
 - (B) Gynes
 - (C) Ergates
 - (D) Dinergates