

## ZOOLOGY

1. The outer epithelium of the sponges is composed of :
  - (A) Choanocytes
  - (B) Amoebocytes
  - (C) Pinacocytes
  - (D) Chromocytes
  
2. *Antedon* belongs to the class :
  - (A) Asteroidea
  - (B) Ophiuroidea
  - (C) Echinoidea
  - (D) Crinoidea
  
3. Blue coral is :
  - (A) *Heliopora*
  - (B) *Corralium*
  - (C) *Meandrina*
  - (D) *Astraea*
  
4. The intermediate host in case of liver fluke is :
  - (A) Snail
  - (B) Pig
  - (C) Man
  - (D) Fly

5. Which of the following nephridia in earthworm are exonephric ?
- (A) Pharyngeal nephridia
  - (B) Septal nephridia
  - (C) Integumentary nephridia
  - (D) All of the above
6. Kala-Azar is transmitted by :
- (A) Tse-tse fly
  - (B) Sand-fly
  - (C) Rat flea
  - (D) House-fly
7. In glycogenolysis :
- (A) glycogen is converted into glucose
  - (B) glucose is oxidized to yield ATP
  - (C) amino acids are broken down to yield glucose
  - (D) glucose is converted into glycogen
8. Fatty acids with even number of carbon atoms on oxidation form :
- (A) Acetic acid
  - (B) Amino acid
  - (C) Lactic acid
  - (D) Pyruvic acid

9. The end product of an Ornithine cycle is :
- (A) Ammonia
  - (B) Urea
  - (C) Uric acid
  - (D)  $\text{NO}_2$
10. Yeast is a source of :
- (A) Vitamin A
  - (B) Vitamin D
  - (C) Vitamin C
  - (D) Riboflavin
11. If a cell increases in volume after being placed in a solution, the solution is :
- (A) Isotonic
  - (B) Slightly hypertonic
  - (C) Hypotonic
  - (D) None of the above
12. The growth which occurs due to multiplication of cells by repeated mitotic divisions is called :
- (A) Auxetic growth
  - (B) Multiplicative growth
  - (C) Accretionary growth
  - (D) Degrowth

13. Mitochondria are not found in :
- (A) Human red blood cell
  - (B) Human liver cell
  - (C) Human nerve cell
  - (D) Frog liver cell
14. The unit of nexus is known as :
- (A) Terminal bar
  - (B) Glycocalyx
  - (C) Axon
  - (D) Connexon
15. Desmosomes are concerned with :
- (A) Cell adherence
  - (B) Cell division
  - (C) Cellular excretion
  - (D) Cytolysis
16. Metastasis is associated with :
- (A) Benign tumors
  - (B) Malignant tumors
  - (C) Both Benign and Malignant tumors
  - (D) None of the above

17. Gametogenesis involves :
- (A) Growth, multiplication and maturation
  - (B) Multiplication, growth and maturation
  - (C) Maturation, growth and multiplication
  - (D) Growth, maturation and multiplication
18. The late gastrula of frog shows :
- (A) Ectoderm, Endoderm, Mesoderm, Blastopore, Archenteron
  - (B) Ectoderm, Mesoderm, Blastopore, Archenteron
  - (C) Ectoderm, Endoderm, Blastocoel, Archenteron
  - (D) Ectoderm, Endoderm, Blastopore, Blastocoel
19. Embryonic urinary bladder is :
- (A) Amnion
  - (B) Chorion
  - (C) Allantois
  - (D) Yolk sac
20. Restorative regeneration decreases with :
- (A) Increase in complexity of organization
  - (B) Decrease in organizational complexity
  - (C) Development of hormones
  - (D) Development of nerves

21. Colonial ascidian is :
- (A) *Herdmania*
  - (B) *Botryllus*
  - (C) *Doliolum*
  - (D) *Ciona*
22. The order Cetacea includes :
- (A) Monkey, Gorilla and Man
  - (B) Cat, Wolf and Lion
  - (C) Whale, Dolphin and Torpoise
  - (D) Hippopotamus, Pig and Giraffe
23. Unpaired air sac in bird is :
- (A) Thoracic
  - (B) Abdominal
  - (C) Cervical
  - (D) Interclavicular
24. The second aortic arch is a/an :
- (A) Mandibular aortic arch
  - (B) Hyoid aortic arch
  - (C) External carotid
  - (D) Internal carotid

25. The *correct* sequence of meninges from inner to outer side is :
- (A) Arachnoid—dura mater—pia mater
  - (B) Arachnoid—pia mater—dura mater
  - (C) Pia mater—dura mater—arachnoid
  - (D) Pia mater—arachnoid—dura mater
26. Nightingales are :
- (A) Summer migrants
  - (B) Winter migrants
  - (C) Partial migrants
  - (D) None of the above
27. Emulsification of fat is brought about by :
- (A) Bile pigments
  - (B) Bile salts
  - (C) Pancreatic juice
  - (D) HCl
28. The process of formation of the various types of blood cells is known as :
- (A) Haemagglutination
  - (B) Haemolysis
  - (C) Haemophilia
  - (D) Haemopoiesis

29. In frog's tadpole, nitrogenous waste material is excreted mainly in the form of :
- (A) Urea
  - (B) Uric acid
  - (C) Ammonia
  - (D) Amino acids
30. Progesterone is secreted :
- (A) After ovulation
  - (B) Before ovulation
  - (C) At the time of parturition
  - (D) After parturition
31. Mendelian recombinations are due to :
- (A) Independent assortment of genes
  - (B) Linkage of genes
  - (C) Mutation
  - (D) Dominance
32. When BB (Black) is crossed with bb (white), the offsprings are blue. This shows that B gene is :
- (A) Dominant
  - (B) Recessive
  - (C) Incompletely dominant
  - (D) Mutant



33. Multiple allelism controls inheritance of :
- (A) Blood group
  - (B) Phenylketonuria
  - (C) Colourblindness
  - (D) Sickle cell anaemia
34. Gene mutation is caused by :
- (A) Change in actual size of gene
  - (B) Change in the position of gene on the chromosome
  - (C) Change in structural configuration in DNA molecules
  - (D) Change in sequence of nitrogenous bases
35. XO human sex anomaly is resultant of :
- (A) Klinefelter's syndrome
  - (B) Down's syndrome
  - (C) Turner's syndrome
  - (D) None of the above
36. The beaded area on the chromosomes is known as :
- (A) Centromere
  - (B) Centriole
  - (C) Chromomere
  - (D) Cistron

37. Which one of the following is normally not present during replication of DNA ?
- (A) Exonuclease
  - (B) Endonuclease
  - (C) Ligase
  - (D) DNA polymerase
38. In transcription :
- (A) RNA is converted to DNA
  - (B) RNA moves out from nucleus to the ribosomes
  - (C) RNA changes from one form to another
  - (D) RNA forms from DNA
39. Translation is the process in which :
- (A) DNA is replicated
  - (B) *m*-RNA forms from DNA
  - (C) Golgi bodies are formed
  - (D) Protein synthesis occurs at ribosomes

40. Which one of the following is a non-directional factor in influencing the gene frequencies in a large panmictic population ?
- (A) Mutation
  - (B) Selection
  - (C) Random drift
  - (D) Migration
41. Among the following, which one is a viral disease in silkworm ?
- (A) Maggot disease
  - (B) Flacherie
  - (C) Pebrine disease
  - (D) Muscardine
42. In order to communicate the location of food, the informant bee performs :
- (A) Tap dance
  - (B) Round dance
  - (C) Tail wagging dance
  - (D) Break dance

43. T-cells are responsible for :
- (A) producing thrombin in blood
  - (B) the formation of heparin
  - (C) cell-mediated immune system
  - (D) humoral immune system
44. Among the following, which are the most abundant types of antibodies ?
- (A) IgG
  - (B) IgE
  - (C) IgA
  - (D) IgM
45. The technique used to detect proteins of a particular specificity is described as :
- (A) Western blotting
  - (B) Northern blotting
  - (C) Southern blotting
  - (D) Freeze etching
46. Genetically engineered bacteria have been used in the commercial production of :
- (A) Thyroxine
  - (B) Testosterone
  - (C) Human insulin
  - (D) Melatonin

47. In a computer system, which device is functionally opposite to a keyboard ?
- (A) Mouse
  - (B) Track ball
  - (C) Printer
  - (D) Joystick
48. 1 kilobyte and 1 megabyte are respectively equal to :
- (A) 1024 bytes and 1000 kilobytes
  - (B) 1000 bytes and 100 kilobytes
  - (C) 1000 bytes and 10,000 bytes
  - (D) 1024 bytes and 100 kilobytes
49. Periodically adding, changing and deleting file records is called :
- (A) Updating of file
  - (B) Upgrading of file
  - (C) Restructuring of file
  - (D) Renewing of file
50. Multimedia devices enable the use of computers for :
- (A) Automation
  - (B) Defense use
  - (C) Entertainment
  - (D) Medical use

51. Which of the following ecosystems has the highest gross primary productivity ?
- (A) Grassland
  - (B) Coral reef
  - (C) Mangroves
  - (D) Rain forest
52. When in a population, the birth and death rates exactly balance each other, it is called :
- (A) Plateau phase
  - (B) Exponential growth phase
  - (C) Initial growth phase
  - (D) Acceleration phase
53. Competition for food, light and space is most severe in :
- (A) Closely related species growing in the same area or in the same niche
  - (B) Closely related species growing in different habitats
  - (C) Distantly related species growing in the same habitat
  - (D) Distantly related species growing in different habitats

54. If we go from lower to higher trophic level, the energy :
- (A) decreases
  - (B) increases significantly
  - (C) increases slightly
  - (D) remains same
55. The Wildlife Protection Act was passed in :
- (A) 1972
  - (B) 1982
  - (C) 1992
  - (D) 1962
56. When huge amount of sewage is dumped into a river the BOD will :
- (A) slightly decrease
  - (B) decrease
  - (C) increase
  - (D) remain unchanged
57. What is the most important requirement of evolution ?
- (A) Adaptation of acquired characters
  - (B) Variation
  - (C) Natural selection
  - (D) Development anomaly

58. The earliest fossil form in the phylogeny of horse is :
- (A) Equus
  - (B) Merychippus
  - (C) Meshippus
  - (D) Eohippus
59. The capability of young birds to return to the original grounds of parents is due to :
- (A) Learning behaviour
  - (B) Instinct only
  - (C) Intelligence and intuition
  - (D) Intuition and instinct
60. The ants make their path in a definite direction. This is due to sense of :
- (A) Vision
  - (B) Smell
  - (C) Touch
  - (D) Intelligence