

1. The term Niche refers to
 - (A) Place of living
 - (B) Specific function
 - (C) Habitat and specific function
 - (D) Diversity at species level

2. The most abundant element present in plant is
 - (A) Nitrogen
 - (B) Iron
 - (C) Carbon
 - (D) Silicon

3. Blight of rice is caused by
 - (A) *Xanthomonas*
 - (B) *Pseudomonas*
 - (C) *Phytophthora*
 - (D) *Gibberella*

4. The enzyme used for recombinant DNA technology is
 - (A) Restriction enzyme
 - (B) Allosteric enzyme
 - (C) Chemically synthesized enzyme
 - (D) Lysozyme

5. Aleurone layer is present in
 - (A) Bacterial biofilm
 - (B) Virus infected plant cell
 - (C) Pathogenic fungi
 - (D) Seed

6. Virus free plant can be obtained by
 - (A) Antibiotic treatment
 - (B) Bordeaux mixture
 - (C) Root tip culture
 - (D) Shoot tip culture

7. From the list below select the group that includes protozoa, protistan algae, slime moulds.
- (A) Fungi
 - (B) Plantae
 - (C) Monera
 - (D) Protista
8. Phylogenetic system of classification is based on
- (A) Biochemical properties
 - (B) Quantitative assessment of similarities and differences between organisms
 - (C) Evolutionary relationship
 - (D) Cytological characteristics of organisms
9. Teichoic acid is present in which cell component in bacteria ?
- (A) Cell wall
 - (B) Plasma membrane
 - (C) Outer membrane
 - (D) Flagella
10. The term episome refers to a type of
- (A) Plasmid
 - (B) Cell wall
 - (C) Membrane
 - (D) Gene
11. Nucleoid is
- (A) Extrachromosomal genetic material
 - (B) Nuclear material in *Volvox*
 - (C) Nuclear material in bacteria
 - (D) Extracellular DNA in bacteria
12. Transfer of genetic material from one bacterium to another through cell contact is called
- (A) Binary fission
 - (B) Transduction
 - (C) Transformation
 - (D) Conjugation

13. Microfibrils are composed of
(A) Hemicellulose
(B) Cellulose
(C) Peptidoglycan
(D) Lignin
14. The endosperm of *Cycas* is
(A) Diploid
(B) Triploid
(C) Haploid
(D) Tetraploid
15. Structural material of fungal cell wall is
(A) Chitin
(B) Pectin
(C) Cellulose
(D) Peptidoglycan
16. Interconnected flattened sacs of endoplasmic reticulum is called
(A) Cisternae
(B) Ribosomes
(C) Tubules
(D) Stroma
17. Electron transport chain is located on
(A) Inner membrane of mitochondria
(B) Matrix of mitochondria
(C) Outer membrane of mitochondria
(D) Intermembraneous space between two membranes of mitochondria
18. An enucleated plant cell is
(A) Epidermal cell
(B) Companion cell
(C) Xylem parenchyma
(D) Sieve tube cell

19. Identify the aromatic amino acid.
- (A) Tyrosine
 - (B) Valine
 - (C) Isoleucine
 - (D) Methionine
20. Epidermis is produced from
- (A) Ground meristem
 - (B) Phellogen
 - (C) Procambium
 - (D) Protoderm
21. Identify which of the following is not a characteristic feature of meristematic cells :
- (A) They are isodiametric
 - (B) Cells are arranged with intercellular spaces
 - (C) Possess power of division
 - (D) Not differentiated
22. Boron assists in
- (A) Enzyme activation
 - (B) Photosynthesis
 - (C) Sugar transport
 - (D) Acting as enzyme co factor
23. The phenomenon exhibited by green plants grown in complete darkness is
- (A) Apical dominance
 - (B) Thermoperiodicity
 - (C) Abscission
 - (D) Etiolation
24. Crossing over occurs in
- (A) Leptotene
 - (B) Zygotene
 - (C) Pachytene
 - (D) Diakinesis

25. Senescence in plants can be delayed by
- (A) Auxin
 - (B) Gibberellin
 - (C) Kinetin
 - (D) Ethylene
26. Spindle fibre is made up of
- (A) Flagellin
 - (B) Tubulin
 - (C) Serecin
 - (D) Fibriein
27. Identify the high energy bond present in ATP molecule.
- (A) C-O
 - (B) C-C
 - (C) C-N
 - (D) P-O
28. The condition in which anthers of all the stamens of a flower are united while filaments are free can be observed in
- (A) Fabaceae
 - (B) Asteraceae
 - (C) Malvaceae
 - (D) Liliaceae
29. The process of formation of RNA from DNA is referred as
- (A) Translation
 - (B) Conjugation
 - (C) Transformation
 - (D) Transcription
30. The term 'Okazaki' is related to
- (A) DNA replication
 - (B) Transcription
 - (C) Translation
 - (D) Mutation

31. In sponges, flow of water current in the spongocoel is maintained by
(A) Collar cells
(B) Amoeboid cells
(C) Epithelial cells
(D) All of the above
32. Which one of the following cells is absent in the endoderm of hydra ?
(A) Sensory cells
(B) Nerve cells
(C) Nutritive muscular cells
(D) Cnidoblasts
33. Nerve cells are not found in
(A) Platyhelminthes
(B) Coelenterates
(C) Sponges
(D) Echinoderms
34. In molluscs, the general body cavity is
(A) Blastocoel
(B) Hydrocoel
(C) Haemocoel
(D) Pseudocoel
35. Excretion in hydra takes place by
(A) Flame cells
(B) Nephridia
(C) Cnidoblasts
(D) General body surface
36. Which of the following is not a granulocyte ?
(A) Lymphocyte
(B) Basophil
(C) Neutrophil
(D) Eosinophil
37. Which one of the following is a limbless amphibian ?
(A) Necturus
(B) Proteus
(C) Ichthyophis
(D) Salamandra
38. Addiction to tobacco is caused by
(A) Cocaine
(B) Nicotine
(C) Caffeine
(D) Histamine

39. Name the chemical deficiency that cause Parkinson's disease, while when it is excess it cause schizophrenia.
- (A) Dopamine
 - (B) Acetylcholine
 - (C) Endorphins
 - (D) Glycine
40. The transformation of a normal cell to cancer may start with changes in the
- (A) Cytoplasm
 - (B) Nucleus
 - (C) Mitochondria
 - (D) Fibronectin
41. Hypofunction of adrenal cortex results in
- (A) Cretinism
 - (B) Myxoedema
 - (C) Conn's disease
 - (D) Addison's disease
42. Which one of the following is sanguivorous ?
- (A) Male Cockroach
 - (B) *Pila*
 - (C) Female Mosquito
 - (D) Prawn
43. Which of the following is absent in Leech ?
- (A) Parapodia
 - (B) Ocelli
 - (C) Clitellum
 - (D) Salivary glands
44. Male and female cockroaches can be distinguished by
- (A) The presence of sting gland in female
 - (B) Presence of a pair of anal styles in male
 - (C) Females are larger than males
 - (D) Presence of alary muscles in males.
45. Keber's organ is found in
- (A) *Sepia*
 - (B) Octopus
 - (C) *Pila*
 - (D) *Unio*

46. The right ovary is rudimentary in
(A) Sharks
(B) Birds
(C) *Sphenodon*
(D) Calotes
47. Haemophilia is an example of
(A) Y-linked inheritance
(B) XY-linked inheritance
(C) Autosomal inheritance
(D) Sex linked recessive inheritance
48. In Electrocardiograph (ECG), the P-wave represents
(A) Repolarisation of Atria
(B) Repolarisation of Ventricles
(C) Depolarisation of Atria
(D) Depolarisation of Ventricles
49. If the mother is of blood group O and father is of AB, the possible blood group of their child is
(A) A or B
(B) A or AB
(C) B, AB, or O
(D) AB or O
50. What is NOT correct about the circulatory system of aves ?
(A) Heart is four chambered
(B) Well-developed renal portal system
(C) Sinus venosus and truncus arteriosus are lacking
(D) RBC are nucleated
51. In which of the following organs Ornithine cycle occurs to synthesize urea ?
(A) Liver
(B) Pancreas
(C) Duodenum
(D) Stomach
52. Sarcoma is cancer of
(A) Epithelial tissue
(B) Mesodermal tissue
(C) Blood
(D) Endodermal tissues

53. Chemically the bile salts are the derivatives of
(A) Cholesterol
(B) Catecholamine
(C) Amino acids
(D) Fatty acids
54. In mammals, spermatogenesis is stimulated by
(A) MSH
(B) TSH
(C) ADH
(D) FSH
55. The enzymes present in the gastric juice of stomach are
(A) Pepsin and renin
(B) Trypsin and renin
(C) Amylase and lipase
(D) Maltase and sucrase
56. Correct sequence of a cardiac cycle is
(A) Ventricular systole – Joint diastole – Atrial systole
(B) Atrial systole – Ventricular diastole – Joint diastole
(C) Ventricular systole – Ventricular diastole – Atrial systole – Joint diastole
(D) Joint systole – Joint diastole – Atrial systole – ventricular systole
57. Hypertonic urine formation is a characteristic of kidneys of
(A) Fishes and amphibians
(B) Amphibians and reptiles
(C) Reptiles and fishes
(D) Birds and mammals
58. In mosquitos, the sex differentiation can be done on the basis of
(A) Size of wings
(B) Antennae
(C) Antennae and maxillary palps
(D) Ocelli
59. Retrogressive metamorphosis is shown by
(A) Vertebrates
(B) Cephalochordates
(C) Urochordates
(D) Cyclostomes
60. Double circulation is found in the heart of
(A) Birds and amphibians
(B) Birds and mammals
(C) Fishes and amphibians
(D) Amphibians and reptiles