

1. Identify the aromatic amino acid.
 - (A) Tyrosine
 - (B) Valine
 - (C) Isoleucine
 - (D) Methionine

2. Epidermis is produced from
 - (A) Ground meristem
 - (B) Phellogen
 - (C) Procambium
 - (D) Protoderm

3. 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

4. Boron assists in
 - (A) Enzyme activation
 - (B) Photosynthesis
 - (C) Sugar transport
 - (D) Acting as enzyme co factor

5. The phenomenon exhibited by green plants grown in complete darkness is
 - (A) Apical dominance
 - (B) Thermoperiodicity
 - (C) Abscission
 - (D) Etiolation

6. Crossing over occurs in
 - (A) Leptotene
 - (B) Zygotene
 - (C) Pachytene
 - (D) Diakinesis

7. Senescence in plants can be delayed by
- (A) Auxin
 - (B) Gibberellin
 - (C) Kinetin
 - (D) Ethylene
8. Spindle fibre is made up of
- (A) Flagellin
 - (B) Tubulin
 - (C) Serecin
 - (D) Fibriein
9. Identify the high energy bond present in ATP molecule.
- (A) C-O
 - (B) C-C
 - (C) C-N
 - (D) P-O
10. 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
11. The process of formation of RNA from DNA is referred as
- (A) Translation
 - (B) Conjugation
 - (C) Transformation
 - (D) Transcription
12. The term 'Okazaki' is related to
- (A) DNA replication
 - (B) Transcription
 - (C) Translation
 - (D) Mutation

13. The term Niche refers to .
- (A) Place of living
 - (B) Specific function
 - (C) Habitat and specific function
 - (D) Diversity at species level
14. The most abundant element present in plant is
- (A) Nitrogen
 - (B) Iron
 - (C) Carbon
 - (D) Silicon
15. Blight of rice is caused by
- (A) *Xanthomonas*
 - (B) *Pseudomonas*
 - (C) *Phytophthora*
 - (D) *Gibberella*
16. The enzyme used for recombinant DNA technology is
- (A) Restriction enzyme
 - (B) Allosteric enzyme
 - (C) Chemically synthesized enzyme
 - (D) Lysozyme
17. Aleurone layer is present in
- (A) Bacterial biofilm
 - (B) Virus infected plant cell
 - (C) Pathogenic fungi
 - (D) Seed
18. Virus free plant can be obtained by
- (A) Antibiotic treatment
 - (B) Bordeaux mixture
 - (C) Root tip culture
 - (D) Shoot tip culture

19. From the list below select the group that includes protozoa, protistan algae, slime moulds.
- (A) Fungi
 - (B) Plantae
 - (C) Monera
 - (D) Protista
20. 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
21. Teichoic acid is present in which cell component in bacteria?
- (A) Cell wall
 - (B) Plasma membrane
 - (C) Outer membrane
 - (D) Flagella
22. The term episome refers to a type of
- (A) Plasmid
 - (B) Cell wall
 - (C) Membrane
 - (D) Gene
23. Nucleoid is
- (A) Extrachromosomal genetic material
 - (B) Nuclear material in *Volvox*
 - (C) Nuclear material in bacteria
 - (D) Extracellular DNA in bacteria
24. Transfer of genetic material from one bacterium to another through cell contact is called
- (A) Binary fission
 - (B) Transduction
 - (C) Transformation
 - (D) Conjugation

25. Microfibrils are composed of
- (A) Hemicellulose
 - (B) Cellulose
 - (C) Peptidoglycan
 - (D) Lignin
26. The endosperm of *Cycas* is
- (A) Diploid
 - (B) Triploid
 - (C) Haploid
 - (D) Tetraploid
27. Structural material of fungal cell wall is
- (A) Chitin
 - (B) Pectin
 - (C) Cellulose
 - (D) Peptidoglycan
28. Interconnected flattened sacs of endoplasmic reticulum is called
- (A) Cisternae
 - (B) Ribosomes
 - (C) Tubules
 - (D) Stroma
29. 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
30. An enucleated plant cell is
- (A) Epidermal cell
 - (B) Companion cell
 - (C) Xylem parenchyma
 - (D) Sieve tube cell

31. The right ovary is rudimentary in
(A) Sharks
(B) Birds
(C) *Sphenodon*
(D) Calotes
32. Haemophilia is an example of
(A) Y-linked inheritance
(B) XY-linked inheritance
(C) Autosomal inheritance
(D) Sex linked recessive inheritance
33. In Electrocardiograph (ECG), the P-wave represents
(A) Repolarisation of Atria
(B) Repolarisation of Ventricles
(C) Depolarisation of Atria
(D) Depolarisation of Ventricles
34. 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
35. 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
36. In which of the following organs Ornithine cycle occurs to synthesize urea ?
(A) Liver
(B) Pancreas
(C) Duodenum
(D) Stomach
37. Sarcoma is cancer of
(A) Epithelial tissue
(B) Mesodermal tissue
(C) Blood
(D) Endodermal tissues

38. Chemically the bile salts are the derivatives of
- (A) Cholesterol
 - (B) Catecholamine
 - (C) Amino acids
 - (D) Fatty acids
39. In mammals, spermatogenesis is stimulated by
- (A) MSH
 - (B) TSH
 - (C) ADH
 - (D) FSH
40. 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
41. 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
42. 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
43. 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
44. Retrogressive metamorphosis is shown by
- (A) Vertebrates
 - (B) Cephalochordates
 - (C) Urochordates
 - (D) Cyclostomes
45. Double circulation is found in the heart of
- (A) Birds and amphibians
 - (B) Birds and mammals
 - (C) Fishes and amphibians
 - (D) Amphibians and reptiles

46. 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
47. 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
48. Nerve cells are not found in
(A) Platyhelminthes
(B) Coelenterates
(C) Sponges
(D) Echinoderms
49. In molluscs, the general body cavity is
(A) Blastocoel
(B) Hydrocoel
(C) Haemocoel
(D) Pseudocoel
50. Excretion in hydra takes place by
(A) Flame cells
(B) Nephridia
(C) Cnidoblasts
(D) General body surface
51. Which of the following is not a granulocyte ?
(A) Lymphocyte
(B) Basophil
(C) Neutrophil
(D) Eosinophil
52. Which one of the following is a limbless amphibian ?
(A) Necturus
(B) Proteus
(C) Ichthyophis
(D) Salamandra
53. Addiction to tobacco is caused by
(A) Cocaine
(B) Nicotine
(C) Caffeine
(D) Histamine

54. 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
55. The transformation of a normal cell to cancer may start with changes in the
- (A) Cytoplasm
 - (B) Nucleus
 - (C) Mitochondria
 - (D) Fibronectin
56. Hypofunction of adrenal cortex results in
- (A) Cretinism
 - (B) Myxoedema
 - (C) Conn's disease
 - (D) Addison's disease
57. Which one of the following is sanguivorous ?
- (A) Male Cockroach
 - (B) *Pila*
 - (C) Female Mosquito
 - (D) Prawn
58. Which of the following is absent in Leech ?
- (A) Parapodia
 - (B) Ocelli
 - (C) Clitellum
 - (D) Salivary glands
59. 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.
60. Keber's organ is found in
- (A) *Sepia*
 - (B) Octopus
 - (C) *Pila*
 - (D) *Unio*