



1

CHAPTER

INTRODUCTION

1. **Method of research in which a biological problem is identified, relevant data is gathered, a hypothesis is formulated from these data, and the hypothesis is experimentally tested is called:**
 - (A) Scientific theory
 - (B) Scientific law
 - (C) Biological method
 - (D) All choices are correct
2. **The chemicals produced by microorganisms, which are capable of destroying or inhibiting the growth of another organism:**
 - (A) Vaccines
 - (B) Anti-Toxins
 - (C) Both (A) and (B)
 - (D) Antibiotics
3. **Planning to reduce plant diseases by applying different strategic methods is termed as:**
 - (A) Hydroponics
 - (B) Chemical control
 - (C) Integrated disease management
 - (D) Crop rotation
4. **Treatment of disease by x-rays or other ionizing radiation is:**
 - (A) Chemotherapy
 - (B) Radiotherapy
 - (C) Gene therapy
 - (D) All (A), (B) and (C)
5. **Red wood trees measure over:**
 - (A) 400 feet in height
 - (B) 200 meters in height
 - (C) 300 feet in height
 - (D) All choices are incorrect
6. **The reasoning from a specific set of observations to reach a general conclusion is called:**
 - (A) Inductive reasoning
 - (B) Deductive reasoning
 - (C) Both (A) and (B)
 - (D) None of the above

7. The branch of biology that deals with the function of nucleic acids and proteins, and especially their role in cell replication and the transmission of genetic information is:
- (A) Micro-Biology (B) Environmental Biology
(C) Molecular Biology (D) Parasitology
8. The application of organisms, biological systems, or biological processes to manufacturing and servicing industries is called:
- (A) Micro-Biology (B) Molecular Biology
(C) Biotechnology (D) Social Biology
9. Amoebae are single-celled protozoa which reproduce by binary fission, resulting in two offspring with identical genes. This is process of:
- (A) Natural cloning (B) Cell transfer cloning
(C) Artificial cloning (D) Both (A) and (B)
10. A community along with its non living environment is called as:
- (A) Habitat (B) Ecosystem
(C) Ecological niche (D) All choices are correct
11. The term Biology is of:
- (A) Greek origin (B) Latin origin
(C) English origin (D) German origin
12. The branch of Biology dealing with social behavior and communal life of human beings is:
- (A) Human Biology (B) Social Biology
(C) Micro-Biology (D) Biotechnology
13. All the living and non-living matters are formed of:
- (A) Atoms and sub-atomic particles (B) A.M.P, A.T.P, A.D.P.
(C) Cells and cell products (D) Organs and organelle
14. Deductive reasoning is always from:
- (A) Specific to general (B) Qualitative to quantitative
(C) General to specific (D) Tentative to exact
15. A sufficiently stable electrically neutral group of at least two atoms in a definite arrangement held together by chemical bonds:
- (A) Proton (B) Neutron
(C) Molecule (D) All options are incorrect

16. It is the part of the Earth, including air, land, surface rocks, and water, within which life occurs:
- (A) Biosphere (B) Atmosphere
(C) Lithosphere (D) Hydrosphere
17. Collection of inter-breeding organisms of same species:
- (A) Community (B) Biosphere
(C) Population (D) Both (A) and (B)
18. It is growing of plants without soil:
- (A) Crop rotation (B) Hydrostatics
(C) Hydroponics (D) All (A), (B) and (C)
19. The period from 600 million years ago to 270 million years ago is:
- (A) Azoic era (B) Paleozoic era
(C) Cenozoic era (D) Jurassic era
20. The period of geologic time beginning 225 million years ago and ending 135 million years ago, falling between the Paleozoic and Cenozoic Eras is called:
- (A) Proterozoic era (B) Azoic era
(C) Tertiary era (D) Mesozoic era
21. The period of geologic time beginning after the end of the Mesozoic Era 70 million years ago and encompassing the present is called:
- (A) Proterozoic era (B) Paleozoic era
(C) Cenozoic era (D) Mesozoic era
22. Living together of two organisms belonging to different species is termed as:
- (A) Parasitism (B) Mutualism
(C) Symbiosis (D) Commensalism
23. A symbiotic relationship in which one species benefits and the other is not affected:
- (A) Parasitism (B) Mutualism
(C) Commensalism (D) None of these
24. A form of symbiosis in which both species benefit:
- (A) Parasitism (B) Mutualism
(C) Commensalism (D) None of these

25. A type of symbiosis in which one organism benefits at the expense of the other:
- (A) Parasitism (B) Mutualism
(C) Commensalism (D) None of these
26. Life emerges at the level of:
- (A) Atom (B) Cell
(C) Organ (D) Molecule
27. It can be defined as the use of natural enemies to reduce the damage caused by a pest population:
- (A) Chemical control (B) Biological control
(C) Chemotherapy (D) None of these
28. The practice of growing several different crops on the same land in successive years or seasons to avoid pests and diseases is termed as:
- (A) Crop fixation (B) Crop rotation
(C) Both (A) and (B) (D) None of these
29. The treatment of cancer using specific chemical agents or drugs those are selectively destructive to malignant cells and tissues:
- (A) Chemotherapy (B) Biological control
(C) Radiotherapy (D) None of these
30. First living organisms originated:
- (A) 2000 M years ago (B) 5000 M years ago
(C) 3000 M years ago (D) 8000 M years ago
31. It is unbroken series of species arranged in ancestor to descendent sequence with rest of the groups evolved from the one that immediately preceded it:
- (A) Hierarchy (B) Systematics
(C) Phyletic lineage (D) Nomenclature
32. The technique of producing a genetically identical copy of an organism by replacing the nucleus of an unfertilized ovum with the nucleus of a body cell from the organism is:
- (A) Syngamy (B) Cloning
(C) Both (A) and (B) (D) Allogamy
33. The first antibiotic to be discovered was:
- (A) Streptomycin (B) Neomycin
(C) Penicillin (D) Chloromycetin

34. **Antigens in the form of modified or inactivated or killed pathogens that raise immunity against actual pathogens:**
- (A) Antibiotics (B) Antibodies
(C) Vaccines (D) None of these
35. **Dolly sheep was cloned in:**
- (A) 1993 (B) 1998
(C) 1996 (D) 1999
36. **Biological applications provide:**
- (A) Better health (B) Better food
(C) Better environment (D) All choices are correct
37. **“If bacteriophages specifically target and destroy cells of Escherichia coli in petri dishes, then they will do the same in laboratory mice that have been infected by that strain”. This statement is referred to as:**
- (A) Observation (B) Hypothesis
(C) Modeling (D) Conclusion
38. **The process of immunization by vaccination was first introduced by:**
- (A) Buchner (1897) (B) Euler (1932)
(C) Edward Jenner (1795) (D) Fisher (1898)
39. **All acellular, Eukaryotic organisms which are no longer classified as animals, plants or fungi are placed in kingdom:**
- (A) Monera (B) Protista
(C) Fungi (D) Plantae
40. **What is true for Natural Cloning?**
- (A) Asexual reproduction in plants and animal
(B) Regeneration and wound healing
(C) Growth of tumor cells or cancers
(D) All (A), (B) and (C)
41. **The term Biology is of:**
- (A) Latin origin (B) German origin
(C) English origin (D) Greek origin

42. The branch of Biology dealing with social behavior and communal life of human beings is:
- (A) Micro Biology (B) Human Biology
(C) Bio technology (D) Social Biology
43. All the living and non-living matters are formed of:
- (A) A.M.P; A.T.P; A.D.P. (B) Cells and cell products
(C) Atoms and sub-atomic particles (D) Organs and organelle
44. Deductive reasoning is always from:
- (A) Tentative to exact (B) General to specific
(C) Qualitative to quantitative (D) Specific to general
45. The plants having foreign D.N.A. in their cells are:
- (A) Induced plants (B) Hydrophytic plants
(C) Transgenic plants (D) Specific plants
46. AIDS is caused by:
- (A) D-virus (B) H.I.V.
(C) H-virus (D) T.M.V.
47. Cloning is a technology for achieving:
- (A) Eugenic aims (B) Integrated aims
(C) Scientific aims (D) Biology aims
48. Which of following is a viral disease:
- (A) Tetanus (B) Typhoid
(C) Meningitis (D) Cow pox
49. The Integrated disease management involves:
- (A) Loss of microbes (B) Division of zygote
(C) Extinction of species (D) Combating of disease
50. The study of living organism:
- (A) Microbiology (B) Marine Biology
(C) Parasitology (D) Biology
51. Molecular Biology deals with the structure of cells and their organelles at the level:
- (A) Molecular (B) Macro
(C) Microbiology (D) Biome

52. The study of micro-organisms, such as Bacteria, Viruses etc. is called:
(A) Molecular (B) Microbiology
(C) Marine Biology (D) Macro
53. The study of living organisms in seas and oceans is called:
(A) Marine Biology (B) Macro
(C) Molecular (D) Microbiology
54. The study of Parasites, relating to their structure and mode of transmission is called:
(A) Biology (B) Chemotherapy
(C) Gene therapy (D) Parasitology
55. Bio elements constitute 99% of the total mass:
(A) Six (B) Five
(C) Two (D) One
56. Every organism is composed of numerous micro and:
(A) Heteromolecules (B) inorganic molecules
(C) Macromolecules (D) molecules
57. A group of organisms of the same species located in the same place at the same time is called as:
(A) Pasteurization (B) Community
(C) Population (D) Phyletic lineage
58. Population of different species of plants and Animals in the same habitat is called:
(A) Community (B) Phyletic lineage
(C) Biome (D) Population
59. A large regional community determined by climate is called as:
(A) Biome (B) community
(C) Chemotherapy (D) Biosphere
60. An unbroken series of species arranged in ancestor to the descendant order is called as:
(A) Phyletic lineage (B) Parasitology
(C) Population (D) Community

61. A statement based upon observations and experience is called as:
(A) Law (B) Experiment
(C) Hypothesis (D) Vaccination
62. The manipulation of desired genes in plants and animals is called as:
(A) Genetic engineering (B) Vaccination
(C) Cloning (D) Chemotherapy
63. The production of genetically identical copies of organisms by asexual reproduction is called as:
(A) Biome (B) Phyletic lineage
(C) Genetic engineering (D) Cloning
64. A technique involved in food preservation from spoilage by killing non-spore forming bacteria is called:
(A) Radiations (B) Antibiotics
(C) Chemotherapy (D) Pasteurization
65. Acquired Immuno deficiency syndrome abbreviated as:
(A) HIV (B) AIDS
(C) ADS (D) AID
66. Repair and isolation of defective genes by introducing normal genes through bone marrow is called:
(A) Parasitology (B) Phyletic lineage
(C) Microbiology (D) Gene therapy
67. The species of plants and animals likely to get extinct are called as:
(A) Extinct Species (B) Protected species
(C) Endangered Species (D) Aids
68. Which one is used to control cancer:
(A) Parasitology (B) Community
(C) Chemotherapy (D) Gene therapy
69. Edward Jenner in 1795 developed a technique to control small pox called:
(A) Vaccination (B) Chemotherapy
(C) Antisepsis (D) Radiotherapy

70. Bio-filter:

- (A) Collection of tissues to shape a structure that forms a functional unit.
- (B) It involves the removal of environmental pollutions by the living organisms.
- (C) It involves the test to verify the significance of nutrients essential for the plants.
- (D) Is one of the techniques to avoid microbial ailments.

71. Organ:

- (A) Collection of tissues to shape a structure that forms a functional unit.
- (B) It involves the test to verify the significance of nutrients essential for the plants.
- (C) The part of earth inhabited biologically and A biologically to form a unit.
- (D) It involves the removal of environmental pollutions by the living organisms.

72. Hydroponic culture technique:

- (A) Collection of tissues to shape a structure that forms a functional unit.
- (B) It involves the test to verify the significance of nutrients essential for the plants.
- (C) The part of earth inhabited biologically and A biologically as a unit.
- (D) It involves the removal of environmental pollutions by the living organisms.

73. Immunization:

- (A) Is one of the techniques to avoid microbial ailments.
- (B) Collection of tissues to shape a structure that forms a functional unit.
- (C) The part of earth inhabited biologically and A biologically as a unit.
- (D) It involves the test to verify the significance of nutrients essential for the plants.

74. Bio remediation:

- (A) Is one of the techniques to avoid microbial ailments.
- (B) The part of earth inhabited biologically and A biologically as a unit.
- (C) Collection of tissues to shape a structure that forms a functional unit.
- (D) It involves the removal of environmental pollutions by the living organisms.

75. Radioactive isotopes:

- (A) Administering anticancer radiations to the patients after regular intervals.
- (B) The hypothesis supported by the result of many tests.
- (C) Dating or age of rocks can be calculated.
- (D) One of the geological periods of Paleozoic era.

76. Devonian period:

- (A) The hypothesis supported by the result of many tests.
- (B) Dating or age of rocks can be calculated.
- (C) Administering anticancer chemicals to the patients after regular intervals.
- (D) One of the geological periods of Paleozoic era.

77. Tissue culture:

- (A) Dating or age of rocks can be calculated.
- (B) The hypothesis supported by the result of many tests.
- (C) One of the geological periods of Paleozoic era.
- (D) One of the methods to produce genetically identical organisms by asexual method.

78. Chemotherapy technique:

- (A) One of the methods to produce genetically identical organisms by asexual method.
- (B) One of the geological periods of Paleozoic era.
- (C) Dating or age of rocks can be calculated.
- (D) Administering anticancer chemicals to the patients after regular intervals.

79. Theory:

- (A) One of the geological periods of Paleozoic era.
- (B) The hypothesis supported by the result of many tests.
- (C) Dating or age of rocks can be calculated.
- (D) One of the methods to produce genetically identical organisms by asexual method.

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(D)	3.	(C)	4.	(B)	5.	(C)
6.	(A)	7.	(C)	8.	(C)	9.	(A)	10.	(B)
11.	(A)	12.	(B)	13.	(A)	14.	(C)	15.	(C)
16.	(A)	17.	(C)	18.	(C)	19.	(B)	20.	(D)
21.	(C)	22.	(C)	23.	(C)	24.	(B)	25.	(A)
26.	(B)	27.	(B)	28.	(B)	29.	(A)	30.	(C)
31.	(C)	32.	(B)	33.	(C)	34.	(C)	35.	(C)
36.	(D)	37.	(B)	38.	(C)	39.	(B)	40.	(D)
41.	(D)	42.	(D)	43.	(C)	44.	(B)	45.	(C)
46.	(B)	47.	(A)	48.	(D)	49.	(D)	50.	(D)
51.	(A)	52.	(B)	53.	(A)	54.	(D)	55.	(A)
56.	(C)	57.	(C)	58.	(A)	59.	(A)	60.	(A)
61.	(C)	62.	(C)	63.	(D)	64.	(D)	65.	(B)
66.	(D)	67.	(C)	68.	(C)	69.	(A)	70.	(B)
71.	(A)	72.	(B)	73.	(A)	74.	(D)	75.	(C)
76.	(D)	77.	(D)	78.	(D)	79.	(B)		

2
CHAPTER

BIOLOGICAL MOLECULES

1. Which one is a protein?
(A) Cholesterol
(B) ATP
(C) There is no way of knowing without seeing the chemical reaction
(D) Cellulase
2. Glycogen is an example of:
(A) Both a polysaccharide and a carbohydrate
(B) Phospholipid
(C) Polysaccharide (only)
(D) Carbohydrate (only)
3. A triglyceride is a:
(A) Protein
(B) Nucleic acid
(C) Simple sugar
(D) Lipid
4. Which is an organic molecule?
(A) NO_2
(B) $\text{C}_6\text{H}_{12}\text{O}_6$
(C) H_2O
(D) H_2SO_4
5. Which class of molecule is the major component of cell membrane?
(A) Cellulose
(B) Phospholipid
(C) Wax
(D) Triglyceride
6. Peptide bonds are found in:
(A) Proteins
(B) Inorganic compounds
(C) Lipid
(D) Carbohydrate

7. **Glycerol is the backbone molecule for:**
(A) ATP (B) DNA
(C) Triglycerides (D) Disaccharides
8. **When a protein undergoes a hydrolysis reaction the end-products are:**
(A) Amino acid (B) Nucleotides
(C) Fatty acid (D) Monosaccharide's
9. **To produce Lactose:**
(A) Glucose and galactose must undergo a dehydration reaction.
(B) Glucose and fructose must undergo a hydrolysis reaction.
(C) Two amino acids must form a peptide bond.
(D) Pairing of nitrogenous bases must occur between nucleotides.
10. **The biological function of a protein is determined by its:**
(A) Primary structure (B) Quaternary structure
(C) Secondary structure (D) Tertiary structure
11. **Enzymes are:**
(A) Proteins (B) Triglycerides
(C) Steroids (D) Polysaccharides
12. **The function of ATP is to:**
(A) Store energy
(B) Act as a catalyst
(C) Determine the function of a cell
(D) Act as a template for production of protein
13. **All organic compounds contain the elements:**
(A) Iron and oxygen (B) Carbon and hydrogen
(C) Carbon and nitrogen (D) Carbon and oxygen
14. **All of the following are organic compounds except:**
(A) Water (B) Enzyme
(C) ATP (D) Glucose
15. **Which of the following is considered to be neutral?**
(A) Cytoplasm (B) HCl
(C) Urine (D) Pure water

16. **Glyceraldehyde is one example of a group of sugars called:**
(A) Pentose (B) Tetrose
(C) Triose (D) Octose
17. **Nitrogen bases such as choline, ethanolamine and serine are important of:**
(A) Sphingolipid (B) Phospholipid
(C) Phosphatidycholine (D) Phosphodiester
18. **Which molecule is used for short term energy storage?**
(A) Chitin (B) Fat
(C) Cellulose (D) Glycogen
19. **The functional group COOH is:**
(A) Basic (B) Never ionized
(C) Acidic (D) All A, B and C
20. **Which of these is an example of hydrolysis?**
(A) Dipeptide + H₂O → amino acid + Amino acid
(B) Amino acid + Amino acid → Dipeptide + H₂O
(C) Neither of these is correct
(D) Both of these (A) and (B) are correct
21. **A fatty acid is unsaturated if it:**
(A) Contain double bonds (B) Contains an acidic group
(C) Bonds to glycogen (D) Contain hydrogen
22. **Which is not a lipid?**
(A) Polysaccharides (B) Wax
(C) Steroid (D) Fat
23. **Nucleotide contains:**
(A) Sugar, nitrogen base and carbon
(B) Sugar, nitrogen – containing base and a phosphate molecule
(C) Monomer for fat and Polysaccharide
(D) Sugar, glycerol and phosphate

24. **ATP:**
(A) Has a helical structure (B) is an amino acid
(C) Provide enzyme for metabolism (D) is a high – energy molecule
25. **A hormone is an example of which functional class of proteins?**
(A) Regulatory (B) Catalytic
(C) Contractile (D) Structural
26. **The Sugar found in R.N.A. is:**
(A) Galactose (B) Fructose
(C) Ribose (D) Deoxyribose
27. **Steroids are classified as:**
(A) Lipids (B) Protein
(C) Carbohydrate (D) Nucleic acid
28. **Hemoglobin is an example of which functional class of protein?**
(A) Regulatory (B) Contractile
(C) Transport (D) Structural
29. **In RNA the Nitrogen base that takes the place of thymine is:**
(A) Adenine (B) Guanine
(C) Cytosine (D) Uracil
30. **Which of the following represent accurate pairing in D.N.A. molecules?**
(A) Adenine to cytosine and guanine to thymine
(B) Adenine to uracil and cytosine to guanine
(C) Adenine to adenine and guanine to guanine
(D) Adenine to thymine and cytosine to guanine
31. **The Suffix that denotes a sugar is:**
(A) ide (B) ase
(C) ose (D) amide
32. **The melting points of palmitic acid is:**
(A) 80°C (B) 72°C
(C) 63.1°C (D) 70°C

- 33. Polar molecules:**
- (A) Have a positive charge at one end and a negative charge at the other end
 - (B) Are found at the ends of other molecules
 - (C) Are pointed at both ends
 - (D) None of the above
- 34. Metabolic activities included:**
- (A) Photosynthesis
 - (B) Respiration
 - (C) Digestions
 - (D) All of the above
- 35. Large molecules with skeletons of carbon atoms are said to be:**
- (A) Carbonic
 - (B) Inorganic
 - (C) Carboxylate
 - (D) Organic
- 36. The Combining capacity of an atom or ion is called:**
- (A) pH
 - (B) Valency
 - (C) Elemental balance
 - (D) Bonding capacity
- 37. DNA model was suggested by:**
- (A) Wilkins and Franklin
 - (B) Hershey & Chase
 - (C) Watson and crick
 - (D) Char gaff
- 38. Conjugated Histon Proteins are:**
- (A) Transport protein
 - (B) Only structured protein
 - (C) Only regulatory protein
 - (D) Structural and (Functional) regulatory protein
- 39. Branch of biology, which deals with the study of chemical components and chemical process in the living organism, is called:**
- (A) Ecology
 - (B) Physiology
 - (C) Biochemistry
 - (D) Histology
- 40. Basis element of organic compound is:**
- (A) Water
 - (B) Aldo – sugar
 - (C) Solid
 - (D) Carbon

- 41. Carbohydrates are also called:**
(A) Saccharides (B) Glycogen
(C) Glycosidic bond (D) Ribofuranose
- 42. The sugar with aldehyde group is called:**
(A) Aldo-sugar (B) Keto-sugar
(C) Acylglycerol (D) Glycogen
- 43. Ribose form a ring structure when in solution known as:**
(A) Hydrolysis (B) Biochemistry
(C) Ribofuranose (D) Carbon
- 44. Oligosaccharides yield from two to ten monosaccharides on:**
(A) Polymerization (B) Hydrolysis
(C) Glycosidic bond (D) Condensation
- 45. The covalent bond between two monosaccharides called:**
(A) Phosphodiester linkage (B) Peptide bond
(C) Hydrophobic interactions (D) Glycosidic bond
- 46. Starches have unbranched chains of glucose and soluble in hot water are:**
(A) Acylglycerol (B) Amylase
(C) Amylopectin (D) Herbivores
- 47. Starches have branched chains and are insoluble in hot or cold water are:**
(A) Amylopectin (B) Amylose
(C) Phospholipids (D) Acylglycerol
- 48. Animal starch is:**
(A) Carbon (B) Amylose
(C) Glycogen (D) Amylopectin
- 49. Cellulose is digested because of microorganism in their tract by:**
(A) Omnivores (B) Carnivores
(C) Herbivores (D) Macrophages
- 50. The nature of Lipids is:**
(A) Inorganic (B) Carbon
(C) Heterogeneous (D) Proteinaceous

51. These are composed of glycerol and fatty acids:
- (A) Phospholipids (B) Waxes
(C) Acylglycerol (D) Terpenoids
52. In animal fatty acids are:
- (A) Solid (B) Ringed
(C) Straight (D) None of these
53. Solubility of fatty acids in organic solvents and their melting points increase with increasing number of:
- (A) Carbon (B) Hydrogen
(C) Oxygen (D) All of the above
54. At room temperature animal Fats are:
- (A) Solid (B) liquids
(C) Semi-solid (D) All of these
55. Fats and oils are lighter than:
- (A) Air (B) Oil
(C) Glycerol (D) Water
56. Derivatives of phosphatidic acid are.
- (A) Waxes (B) Terpenoids
(C) Phospholipids (D) Acylglycerols
57. Terpenoids are made up of simple repeating units called:
- (A) Isoprenoid units (B) Amino acid
(C) Peptide unit (D) Glycosidic unit
58. Most abundant organic compound to be found in the cells is:
- (A) Proteins (B) Carbon
(C) Nucleic acid (D) Lipids
59. Protein's polymers are:
- (A) Nucleotides (B) Amino acid
(C) Glucose (D) Fatty acids
60. Number of peptide bonds in a dipeptide:
- (A) Four (B) Three
(C) Two (D) One

61. Which structure of protein comprises the number and sequence of amino acid in a protein molecule?
- (A) Primary (B) Secondary
(C) Tertiary (D) Quaternary
62. Each alpha chain of hemoglobin contains _____ amino acid.
- (A) 141 (B) 142
(C) 139 (D) 140
63. Oxygen carrying protein of red blood cells exhibits quaternary structure of protein.
- (A) Hemoglobin (B) Myoglobin
(C) Insulin (D) Fibrinogen
64. In tertiary structure of protein polypeptide chain bends and folds upon itself forming a shape:
- (A) Ellipsoidal (B) Square
(C) Globular (D) Triangular
65. In aqueous medium fibrous proteins are:
- (A) Soluble (B) least soluble
(C) Insoluble (D) readily soluble
66. Globular proteins are ellipsoidal or:
- (A) Helix (B) linear
(C) Fiber like (D) Spherical
67. DNA and RNA are made up of:
- (A) Nucleoside (B) Amino acids
(C) Nucleotide (D) Nucleic acid
68. A 5 carbon monosaccharide, a nitrogen base and a phosphoric acid are three sub units of:
- (A) Nucleoside (B) Nucleotide
(C) Nucleic acid (D) Carbohydrates
69. The compound formed by combination of a base and a pentose sugar is called:
- (A) Nucleic acid (B) ATP
(C) Nucleotide (D) Nucleoside

70. **DNA is?**
(A) Heredity material (B) proteinaceous material
(C) Fatty material (D) Cellular material
71. **Nicotinamide adenine dinucleotide abbreviated as:**
(A) DNA (B) NADH
(C) NAD (D) DAN
72. **The amount of DNA is fixed for a particular species as:**
(A) Centromere (B) Chromatids
(C) Chromosomes (D) Histones
73. **Heamophilus influenzae is?**
(A) Virus (B) Fungi
(C) prion (D) Bacteria
74. **RNA synthesis by DNA is known as:**
(A) Translation (B) Transcription
(C) Replication (D) Semi conservative replication
75. **t RNA comprises about 10 to 20% of the:**
(A) Chromosome RNA (B) Conjugated RNA
(C) Cellular RNA (D) Globular RNA
76. **Two different molecule belonging to different categories, usually combine together to forms:**
(A) Protein molecules (B) Cellular molecules
(C) Conjugated molecules (D) Lipids molecules
77. **The nucleohistone is present in:**
(A) Chromosome (B) Centromere
(C) Nucleus (D) Homologues Chromosomes
78. **Which one pick amino acid and transfer them to ribosome where they linked to form protein:**
(A) rRNA (B) tRNA
(C) mRNA (D) RNA

79. **Nonpolar organic molecule:**

- (A) CO_2
- (B) NAD
- (C) H_2O
- (D) dGTP

80. **Covalent bond:**

- (A) Result when atoms complete their electronic shell by sharing electron
- (B) Result when atoms complete their electronic shell by donating electron
- (C) Both A and B
- (D) None of these

81. **Cane sugar is a/an:**

- (A) Polysaccharides
- (B) Oligosaccharides
- (C) Monosaccharides
- (D) None of these

82. **A nucleotide of DNA:**

- (A) Serine
- (B) ATP
- (C) dGTP
- (D) CTP

83. **Carbon is:**

- (A) Bivalent
- (B) Tetravalent
- (C) Trivalent
- (D) All of the above

84. **Translation:**

- (A) Synthesis of RNA
- (B) Three adjacent nucleotide on mRNA
- (C) Synthesis of protein
- (D) Structural component of ribosome

85. **Codon:**

- (A) Structural component of ribosome
- (B) Histone
- (C) Three adjacent nucleotide on mRNA
- (D) Purine of DNA

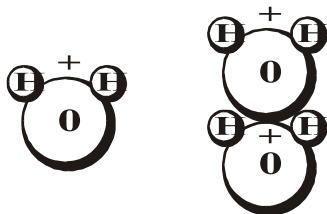
86. **Adenine:**

- (A) Synthesis of protein
- (B) Histone
- (C) Purine of DNA
- (D) Pyrimidine of DNA

87. **rRNA:**
- (A) Structural component of ribosome
 - (B) Histone
 - (C) Purine of DNA
 - (D) Synthesis of protein
88. **Protein attach to chromosome:**
- (A) Three adjacent nucleotide on mRNA
 - (B) Purine of DNA
 - (C) Histone
 - (D) Structural component of ribosome
89. **Deoxyribose:**
- (A) Pentose sugar
 - (B) Pyrimidine of DNA
 - (C) DNA
 - (D) DNA model
90. **Contain an anticodon:**
- (A) tRNA
 - (B) DNA model
 - (C) mRNA
 - (D) DNA
91. **Watson and crick:**
- (A) DNA
 - (B) DNA model
 - (C) Nucleotide
 - (D) Pentose sugar
92. **Double helix:**
- (A) DNA
 - (B) Pentose sugar
 - (C) tRNA
 - (D) DNA model
93. **Nucleoside + Phosphate:**
- (A) tRNA
 - (B) DNA
 - (C) Nucleotide
 - (D) mRNA
94. **Steriodes and triglycerides are example:**
- (A) DNA
 - (B) Lipids
 - (C) pH7
 - (D) Disaccharide
95. **Starch:**
- (A) pH7
 - (B) Give blue colour with iodine
 - (C) Phospholipid
 - (D) Monosaccharide

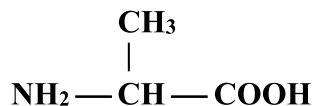
96. **Sucrose and Lactose are example of:**
(A) Lipids (B) Phospholipid
(C) Monosaccharide (D) Disaccharide
97. **Glucose and fructose are example of:**
(A) Monosaccharide (B) pH7
(C) Lipids (D) Disaccharide
98. **Nutral solution:**
(A) Disaccharide (B) pH7
(C) Lipids (C) Give blue colour with iodine
99. **The cell energy currency:**
(A) $(\text{CH}_2\text{O})_n$ (B) Fibrous protein
(C) ATP (D) Water
100. **Carboxyl group:**
(A) COOH (B) Fibrous protein
(C) ATP (D) Globular protein
101. **Fibrin:**
(A) COOH (B) ATP
(C) Fibrous protein (D) Globular protein
102. **Monosaccharide:**
(A) COOH (B) $(\text{CH}_2\text{O})_n$
(C) Water (D) Fibrous protein
103. **Act as solvent for ionic compounds in body fluid:**
(A) Water (B) Globular protein.
(C) ATP (D) COOH
104. **The branch of biology that deals with the study of in-organic and organic molecules that make up the body of a living organism is:**
(A) Pharmacology (B) Biochemistry
(C) Both (A) and (B) (D) Pharmacodynamics
105. **The six bio-elements that make up 98% of protoplasm are:**
(A) C, H, O, N, Mg^+ , K^+ (B) C, H, O, N, Mg^+ , Na^+
(C) C, H, O, N, Cl^- , K^+ (D) C, H, O, N, P, S

106. What is shown in the diagram below?



- (A) Even charge distribution (B) Uneven charge distribution
(C) Polarity within water molecule (D) Both (B) and (C)
107. Atoms form bonds by:
- (A) Gaining of electrons (B) Losing of electrons
(C) Sharing of electrons (D) All (A), (B) and (C)
108. If atoms of different elements combine, the molecule can also be called a:
- (A) Polymer (B) Monomer
(C) Compound (D) All choices are incorrect
109. A _____ occurs as bonds are formed or broken between atoms, ions or molecules.
- (A) Chemical reaction (B) Physical reaction
(C) Thermal reaction (D) None of the above
110. Electrolytes that release hydrogen ions in water are called:
- (A) Acids (B) Bases
(C) Amphoteric (D) All options are correct
111. It is the most abundant compound in living organisms and makes up two-thirds of the weight of adults:
- (A) Protein (B) Water
(C) Carbohydrate (D) Nucleic acid
112. ATP releases energy when:
- (A) It undergoes a condensation reaction
(B) A hydroxyl group is added to it
(C) A phosphate group is added to it
(D) A phosphate group is removed from it

113. A fatty acid is a compound made of a chain of carbon atoms plus:
- (A) An acid group at one end (B) Acid group at both ends
(C) An amino group (D) Amino group at both ends
114. A bond that forms between a positively charged hydrogen atom of one molecule and a negative charged region of another molecule is an:
- (A) Ionic bond (B) Hydrogen bond
(C) Covalent bond (D) Basic bond
115. Dehydration and hydrolysis reactions involve removing or adding _____ to macromolecule subunits.
- (A) CH and NH_2 (B) C and H
(C) $-\text{COOH}$ and H (D) OH and H
116. A chemical “buffer”:
- (A) can donate a H^+ when the solution becomes too basic
(B) can absorb a H^+ when the solution becomes too acidic
(C) is utilized in living systems to maintain correct pH
(D) all of the above are correct
117. Nucleotides have a nitrogenous base attached to a sugar at the:
- (A) 1' carbon (B) 3' carbon
(C) 4' carbon (D) 5' carbon
118. If three molecules of a fatty acid, each having the formula $\text{C}_{16}\text{H}_{32}\text{O}_2$, were joined to a molecule of glycerol ($\text{C}_3\text{H}_8\text{O}_3$), the resulting molecule would have the formula:
- (A) $\text{C}_{48}\text{H}_{96}\text{O}_6$ (B) $\text{C}_{48}\text{H}_{74}\text{O}_6$
(C) $\text{C}_{54}\text{H}_{71}\text{O}_6$ (D) $\text{C}_{54}\text{H}_{68}\text{O}_9$
119. This aminoacid is called:



- (A) Glycine (B) Alanine
(C) Leucine (D) Valine

- 120. Monosaccharides contain carbon atoms:**
(A) 3-7 (B) 3-6
(C) 3-9 (D) 3-10
- 121. Stearin is:**
(A) Fatty acid (B) Saturated acylglycerol
(C) Unsaturated acylglycerol (D) None of these
- 122. Energy absorbed to change water from liquid to gas is called:**
(A) Latent heat of fusion (B) High surface tension
(C) Heat of vaporization (D) High heat capacity
- 123. The sources of carbohydrates are green plants. These are primary product of:**
(A) Respiration (B) Catabolism
(C) Photosynthesis (D) All (A), (B) and (C)
- 124. It is most abundant carbohydrate in the nature:**
(A) Glycogen (B) Chitin
(C) Lignin (D) Cellulose
- 125. It is the most abundant organic component in living cells:**
(A) Lipid (B) Carbohydrate
(C) Water (D) Protein
- 126. Each of the 20 naturally occurring amino acids has a different:**
(A) NH_2 group (B) $-\text{COOH}$ group
(C) R group (D) $-\text{OH}$ group
- 127. The sum of all the chemical reaction that occurs in the body is known as:**
(A) Anabolism (B) Metabolism
(C) Catabolism (D) Differentiation
- 128. Which is an organic molecule?**
(A) H_2O (B) H_2SO_4
(C) NO_2 (D) $\text{C}_6\text{H}_{12}\text{O}_6$
- 129. Which class of molecule is the major component of cell membrane?**
(A) Phospholipid (B) Cellulose
(C) Wax (D) Triglyceride

- 130. Peptide bonds are found in:**
(A) Protein (B) Carbohydrate
(C) Lipids (D) Inorganic compounds
- 131. Glycerol is the back bone molecule for:**
(A) Disaccharides (B) DNA
(C) Triglycerides (D) ATP
- 132. When a protein undergoes a hydrolysis reaction the end-products are:**
(A) Amino acids (B) Monosaccharides
(C) Fatty acids (D) Nucleotides
- 133. Which of the following is considered to be neutral?**
(A) Urine (B) Pure water
(C) Cytoplasm (D) HCl
- 134. The functional group -COOH is:**
(A) Acidic (B) Basic
(C) Never ionized (D) all options are correct
- 135. Which of these is an example of hydrolysis?**
(A) Amino acid + Amino acid $\rightarrow$ Dipeptide + H_2O
(B) Dipeptide + $\text{H}_2\text{O} \rightarrow$ Amino acid + Amino acid
(C) Both (A) and (B)
(D) Neither of these is correct
- 136. A fatty acid is unsaturated if it:**
(A) Contains hydrogen (B) Contains double bonds
(C) Contains an acidic group (D) Bonds to glycogen
- 137. A hormone is an example of which functional class of proteins:**
(A) Contractile (B) Structural
(C) Regulatory (D) Cyclic
- 138. The sugar found in RNA is:**
(A) Fructose (B) Galactose
(C) Deoxyribose (D) Ribose

- 139. Steroids are classified as:**
- (A) Carbohydrates (B) Lipids
(C) Proteins (D) Nucleic acids
- 140. Hemoglobin is an example of which functional class of protein:**
- (A) Contractile (B) Structural
(C) Regulatory (D) Transportive
- 141. In RNA the Nitrogen base that takes the place of thymine is:**
- (A) Adenine (B) Cytosine
(C) Uracil (D) Guanine
- 142. The Suffix that denotes a sugar is:**
- (A) ase (B) ose
(C) ide (D) amide
- 143. Two different molecule belonging to different categories, usually combine together to form:**
- (A) Homomer molecule (B) Macro molecule
(C) Conjugated molecule (D) All options are correct
- 144. It is an animal storage product that accumulates in the vertebrate liver and muscles:**
- (A) Cellulose (B) Chitin
(C) Glycogen (D) Fructose
- 145. Asymmetrical lipid molecules with a hydrophilic head and a hydrophobic tail, with a phosphate group in place of one of the three fatty acid chains:**
- (A) Wax (B) Terpenoid
(C) Steroid (D) Phospholipid
- 146. Triglycerides that are solid at room temperature:**
- (A) Fats (B) Oils
(C) Linoleic acid (D) None of these
- 147. Triglycerides that are liquid at room temperature:**
- (A) Fats (B) Oils
(C) Stearin (D) All of these

148. A chemical group composed of a central phosphorous bonded to four oxygens:
- (A) Carbonyl group (B) Sulfhydryl group
(C) Carboxylic (D) Phosphate group
149. Nucleic acids are polymers composed of monomer units known as:
- (A) Amino acids (B) Nucleosides
(C) Nucleotides (D) Nitrogenous bases
150. There are _____ nitrogenous bases.
- (A) Four (B) Five
(C) Six (D) Three
151. The form of RNA that delivers information from DNA to be used in making a protein is:
- (A) mRNA (B) rRNA
(C) tRNA (D) All of these
152. RNA occurs in:
- (A) Nucleus (B) Cytoplasm
(C) Both (A) and (B) (D) Nucleoplasm
153. The monomer that makes up polysaccharides is:
- (A) Amino acids (B) Glucose
(C) Fatty acids (D) Glycerol
154. Which of these is not a function of lipids?
- (A) Long term energy storage (B) Structures in cells
(C) Sex hormones (D) Enzymes
155. All living things use the same _____ amino acids.
- (A) 4 (B) 20
(C) 100 (D) 64
156. Which of these is not a nucleotide base found in DNA?
- (A) Uracil (B) Adenine
(C) Guanine (D) Thymine
157. ATP consists of the _____, ribose sugar, and phosphate group, PO_4^{2-} plus two other phosphate groups.
- (A) Cytosine base (B) Guanine base
(C) Thymine base (D) Adenine base

- 158. Membrane carbohydrates when linked to lipids are called:**
(A) Sphingolipids (B) Glycolipids
(C) Phospholipids (D) Sterols
- 159. Lactose is present in:**
(A) Sugarcane (B) Fruits
(C) Milk (D) Egg
- 160. A disaccharide that gives two molecules of glucose on hydrolysis is:**
(A) Sucrose (B) Lactose
(C) Maltose (D) None of these
- 161. In sugar cane and sugar beet, the storage product is:**
(A) Maltose (B) Sucrose
(C) Lactose (D) Isomaltose
- 162. One molecule of glucose and one molecule of galactose form:**
(A) Maltose (B) Sucrose
(C) Lactose (D) Isomaltose
- 163. Nucleic acids are related with:**
(A) Respiration (B) Photosynthesis
(C) Heredity (D) None of these
- 164. Waxes form protective coating on:**
(A) Leaves (B) Fruits
(C) Animal's skin (D) All of these
- 165. The four nitrogenous bases which form the code words for DNA language are:**
(A) ACTU (B) UTAC
(C) AGTU (D) AGCT
- 166. DNA and RNA differ in:**
(A) Sugar only (B) Sugar and purines
(C) Sugar and pyrimindines (D) Sugar and phosphate
- 167. A bond formed between carboxylic acid and alcohol is:**
(A) Ester bond (B) Amide bond
(C) Phosphate bond (D) Ionic bond

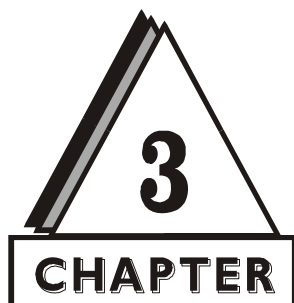
168. When amino acids in a polypeptide chain are arranged in spiral manner, it is called:
- (A) Primary structure (B) Secondary structure
(C) Tertiary structure (D) Quaternary structure
169. The step of protein synthesis in which the information contained specific segment of DNA is copied into RNA is called:
- (A) Transduction (B) Translation
(C) Transformation (D) Transcription
170. Choose the pair of terms that completes this sentence: nucleotides are to _____ as _____ are to proteins.
- (A) Amino acid Polypeptides (B) Genes Enzymes
(C) Nucleic acids Amino acids (D) Polymers Peptides
171. Which of these terms includes all others in the list?
- (A) Nucleic acid (B) Purine
(C) Nucleotide (D) Nitrogenous base
172. The compounds made up of simple repeating isoprenoid units are called:
- (A) Neutral lipids (B) Terpenoids
(C) Waxes (D) All of these
173. The term Protein was coined by:
- (A) Berzelius (B) G.J. Murllder
(C) Bloor (D) T.H. Morgan
174. Water molecule has characteristics of:
- (A) Acid (B) Base
(C) Both acid and base (D) None of these
175. The amount of heat must be absorbed or lost by 1g of that substance to change its temperature by 1°C:
- (A) Specific heat (B) Heat of vaporization
(C) Both (A) and (B) (D) None of these
176. During the conversion of ATP into ADP, energy release is.
- (A) 31.81 KJ / mole (B) 7.3 K.Cal / mole
(C) 61.8 KJ / mole (D) Both (A) and (B)

177. **Molecular formula of Stearin fat is:**
- (A) $C_{57}H_{110}O_6$ (B) $C_{57}H_{98}O_6$
(C) $C_{57}H_{104}O_8$ (D) $C_{57}H_{104}O_6$
178. **The carbohydrate molecule which yield 2 to 10 monosaccharide molecules on hydrolysis are:**
- (A) Polysaccharides (B) Oligosaccharides
(C) Monosaccharides (D) Heterosaccharides
179. **It is estimated that a person of average size contains 16 kg of fat which is equivalent to:**
- (A) 244000 K.Cal of energy (B) 164000 K.Cal of energy
(C) 144000 K.Cal of energy (D) 188000 K.Cal of energy
180. **The four interconnected rings of steroid molecule have:**
- (A) 12 carbons (B) 15 carbons
(C) 16 carbons (D) 17 carbons
181. **ATP is an example of:**
- (A) Mononucleotide (B) Dinucleotide
(C) Polynucleotide (D) None of these
182. **The process of making a polypeptide sequence from the genetic code of mRNA molecule associated with a ribosome is termed as:**
- (A) Transduction (B) Translation
(C) Transformation (D) Transcription
183. **NAD is an example of:**
- (A) Mononucleotide (B) Dinucleotide
(C) Coenzyme (D) Both (B) and (C)

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(A)	3.	(D)	4.	(B)	5.	(B)
6.	(A)	7.	(C)	8.	(A)	9.	(A)	10.	(D)
11.	(A)	12.	(A)	13.	(B)	14.	(A)	15.	(D)
16.	(C)	17.	(B)	18.	(D)	19.	(C)	20.	(A)
21.	(A)	22.	(A)	23.	(B)	24.	(D)	25.	(A)
26.	(C)	27.	(A)	28.	(C)	29.	(D)	30.	(D)
31.	(C)	32.	(C)	33.	(A)	34.	(D)	35.	(D)
36.	(B)	37.	(C)	38.	(D)	39.	(C)	40.	(D)
41.	(A)	42.	(A)	43.	(C)	44.	(B)	45.	(D)
46.	(B)	47.	(A)	48.	(C)	49.	(C)	50.	(C)
51.	(C)	52.	(C)	53.	(A)	54.	(A)	55.	(D)
56.	(C)	57.	(A)	58.	(A)	59.	(B)	60.	(D)
61.	(A)	62.	(A)	63.	(A)	64.	(D)	65.	(C)
66.	(D)	67.	(D)	68.	(B)	69.	(D)	70.	(A)
71.	(C)	72.	(C)	73.	(B)	74.	(B)	75.	(C)
76.	(C)	77.	(A)	78.	(B)	79.	(C)	80.	(A)
81.	(B)	82.	(C)	83.	(B)	84.	(C)	85.	(C)
86.	(C)	87.	(A)	88.	(C)	89.	(A)	90.	(A)
91.	(B)	92.	(D)	93.	(C)	94.	(B)	95.	(B)
96.	(D)	97.	(A)	98.	(B)	99.	(C)	100.	(A)
101.	(C)	102.	(B)	103.	(A)	104.	(B)	105.	(D)
106.	(D)	107.	(D)	108.	(C)	109.	(A)	110.	(A)
111.	(B)	112.	(D)	113.	(A)	114.	(B)	115.	(D)
116.	(D)	117.	(A)	118.	(C)	119.	(B)	120.	(A)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
121.	(B)	122.	(C)	123.	(C)	124.	(D)	125.	(D)
126.	(C)	127.	(B)	128.	(D)	129.	(A)	130.	(A)
131.	(C)	132.	(A)	133.	(B)	134.	(A)	135.	(B)
136.	(B)	137.	(C)	138.	(D)	139.	(B)	140.	(D)
141.	(C)	142.	(B)	143.	(C)	144.	(C)	145.	(D)
146.	(A)	147.	(B)	148.	(D)	149.	(C)	150.	(B)
151.	(A)	152.	(C)	153.	(B)	154.	(D)	155.	(B)
156.	(A)	157.	(D)	158.	(B)	159.	(C)	160.	(C)
161.	(B)	162.	(C)	163.	(C)	164.	(D)	165.	(D)
166.	(C)	167.	(A)	168.	(B)	169.	(D)	170.	(C)
171.	(A)	172.	(B)	173.	(A)	174.	(C)	175.	(A)
176.	(D)	177.	(A)	178.	(B)	179.	(C)	180.	(D)
181.	(A)	182.	(B)	183.	(D)				



ENZYMES

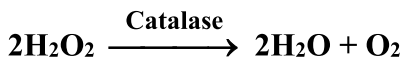
1. The catalytic activity of an enzyme is restricted to its small portion called:
(A) Intermediate (B) Above all
(C) Passive site (D) Active site
2. An activated enzyme made of polypeptide chain and a co-factor is:
(A) Co-enzyme (B) Substrate
(C) Apoenzyme (D) Holoenzyme
3. The rate of reaction of enzyme directly depends upon:
(A) Maximum pH level
(B) Amount of enzyme present at a specific time at unlimited substrate concentration
(C) Nature of substrate
(D) Low temperature
4. Koshland in 1959 proposed the modified form of:
(A) Unit membrane model (B) Reflective index model
(C) Fluid mosaic model (D) Induce fit model
5. The reversible inhibitors usually constitute:
(A) No linkage with enzyme (B) Weak linkage with enzyme
(C) Medium linkage (D) Strong linkage with enzyme
6. The detachable co-factor of an enzyme (if it is an inorganic ion) is called as:
(A) Activator (B) Catalytic
(C) Aqueous medium (D) Apoenzyme

7. **If the non-protein part is covalently bonded to the protein part of an enzyme, it is called as:**
(A) Prosthetic group (B) Catalytic
(C) Activator (D) Optimum
8. **An enzyme with its coenzyme or prosthetic group, removed is called as:**
(A) Apoenzyme (B) Aqueous medium
(C) Activator (D) Prosthetic group
9. **The active site of an enzyme is composed of binding site and:**
(A) Apoenzyme (B) Catalytic site
(C) Prosthetic site (D) Substrate site
10. **Medium required for Enzymes vigorous activity:**
(A) Colloidal (B) Transparent
(C) Aqueous (D) Gel
11. **Every enzyme functions effectively at:**
(A) 9.00 pH (B) Optimum pH
(C) 2.00 pH (D) 7.00 pH
12. **Almost all enzymes are:**
(A) Fibrous proteins (B) Globular proteins
(C) Triangular proteins (D) All of the above
13. **The optimum pH value for pancreatic lipase is:**
(A) 8.00 (B) 10.00
(C) 7.00 (D) 9.00
14. **The enzymes involved in the cellular respiration in eukaryotes are found in:**
(A) Chloroplast (B) Aqueous medium
(C) Mitochondria (D) Nucleoplasm
15. **Even traces of enzymes can bring about change in large amount of:**
(A) Catalytic (B) Activator
(C) Substrate (D) Optimum
16. **Co-enzymes:**
(A) Globular protein (B) Oral cavity
(C) Vitamin (D) Co-factors

17. **Salivary amylase:**
(A) Oral cavity (B) Co-factors
(C) Vitamin (D) Globular protein
18. **Metal ions:**
(A) Vitamin (B) Oral cavity
(C) Globular protein (D) Co-factors
19. **Amino acids:**
(A) Globular protein (B) Oral cavity
(C) Chloroplast (D) Vitamin
20. **Photosynthesis:**
(A) Oral cavity (B) Vitamin
(C) Globular protein (D) Chloroplast
21. **Emil Fischer:**
(A) Cyanide (B) Lock and key model
(C) Temperature (D) Specific in action
22. **Inhibitors:**
(A) Temperature (B) Cyanide
(C) Lock and key model (D) Specific in action
23. **Activation energy:**
(A) Temperature (B) Cyanide
(C) Lock and key model (D) Specific in action
24. **Enzymes:**
(A) Temperature (B) Specific in action
(C) Reversible inhibitors (D) Cyanide
25. **Competitive:**
(A) Reversible inhibitors (B) Lock and key model
(C) Specific in action (D) Temperature
26. **The catalytic activity of an enzyme is restricted to its small portion called:**
(A) Active site (B) Passive site
(C) Allosteric site (D) All Choices are correct

27. An activated enzyme made of polypeptide chain and a co-factor is:
(A) Coenzyme (B) Substrate
(C) Apoenzyme (D) Holoenzyme
28. Koshland in 1959 proposed:
(A) Fluid mosaic model (B) Induce fit model
(C) Lock and key model (D) Reflective index model
29. Chemical nature of enzymes is:
(A) Lipids (B) Steroids
(C) Proteinaceous (D) All (A), (B) and (C)
30. Who proposed “lock and key” model to study enzyme-substrate interaction?
(A) Koshland (1959) (B) Wilhelm Kuhne (1878)
(C) Fischer (1898) (D) None of these
31. In human body the optimum temperature for enzymatic activities is:
(A) 37°C (B) 40°C
(C) 25°C (D) 30°C
32. Optimum pH value for pepsin is:
(A) 5.5 (B) 7.4
(C) 4.1 (D) 1.4
33. Competitive inhibitors stop an enzyme from working by:
(A) Changing the shape of the enzyme
(B) Merging with the substrate instead
(C) Blocking the active site of the enzyme
(D) Combining with the product of the reaction
34. The enzymes are sensitive to:
(A) Changes in pH (B) Changes in temperature
(C) Both (A) and (B) (D) None of these
35. Enzyme B requires Zn^{2+} in order to catalyze the conversion of substrate X. The zinc is best identified as:
(A) Coenzyme (B) Activator
(C) Substrate (D) Product

36. The enzyme minus its coenzyme is referred to as the:
- (A) Iso-enzyme (B) Metalloenzyme
(C) Apoenzyme (D) All of these
37. The “lock and key” model of enzyme action illustrates that a particular enzyme molecule:
- (A) Forms a permanent enzyme-substrate complex
(B) May be destroyed and resynthesized several times
(C) Interacts with a specific type of substrate molecule
(D) Reacts at identical rates under all conditions
38. Consider this reaction. $A + B \longrightarrow C + D + \text{energy}$.
- (A) This reaction is exergonic
(B) An enzyme could still speed the reaction
(C) A and B are reactants; C and D are products
(D) All of these are correct
39. An inhibitor that changes the overall shape and chemistry of an enzyme is known as:
- (A) Auto-steric inhibitor (B) Competitive inhibitor
(C) Steric inhibitor (D) Noncompetitive inhibitor
40. Non-protein components of enzymes are known as:
- (A) Coenzymes (B) Activators
(C) Cofactors (D) All (A), (B) and (C)
41. The reaction below occurs within the cells to prevent the accumulation of hydrogen peroxide. In this reaction, catalase functions as an:



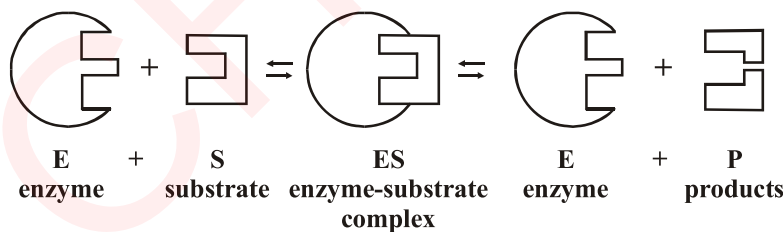
- (A) Enzyme in the breakdown of hydrogen peroxide
(B) Enzyme in the synthesis of hydrogen peroxide
(C) Emulsifier in the digestion of hydrogen peroxide
(D) Indicator in the detection of hydrogen peroxide

42. An enzyme is generally named by adding _____ to the end of the name of the _____.
- (A) “-ase”. coenzyme (B) “-ase”. cell in which it is found
(C) “-ose”. substrate (D) “-ase”. substrate
43. The minimum amount of energy needed for a process to occur is called the:
- (A) Minimal energy theory (B) Process energy
(C) Kinetic energy (D) Activation energy
44. A student conducts an experiment to test the efficiency of a certain enzyme. Which would probably not result in a change in the enzyme's efficiency?
- (A) Adding an acidic solution to the setup
(B) Adding more substrate but not enzyme
(C) Increasing temperature of solution
(D) All (A), (B) and (C) change enzyme's efficiency
45. Enzymes function as:
- (A) Organic catalysts (B) Inorganic catalysts
(C) Inhibitors (D) All of these
46. A catalyst is a chemical involved in, but not _____ by, a chemical reaction.
- (A) Supported (B) Changed
(C) Controlled (D) All of these
47. Many enzymes function by _____ the activation energy of reactions.
- (A) Increasing (B) Promoting
(C) Lowering (D) Both (A) and (B)
48. An uncatalysed reaction requires a:
- (A) Higher activation energy (B) Lower activation energy
(C) Balanced activation energy (D) All of these
49. The binding of the substrate to the enzyme alters the structure of the enzyme:
- (A) Lock and key hypothesis (B) Induced fit hypothesis
(C) Fischer's hypothesis (D) D.D. Wood's hypothesis
50. They are non-protein organic molecules bound to enzymes near the active site:
- (A) Activators (B) Coenzymes
(C) Holoenzymes (D) All of these

51. The first step in any reaction catalysed by an enzyme is the formation of a specific association between the molecules called:
- (A) Enzyme-product complex (B) Enzyme-intermediate complex
(C) Enzyme-substrate complex (D) None of these
52. The function of competitive inhibitors is defined by their ability to interact or bind to:
- (A) The active site of an enzyme (B) Regulatory sub-units of an enzyme
(C) Non-competitive inhibitor (D) Enzyme cofactors
53. If an enzyme solution is saturated with substrate, the most effective way to obtain an even faster yield of products would be:
- (A) Add more of the enzymes (B) Add more substrate
(C) Add an allosteric inhibitor (D) Add a non-competitive inhibitor
54. When the final product of a metabolic pathway turn off the first step of metabolic pathway it is:
- (A) Positive feed back (B) Negative feed back
(C) Competitive feed back (D) Both (A) and (C)
55. When the inhibitory chemical, which does not have to resemble the substrate, binds to the enzyme other than at the active site is called:
- (A) Noncompetitive Inhibition (B) Competitive Inhibition
(C) Uncatalysed reaction (D) All (A), (B) and (C)
56. Which one is not attribute of enzyme?
- (A) Specific in nature (B) Protein in chemistry
(C) Consumed in reaction (D) Increases rate of reaction
57. Which one inactivates an enzyme by indirectly changing the shape of the active site of an enzyme?
- (A) Non-competitive inhibitor (B) Competitive inhibitor
(C) Coenzyme (D) Activator
58. The enzymes are classified into:
- (A) Five groups (B) Three groups
(C) Six groups (D) Four groups
59. Non-proteinaceous part of holoenzyme is:
- (A) Prosthetic group (B) Apoenzyme
(C) Tubulin (D) None of these

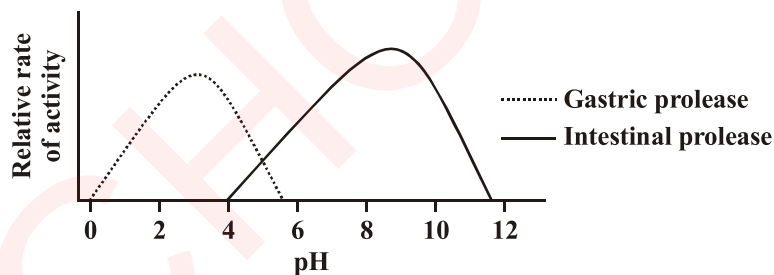
60. Enzymes are highly specific for a given substrate which is due to the shape of their:
- (A) Active site (B) Allosteric site
(C) Non-competitive site (D) None of these
61. The name enzyme was suggested in 1878 by the German physiologist:
- (A) Wilhelm Kuhne (B) Koshland
(C) Fischer (D) Paul Filder
62. Proteinaceous part of holoenzyme is:
- (A) Prosthetic group (B) Apoenzyme
(C) Lecithin (D) None of these
63. The “lock and key hypothesis” attempts to explain the mechanism of:
- (A) Vacuole formation (B) Pinocytosis
(C) Sharing of electrons (D) Enzyme specificity
64. An enzyme that hydrolyzes protein will not act upon starch. This fact is an indication that enzymes are:
- (A) Hydrolytic (B) Specific
(C) Catalytic (D) Synthetic
65. The site where enzyme catalyzed reaction takes place is called:
- (A) Active site (B) Allosteric site
(C) Denatures site (D) Dead site
66. What is a cofactor?
- (A) Inorganic ions (B) Organic molecules
(C) Both (A) and (B) (D) None of the above
67. Mg^{+2} is an inorganic activator for the enzyme:
- (A) Phosphatase (B) Carbonic anhydrase
(C) Enterokinase (D) Amylase
68. Zn^{+2} is an inorganic activator for enzyme:
- (A) Carbonic anhydrase (B) Phosphatase
(C) Chymotrypsin (D) Maltase

69. Which antibiotic blocks the active site of an enzyme that many bacteria used to make cell-walls?
- (A) Amphotericin (B) Gentamicin
(C) Penicillin (D) Cephalosporin
70. DDT and Parathion are inhibitors of key enzymes in:
- (A) Nervous system (B) Respiratory system
(C) Digestive system (D) Circulatory system
71. At high temperature the rate of enzyme action decreases because the increased heat:
- (A) Changes the pH of the system
(B) Alters the active site of the enzyme
(C) Neutralize acids and bases in the system
(D) Increases the concentration of enzymes
72. Which of the following enzymes would digest a fat?
- (A) Sucrase (B) Protease
(C) Ligase (D) Lipase
73. In the lock and key model of enzyme action, the part of the enzyme that recognizes the substrate is known as the:
- (A) Enzyme-substrate complex (B) Product
(C) Enzyme-product complex (D) Active site
74. Which model of enzyme action is represented in this diagram?



- (A) Fluid mosaic model (B) Induce fit model
(C) Lock and key model (D) Reflective index model
75. A certain enzyme will hydrolyze egg white but not starch. Which statement best explains this observation?
- (A) Starch molecules are too large to be hydrolyzed
(B) Enzyme molecules are specific in their actions
(C) Egg white acts as a coenzyme for hydrolysis
(D) Starch is composed of amino acids

76. At about 0°C , most enzymes are:
- (A) Inactive (B) Active
(C) Destroyed (D) Replicated
77. Vitamins are essential for the survival of organisms because vitamins usually function as:
- (A) Substrates (B) Nucleic acids
(C) Co-enzymes (D) Nucleosides
78. When a molecule binds to an area of an enzyme that is not the active site, and changes the shape of the enzyme so that it no longer can work, this is called:
- (A) Denaturation (B) Competitive inhibition
(C) Noncompetitive inhibition (D) Substrate delocation
79. What is a coenzyme?
- (A) Inorganic ion (B) Organic molecule
(C) Both (A) and (B) (D) None of these
80. Which statement best expresses the information represented in the graph shown?



- (A) The action of enzymes varies with pH
(B) A pH of 7 provides the optimum environment for digestive enzymes
(C) Gastric juice is active at a pH extending from 0 to 12
(D) Acids have a pH greater than 7
81. Which type of inhibitor is shown in this diagram?
- (A) Competitive (B) Non-competitive
(C) Allosteric (D) Both (B) and (C)

82. Which enzyme represents an enzyme functioning in this reaction?

(A) E

(B) C

(C) B

(D) A

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(D)	3.	(B)	4.	(D)	5.	(B)
6.	(A)	7.	(A)	8.	(A)	9.	(B)	10.	(C)
11.	(B)	12.	(B)	13.	(D)	14.	(C)	15.	(C)
16.	(C)	17.	(A)	18.	(D)	19.	(A)	20.	(D)
21.	(B)	22.	(B)	23.	(A)	24.	(B)	25.	(A)
26.	(A)	27.	(D)	28.	(B)	29.	(C)	30.	(C)
31.	(A)	32.	(D)	33.	(C)	34.	(C)	35.	(B)
36.	(C)	37.	(C)	38.	(D)	39.	(D)	40.	(D)
41.	(A)	42.	(D)	43.	(D)	44.	(D)	45.	(A)
46.	(B)	47.	(C)	48.	(A)	49.	(B)	50.	(B)
51.	(C)	52.	(A)	53.	(A)	54.	(B)	55.	(A)
56.	(C)	57.	(A)	58.	(C)	59.	(A)	60.	(A)
61.	(A)	62.	(B)	63.	(D)	64.	(B)	65.	(A)
66.	(C)	67.	(A)	68.	(A)	69.	(C)	70.	(A)
71.	(B)	72.	(D)	73.	(D)	74.	(C)	75.	(B)
76.	(A)	77.	(C)	78.	(C)	79.	(B)	80.	(A)
81.	(D)	82.	(C)						



4 CHAPTER

THE CELL

1. Which one of following is true about chloroplast?
(A) It is underground part (B) It helps in pollination
(C) Self replicating organelle (D) Involve in Lipid synthesis
2. One of the following is not double membranous structure:
(A) Mitochondrion (B) Vacuole
(C) Chloroplast (D) Nucleus
3. Tay Sach's disease is because of:
(A) Accumulation of proteins (B) Accumulation of glycogen
(C) Accumulation of lipids (D) Accumulation of vitamins
4. Modification of proteins and lipids as glycopeptides and lipo-proteins occurs in:
(A) Ribosomes (B) Golgi apparatus
(C) SER (D) All (A), (B) and (C)
5. Ribosomes are chemically composed of:
(A) Protein (B) Only DNA
(C) RNA (D) Both (A) + (C)
6. Detoxification of harmful drugs is the function:
(A) RER (B) SER
(C) Both (A) and (B) (D) None of the above
7. Which type of cell would probably be most appropriate to study chloroplasts?
(A) Conducting cell (B) Photosynthetic cell
(C) Pericycle cell (D) All options are correct

8. **Cell wall consists of:**
(A) One main layer (B) Two main layers
(C) Three main layers (D) Four main layers
9. **Leucoplasts are found in:**
(A) Petals (B) Ripened fruits
(C) Underground parts (D) Leaves
10. **The intake of solid food by infloding of cell membrane is called:**
(A) Exocytosis (B) Pinocytosis
(C) Phagocytosis (D) Both (B) and (C)
11. **The structure within a cell that distinguishes the cell as being eukaryotic, and prokaryotic is:**
(A) Ribosomes (B) Cell membrane
(C) Cell wall (D) Nucleus
12. **Microtubules consist of helically stacked molecules of the protein:**
(A) Actin (B) Myosin
(C) Keratin (D) Tubulin
13. **The microfilaments are composed of:**
(A) Actin protein (B) Gelatin protein
(C) Keratin protein (D) Tubulin protein
14. **Lysosomes have:**
(A) Single-layered membrane (B) Double-layered membrane
(C) Three-layered membrane (D) No membrane
15. **Which of the following are regularly assembled and disassembled during cell cycle?**
(A) Microtubules (B) Intermediate filaments
(C) Both (A) and (B) (D) None of these
16. **Plant cell wall:**
(A) Provide rigidity to the cell (B) Maintains cell shape
(C) Prevents expansion of cell (D) All (A), (B) and (C)

17. In which organelle following reaction takes place?
 $6\text{CO}_2 + 6\text{H}_2\text{O} + \text{Energy (from sunlight)} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
(A) Mitochondrion (B) Peroxisome
(C) Chloroplast (D) Glyoxysome
18. SER is abundant in cells that are involved in:
(A) Lipid metabolism (B) Protein metabolism
(C) Glucose metabolism (D) Calcium metabolism
19. The transport vesicles from the Endoplasmic Reticulum (ER) fuse with the _____ of the Golgi apparatus.
(A) Cis face (B) Trans face
(C) Coated face (D) Both (A) and (B)
20. The door to your house is like the _____ of a cell membrane.
(A) Phospholipid bilayer (B) Integral protein
(C) Recognition protein (D) Peripheral protein
21. A semi permeable membrane is stretched across a chamber filled with water. The membrane is only permeable to water. 60 mg of salt is added to the left side of the chamber. Which of the following will happen?
(A) Water will move toward the right side
(B) Salt will move toward the right side
(C) Water will move toward the left side
(D) Salt will move toward the left side
22. Dye injected into a plant cell might be able to enter an adjacent cell through a:
(A) Tight junction (B) Microtubule
(C) Desmosome (D) Plasmodesma
23. What are the two faces of the Golgi body?
(A) Funny face and goofy face (B) Coated face and non-coated face
(C) Saving face and loosing face (D) Cis face and Trans face
24. Adjacent plant cells are “cemented” together by:
(A) Their primary walls (B) Their secondary walls
(C) A middle lamella (D) Plasmodesmata

25. What is a microscope's ability to distinguish between separate objects that are close together?
- (A) Magnification (B) Contrast
(C) Resolving power (D) Scanning power
26. What is the power of the objective lens of a microscope if an eyepiece of power 10x is used and the total magnification of the object is 40x?
- (A) 4 (B) 10
(C) 40 (D) 400
27. Within chloroplasts, light is captured by:
- (A) Grana within cisternae (B) Thylakoids within grana
(C) Cisternae within grana (D) Grana within thylakoids
28. If a gene mutation prevents formation of an enzyme normally used by a lysosomes, a disease may result known as:
- (A) Lysosomal abstracted disease (B) Lysosomal secretory disease
(C) Lysosomal storage disease (D) All (A), (B) and (C)
29. Sodium ions are “pumped” from a region of lower concentration to a region of higher concentration in the nerve cells of humans. This process is an example of:
- (A) Diffusion (B) Passive transport
(C) Osmosis (D) Active transport
30. The diagram below shows the structure of chloroplast. The structure labeled as x is:
- (A) Granum (B) Stroma
(C) Frets (D) Lamella

31. Which of the following correctly matches an organelle with its function?
- (A) Mitochondrion ... photosynthesis
 - (B) Nucleus ... cellular respiration
 - (C) Ribosome ... manufacture of lipids
 - (D) Central vacuole ... storage
32. By which of the following can movement of materials across animal cell membranes be accomplished?
- I. Active transport, II. Diffusion, III. Pinocytosis**
- (A) I only
 - (B) II only
 - (C) I and II only
 - (D) All I, II, and III
33. Hydrogen peroxide degradation in a cell is a function of:
- (A) Ribosomes
 - (B) Mitochondria
 - (C) Peroxisomes
 - (D) Glyoxisomes
34. Cells are commonly studied in the lab. If you were examining various unlabelled slides of cells under the microscope, you could tell if the cell was from a plant by the presence of:
- (A) A nucleus
 - (B) A cell membrane
 - (C) Cytoplasm
 - (D) A cell wall
35. Ribosomes are constructed in the:
- (A) Endoplasmic reticulum
 - (B) Nucleoid
 - (C) Nucleolus
 - (D) Nuclear pore
36. Each chloroplast encloses a system of flattened, membranous sacs called:
- (A) Cristae
 - (B) Thylakoids
 - (C) Plastids
 - (D) Cisternae
37. Which one of the following is an exception to cell theory?
- (A) Bacteria
 - (B) Viruses
 - (C) Protists
 - (D) Protozoans
38. The site of enzymes directing the metabolic oxidation (respiration), ATP synthesis and considered as power house of cell are:
- (A) Lysosomes
 - (B) Microsomes
 - (C) Mitochondria
 - (D) Golgi apparatus

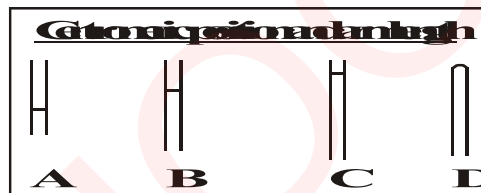
39. Dictyosome is also known as:
- (A) Golgi body (B) Ribosome
(C) Lysosome (D) Peroxisome
40. Biochemically the ribosome consists of _____ and some 50 structural _____.
- (A) mRNA, carbohydrates (B) tRNA, lipids
(C) mRNA, proteins (D) rRNA, proteins
41. It is a mesh of interconnected membranes that serve a function involving protein synthesis and transport.
- (A) Endoplasmic reticulum (B) Cytoskeleton
(C) Golgi apparatus (D) Both (A) and (B)
42. Plant cells contain the following 3 things not found in animal cells:
- (A) Plastids / Chlorophyll / Membrane
(B) Chloroplast / Cell wall / Golgi body
(C) Plastids / Cell wall / Chlorophyll
(D) Mitochondria / Cell wall / Nucleus
43. The largest organelle in a mature living plant cell is the:
- (A) Chloroplast (B) Nucleus
(C) Central vacuole (D) Dictyosomes
44. Which of the following structure-function pairs is mismatched?
- (A) Lysosome-intracellular digestion
(B) Golgi body-secretion of cell products
(C) Ribosome-protein synthesis
(D) Glyoxysome-detoxification
45. The three-dimensional network of protein filaments within the cytoplasm of eukaryotic cells is called the:
- (A) Endoplasmic reticulum (B) Golgi apparatus
(C) Cytoskeleton (D) None of these
46. Which of the following is not a membranous organelle?
- (A) Lysosomes (B) Peroxisomes
(C) Centrioles (D) Mitochondria

47. A cell that is missing lysosomes would have difficulty doing what?
- (A) Digesting food (B) Storing energy
(C) Packaging proteins (D) Moving cytoplasm
48. Which of the following cell part is described as a “fluid mosaic”?
- (A) Chloroplast (B) Vacuole
(C) Cell membrane (D) Endoplasmic reticulum
49. What part of the cell serves as the intracellular highway?
- (A) Endoplasmic reticulum (B) Golgi apparatus
(C) Cell membrane (D) Mitochondria
50. Which of the following would you not find in a bacterial cell?
- (A) DNA (B) Cell membrane
(C) Golgi apparatus (D) Ribosomes
51. Somatic cells of a human have _____ chromosomes and are called:
- (A) 10, haploid (B) 92, diploid
(C) 23, haploid (D) 46, diploid
52. Each chromosome consists of two identical:
- (A) Genes (B) Nuclei
(C) Chromatids (D) Bases
53. An animal has 80 chromosomes in its gametes, how many chromosomes would you expect to find in this animal's brain cells?
- (A) 120 (B) 240
(C) 40 (D) 160
54. The length of each mitochondrion is about:
- (A) 1.0 μm (B) 0.2 μm
(C) 10 μm (D) 2.0 μm
55. Isolation of cellular components to determine their chemical composition is called:
- (A) Cell differentiation (B) Chromatography
(C) Cell fractionation (D) All of these

56. According to mosaic model by Singer and Nicholson plasma membrane is composed of:
- (A) Phospholipids (B) Extrinsic proteins
(C) Intrinsic proteins (D) All of these
57. Robert Brown is well known for his discovery of:
- (A) Chloroplast (B) Photometer
(C) Nucleus (D) Nucleolus
58. Which organelle releases oxygen?
- (A) Mitochondrion (B) Chloroplast
(C) Glyoxysome (D) Both (A) and (B)
59. Endoskeleton of a cell is made up of:
- (A) Microtubules (B) Microfilaments
(C) Intermediate filaments (D) All of these
60. Ribosomes are attached with ER by:
- (A) Larger subunit (B) Smaller subunit
(C) Na^+ ions (D) None of these
61. The outer most layer of cell wall is:
- (A) Primary wall (B) Secondary wall
(C) Middle lamella (D) Plasma membrane
62. Infoldings of inner membrane in mitochondria are called:
- (A) Grana (B) Thylakoids
(C) Cristae (D) Frets
63. Chromosome with equal arms is called:
- (A) Metacentric (B) Sub-metacentric
(C) Acrocentric (D) Telocentric
64. A chromosome with the centromere located very close to one end so that the shorter arm is very small is termed as:
- (A) Telocentric (B) Sub-telocentric
(C) Acrocentric (D) Both (B) and (C)

65. The matrix surrounding the grana in the inner membrane of chloroplasts is:
- (A) Cytosol (B) Frets
(C) Stroma (D) Inter-granal lamellae
66. A chromosome whose centromere lies at one end:
- (A) Sum-metacentric (B) Metacentric
(C) Telocentric (D) Acrocentric
67. Lysosomes arise from:
- (A) Nucleus (B) Endoplasmic reticulum
(C) Golgi apparatus (D) Cell membrane
68. The primary structural components of centrioles are:
- (A) Microtubules (B) Microfilaments
(C) Intermediate filaments (D) Basal bodies
69. The process of self-digestion of selective non-functional organelles by a cell through the action of enzymes originating within the cell is referred to as:
- (A) Pinocytosis (B) Endocytosis
(C) Autophagy (D) Cytotoxicity
70. "Protein's icebergs in a sea of lipids" is stated by:
- (A) Lamellar model (B) Unit-membrane model
(C) Fluid-mosaic model (D) Micellar model
71. The chloroplasts develop from:
- (A) ER (B) Golgi complex
(C) Nuclear membrane (D) Proplastids
72. Peroxisomes and Glyoxisomes are:
- (A) Energy transducers (B) Membrane-less organelles
(C) Micro bodies (D) Basal bodies
73. These are involved in conversion of fats to carbohydrates by oxidation of fats:
- (A) Peroxisomes (B) Microsomes
(C) Glyoxisomes (D) Phagosomes

74. **Xanthophyll is a pigment having:**
(A) Yellow colour (B) Green colour
(C) Red colour (D) Blue colour
75. **The covering of vacuole is known as:**
(A) Chromoplast (B) Chloroplast
(C) Amyloplast (D) Tonoplast
76. **Insulin is secreted from cells by a process called:**
(A) Endocytosis (B) Pinocytosis
(C) Phagocytosis (D) Exocytosis
77. _____ **increases size of an object.**
(A) Magnification (B) Resolution
(C) Resolving power (D) Contrast
78. **The chromosome “B” in this diagram is:**



- (A) Metacentric (B) Sub-metacentric
(C) Acrocentric (D) Telocentric
79. **Select the correct for label “B” in this diagram:**

- (A) Endoplasmic reticulum (B) Peroxisome
(C) Golgi apparatus (D) Glyoxysome

80. Which of the following organelles or structures is found in both plant and animal cells?
- (A) Central vacuole (B) Tonoplast
(C) Cell wall (D) Peroxisomes
81. Erythrocytes have:
- (A) Only 5 or 6 pores/nucleus (B) Only 3 or 4 pores/nucleus
(C) Only 2 or 4 pores/nucleus (D) Only 4 or 5 pores/nucleus
82. Chimpanzee has:
- (A) 44 chromosomes (B) 47 chromosomes
(C) 48 chromosomes (D) 46 chromosomes
83. Which statement about nucleolus is not true?
- (A) Without membranous boundary (B) Hereditary center
(C) Synthesize site for rRNA (D) Composed of two regions
84. Which one of following is true about chloroplast?
- (A) Self replicating organelles
(B) Found in underground parts of plants
(C) Involve in protein synthesis
(D) Help in pollination and dispersal of seeds.
85. One of the following is not double membranous structure:
- (A) Chloroplast (B) Nucleus
(C) Mitochondria (D) Vacuole
86. Tay Sach's disease is because of:
- (A) Accumulation of glycogen (B) Accumulation of vitamins
(C) Accumulation of lipids (D) Accumulation of proteins
87. Lysosomal sacs are rich in:
- (A) Acid Phosphatase and hydrolytic enzymes
(B) None of above
(C) Acid oxidase and hydrolytic enzymes
(D) Reductase and oxidases only.

- 88. Modification of proteins and lipids as glycopeptides and glycoproteins occur in:**
(A) Golgi apparatus (B) Ribosomes
(C) SER (D) All of above
- 89. Ribosomes are chemically composed of:**
(A) Only Protein (B) Only DNA
(C) Only RNA (D) Both (A) + (C)
- 90. Golgi apparatus was discovered by Golgi in:**
(A) 1889 (B) 1897
(C) 1896 (D) 1898
- 91. Detoxification of harmful drugs is the function of:**
(A) RER (B) SER
(C) (A) and (B) both (D) None of above
- 92. Growth and development of plant is the function of:**
(A) Parenchymatous cells (B) Chlorenchymatous cells
(C) Meristematic cells (D) Sclerenchymatous cells
- 93. Omnis callula e cellula is hypothesized by:**
(A) Schleiden (B) Lorenz Oken
(C) Louis pasture (D) Rudolph Virchow
- 94. Mitochondria are composed of:**
(A) Proteins only
(B) DNA only
(C) Enzyme, coenzyme, inorganic and organic salts
(D) All of above
- 95. Which type of cell would probably be most appropriate to study chloroplasts?**
(A) Conducting cell (B) Epidermal cell
(C) Photosynthetic cell (D) None of above
- 96. Robert Hooke in 1665 reported his work about cell in his famous publication:**
(A) Insectia (B) Virology
(C) Micrographia (D) Ecology

97. Who reported the presence of nucleus in the cell.
- (A) Robert Hook (B) Robert Brown
(C) Rudolph Virchow (D) Lorenz Oken
98. In a typical compound microscope the resolution is:
- (A) 4 μm (B) 20 μm
(C) 2 μm (D) 60 μm
99. Various parts of cells are separated by:
- (A) Passive transport (B) Density gradient centrifugation
(C) Active transport (D) Homogenization
100. Cell membrane is chemically composed of lipids and:
- (A) Phagocytosis (B) Protoplasm
(C) Active transport (D) Protein
101. The movement of material, requires energy is called:
- (A) Active transport (B) Osmosis
(C) Passive transport (D) Diffusion
102. The intake of solid food by infloding of cell membrane is called:
- (A) Chitin (B) Protein
(C) Phagocytosis (D) Protoplasm
103. Cell wall is secreted by:
- (A) Phagocytosis (B) Protoplasm
(C) Chitin (D) Polysomes
104. Fungal cell wall contains:
- (A) Chitin (B) Polysomes
(C) Cytosole (D) Cisternae
105. The soluble part of cytoplasm is:
- (A) Cytosole (B) Polysomes
(C) Cisternae (D) Chitin
106. The most important function of cytoplasm for vital chemicals is to act as:
- (A) Activity site (B) Store house
(C) Wastes (D) None of the above

- 107. The E.R. material is separated from cytoplasmic material by spherical or tubular membranes, called:**
- (A) Chitin (B) Cytosole
(C) Cisternae (D) Protoplasm
- 108. A group of ribosomes attached to m.R.N.A. are known as:**
- (A) Phagocytosis (B) Protein
(C) Protoplasm (D) Polysomes
- 109. The eukaryotic larger sub unit sediments at:**
- (A) 60S (B) 50S
(C) 70S (D) 40S
- 110. Ribosomes are synthesized in:**
- (A) Nucleolus (B) Polysomes
(C) Cisternae (D) Active transport
- 111. The factory for protein synthesis is:**
- (A) Store house (B) Ribosomes
(C) Cisternae (D) Phagocytosis
- 112. The cisternae with associated vericles is called:**
- (A) Glyoxisomes (B) Cisternae
(C) Golgi complex (D) Lysosomes
- 113. Which one is concerned with cell secretion:**
- (A) Lysosomes (B) Golgi complex
(C) Intermediate filament (D) Plant seedling
- 114. Phagocytosis, autophagy and extracellular digestion are the functions of:**
- (A) Lysosomes (D) Exterior
(C) Intermediate filament (D) Plant seedling
- 115. Peroxisomes, in diameter, are approximately:**
- (A) 0.5 μm (B) 1.5 μm
(C) 2.00 μm (D) 1.00 μm
- 116. Glyoxisomes are most abundantly found in:**
- (A) Golgi complex (B) Ribosomes
(C) Actin (D) Plant seedling

- 117. Rigidity of leaves and younger parts of plant is contributed by:**
(A) Microtubules (B) Mitochondria
(C) Actin (D) Glyoxisomes
- 118. Long, unbranched, slender tubulin protein structure is:**
(A) Lysosomes (B) Microtubules
(C) Mitochondria (D) Nucleolus
- 119. Micro filaments are composed of contractile _____ protein.**
(A) Intensor (B) Exterior
(C) Actin (D) Ribosomal
- 120. Maintenance of cell shape is the role of:**
(A) Cristae (B) Microtubules
(C) Glyoxisomes (D) Intermediate filament
- 121. In animal cell, two centrioles located near the _____ of nucleus.**
(A) Exterior (B) Nuclear membrane
(C) Nuclear pore (D) Nucleolus
- 122. Which organelle is known as power house of cell?**
(A) Chloroplast (B) Glyoxisome
(C) Mitochondria (D) Microtubules
- 123. Mitochondrial infolds are called:**
(A) Cisternae (B) Cristae
(C) Matrix (D) Grana
- 124. The inner surface of crystal in mitochondrial matrix has small knob like structure known as:**
(A) Cisternae (B) Cristae
(C) Grana (D) F₁ particles
- 125. Membranes bounded, mostly pigmented bodies in cytoplasm of plants cells only are:**
(A) Lysosomes (B) Cristae
(C) Ribosomes (D) Plastids

- 126. Under electron microscope, a chloroplast shown three main components, the envelope, the stroma and the:**
- (A) Thylakoid (B) F_1 particles
(C) Granum (D) Centrosome.
- 127. On an average, there are 50 or more thylakoids piled to form one:**
- (A) Granum (B) Centrosome
(C) Centrosome. (D) Multinucleate
- 128. Grana is the site for:**
- (A) Binary Fission (B) Dark reaction
(C) Centrosome (D) Light reaction
- 129. A cell with many nucleus is called:**
- (A) Nucleoplasm (B) A nucleate
(C) Multinucleate (D) Binucleate
- 130. The soluble sap of nucleus is called:**
- (A) Cytoplasm (B) Nucleoplasm
(C) Protoplasm (D) Protoplast
- 131. Chromatids are held together at:**
- (A) Centrosome (B) Loci
(C) Centromere (D) None of the above
- 132. The diploid number of potato is:**
- (A) 41 (B) 42
(C) 48 (D) 43
- 133. The Haploid chromosomal number of human sperms and eggs is:**
- (A) 22 (B) 23
(C) 21 (D) 24
- 134. Prokaryotic cell wall is composed of:**
- (A) Lignin (B) Chitin
(C) Polysaccharide (D) Peptidoglycan or murein
- 135. Prokaryotes divided by:**
- (A) Binary Fission (B) Spores
(C) Mitosis (D) Meiosis

- 136. Contrary idea to abiogenesis was proposed by:**
(A) Robert Hook (B) Robert Brown
(C) Rudolph virchow (D) Lorenz Oken
- 137. August weismann:**
(A) 1885 (B) Rudolph virchow
(C) Drosophila melanogaster (D) 1880
- 138. 1805:**
(A) Lorenz Oken (B) Drosophila melanogaster
(C) Streaming movement (D) Rudolph virchow
- 139. Cytoplasm:**
(A) Streaming movement (B) Rudolph virchow
(C) Lorenz Oken (D) Drosophila melanogaster
- 140. Fruit fly:**
(A) Drosophila melanogaster (B) Streaming movement
(C) Rudolph virchow (D) Lorenz Oken
- 141. Phloem cell:**
(A) Lysosomes (B) Translocation of food
(C) Nerve cells (D) Golgi Apparatus
- 142. Plasma membrane:**
(A) Lysosomes (B) Differentially permeable
(C) Golgi apparatus (D) Nerve cells
- 143. De-duve (1949):**
(A) Nerve cells (B) Differentially permeable
(C) Golgi apparatus (D) Lysosomes
- 144. Conduction of impulse:**
(A) Differentially permeable (B) Nerve cells
(C) E.R. (D) Translocation of food
- 145. Forming face:**
(A) Translocation of food (B) Golgi Apparatus
(C) Lysosomes (D) Nerve cells

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(B)	3.	(C)	4.	(B)	5.	(D)
6.	(B)	7.	(B)	8.	(C)	9.	(C)	10.	(C)
11.	(D)	12.	(D)	13.	(A)	14.	(A)	15.	(A)
16.	(D)	17.	(C)	18.	(A)	19.	(A)	20.	(B)
21.	(C)	22.	(D)	23.	(D)	24.	(C)	25.	(C)
26.	(A)	27.	(B)	28.	(C)	29.	(D)	30.	(A)
31.	(D)	32.	(D)	33.	(C)	34.	(D)	35.	(C)
36.	(B)	37.	(B)	38.	(C)	39.	(A)	40.	(D)
41.	(A)	42.	(C)	43.	(C)	44.	(D)	45.	(C)
46.	(C)	47.	(A)	48.	(C)	49.	(A)	50.	(C)
51.	(D)	52.	(C)	53.	(D)	54.	(C)	55.	(C)
56.	(D)	57.	(C)	58.	(B)	59.	(D)	60.	(A)
61.	(C)	62.	(C)	63.	(A)	64.	(D)	65.	(C)
66.	(C)	67.	(C)	68.	(A)	69.	(C)	70.	(C)
71.	(D)	72.	(C)	73.	(C)	74.	(A)	75.	(D)
76.	(D)	77.	(A)	78.	(B)	79.	(C)	80.	(D)
81.	(B)	82.	(C)	83.	(B)	84.	(A)	85.	(D)
86.	(C)	87.	(A)	88.	(A)	89.	(C)	90.	(D)
91.	(D)	92.	(A)	93.	(D)	94.	(B)	95.	(C)
96.	(C)	97.	(B)	98.	(C)	99.	(B)	100.	(D)
101.	(A)	102.	(C)	103.	(B)	104.	(A)	105.	(A)
106.	(A)	107.	(C)	108.	(D)	109.	(A)	110.	(A)
111.	(B)	112.	(C)	113.	(B)	114.	(A)	115.	(A)
116.	(D)	117.	(D)	118.	(B)	119.	(C)	120.	(D)
121.	(A)	122.	(C)	123.	(B)	124.	(D)	125.	(D)
126.	(A)	127.	(A)	128.	(D)	129.	(C)	130.	(A)
131.	(C)	132.	(B)	133.	(D)	134.	(A)	135.	(A)
136.	(C)	137.	(D)	138.	(A)	139.	(A)	140.	(A)
141.	(B)	142.	(B)	143.	(D)	144.	(B)	145.	(B)

5
CHAPTER

VARIETY OF LIFE

1. **Scientific name has advantages of:**
 - (A) Same name applied to different organism
 - (B) Same organism have different name in different areas
 - (C) Has not scientific basis
 - (D) Has scientific basis and universally accepted.
2. **In the two kingdom systems which of these would characterize an animal:**
 - (A) Photosynthesis
 - (B) Inability to move
 - (C) Cellulose cell wall
 - (D) Ingestion of food
3. **In 1966 Ernst Haeckel proposed a third kingdom called:**
 - (A) Monera
 - (B) Protocista
 - (C) Fungi
 - (D) Plantae
4. **The five kingdom system of classification was proposed by:**
 - (A) Robert Whittaker
 - (B) Karlene and Margulis
 - (C) E-chattas
 - (D) Linnaeus
5. **Organism with prokaryotic cells belong to the kingdom:**
 - (A) Protocista
 - (B) Monera
 - (C) Fungi
 - (D) Animalia
6. **A set of related genera would be grouped into a:**
 - (A) Family
 - (B) Order
 - (C) Species
 - (D) Class
7. **A class is a group of related:**
 - (A) Species
 - (B) Order
 - (C) Families
 - (D) Genera

8. **Linnaeus developed the system of nomenclature which we still use today:**
- (A) Scientific (B) Phase
(C) Common (D) Binomial
9. **In the scientific name of onion, *Allium cepa*, the *Allium* belongs to its:**
- (A) Genus (B) Order
(C) Species (D) Family
10. **The mode of nutrition related to fungi in 5 kingdom classification is:**
- (A) Photosynthesis (B) Absorption
(C) Ingestion (D) Chemosynthesis
11. **Which of the following illness is caused by a retrovirus?**
- (A) AIDS (B) Malaria
(C) Typhoid (D) Sleeping sickness
12. **Which does not describe viruses?**
- (A) They exhibit some but not the entire characteristic associated with living organism.
(B) They are obligate intracellular parasite.
(C) Each has both DNA and RNA in it.
(D) A protein capsid surrounds the nucleic acid portion.
13. **Which disease is caused by paramyxoviruses?**
- (A) Herpes simplex (B) Tetanus
(C) Measles and mumps (D) Influenza
14. **Which is an infectious protein particle?**
- (A) Capsid (B) Virion
(C) Retrovirus (D) Prion
15. **What is the most effective protection against viral infections?**
- (A) Antibiotic (B) Washing Hands
(C) Natural immunity of the host (D) Disinfectants

16. **The function of the enzyme reverse transcriptase in HIV infection is to:**
- (A) Convert host RNA into viral RNA
 - (B) Produce DNA that can be incorporated into the host cell's DNA from viral RNA
 - (C) Attach the virus to the host cell's plasma membranes
 - (D) Produce new viral RNA from the host cell's DNA
17. **The human immunodeficiency virus primarily infects:**
- (A) Helper T cells
 - (B) Red blood cell
 - (C) Plasma cells
 - (D) Killer T cell
18. **Viruses are considered nonliving because:**
- (A) Their nucleic acid does not code for protein
 - (B) They cannot reproduce independently
 - (C) They don't mutate
 - (D) They do not locomote
19. **Which of these are found in all viruses?**
- (A) Protein, Nucleic acids, Carbohydrates
 - (B) DNA, RNA and Protein
 - (C) Protein and nucleic acid
 - (D) Envelope, nucleic acid, capsid
20. **Which step in the lytic cycle follows attachment of virus and release of DNA into the host cell?**
- (A) Assemblage
 - (B) DNA replication
 - (C) Production of Lysozyme
 - (D) Disintegration of host DNA
21. **Which of these is a true statement?**
- (A) New viral ribosomes form after viral DNA enters in the cell
 - (B) Viruses carry with them their own machinery for protein formation
 - (C) Viruses do not need ribosome for protein formation
 - (D) Viruses use the hosts ribosomes for their own ends
22. **Which part of animal virus is not produced in multiple copies?**
- (A) Envelope
 - (B) DNA
 - (C) Protein
 - (D) Capsid

23. **RNA retroviruses have a special enzyme that:**
(A) Polymerizes host RNA (B) Synthesis host DNA.
(C) Transcribes viral RNA to cDNA (D) Translate host DNA
24. **Which is not true of prokaryotes?**
(A) Are living cells
(B) Are both archaea and bacteria
(C) All are parasitic
(D) Lack a membranous bounded structure
25. **Vaccin is not available for which virus:**
(A) HBV (B) HCV
(C) HAB (D) HIV
26. **A disease tobacco mosaic virus is caused by:**
(A) Virus (B) Genus
(C) Parasite (D) Charles Chamberland
27. **In 1935 ————— isolated crystal of virus from infected leaf of tobacco.**
(A) Twort (B) D'Herelle
(C) Stanley (D) Robert Hook
28. **The virus that can pass through porcelain filters is called:**
(A) Parasite (B) Filterable
(C) Transducer (D) Soluble
29. **Virus are strict ————— that require the enzyme of the host cell for their life process.**
(A) Symbiont (B) Saprophyte
(C) Parasite (D) Predators
30. **Which one is composed of one or more species?**
(A) Genus (B) Order
(C) Family (D) group
31. **Who introduce the system for naming of organisms known as binomial nomenclature?**
(A) Carolus Linnaeus (B) D'Herelle
(C) Twort (D) Stanley

32. Who proposed a third kingdom to accommodate Euglena like organism and bacteria?
- (A) Carolus Linnaeus (B) D'Herelle
(C) Twort (D) Ernst Haeckel
33. The eukaryotic multicellular reducers are:
- (A) Parasite (B) Autotrophic, Photosynthesis
(C) Carolus Linnaeus (D) Fungi
34. Plants are:
- (A) Heterotrophic (B) Chemosynthetic
(C) Autotrophic (D) All of the above
35. The word virus is derived from Latin word:
- (A) Virion (B) Verb
(C) Venome (D) None of the above
36. Edward Jenner first vaccinated an 08 years old boy with pus from cowpox lesion.
- (A) 1796 (B) 1797
(C) 1794 (D) 1795
37. In 1884 one of Pasteur's associate ————— found that bacteria can not pass through procelain filters.
- (A) Twort (B) Carolus Linnaeus
(C) Edward Jenner (D) Charles Chamberland
38. Which disease is transferred to human by bites of dogs?
- (A) Anthrax (B) Rabies
(C) Cholera (D) Botulism
39. Obligate intracellular parasite because they lack metabolic machinery are:
- (A) Bacteria (B) Fungi
(C) Plants (D) Virus
40. How many caspomeres are present in the capsid of herpes virus?
- (A) 163 (B) 161
(C) 162 (D) 160

41. **Bacteriophage occurs in two structural form having:**
(A) Spherical symmetry (B) Rectangular symmetry
(C) Cubical symmetry (D) All of the above
42. **In general appearance cubical phase are regular solid or:**
(A) Triangular (B) Ellipsoidal
(C) Rectangular (D) Icosahedral
43. **Tail of bacteriophage has an enzyme for dissolving a portion of bacterial cell wall:**
(A) Tylin (B) Lipases
(C) Ribozymes (D) Lysozyme
44. **The phage which causes lysis of the host cell is known as:**
(A) Lytic (B) Lysogenic
(C) Non-virulent (D) Prophage
45. **A process in which DNA of virus detached from host's chromosome and start lytic cycle:**
(A) Filtration (B) Lysis
(C) Induction (D) Lysogenic
46. **Jelly fish:**
(A) Amaltas (B) Vertebrate
(C) Invertebrate (D) Organelles of symbiotic origin
47. **Cassia fistula:**
(A) Invertebrate (B) 1758
(C) Organelles of symbiotic origin (D) Amaltas
48. **Robert Whittaker:**
(A) Amaltas (B) 1758
(C) Invertebrate (D) 1969
49. **List of names of animal:**
(A) 1758 (B) 1969
(C) 1789 (D) 1858
50. **Mitochondria, chloroplast:**
(A) Vertebrate (B) Invertebrate
(C) Amaltas (D) Organelles of symbiotic origin

51. **T4 Phages:**
- (A) Double Stranded DNA
 - (B) Mysterious brain infection in man
 - (C) DNA incorporated in to host chromosome
 - (D) Protective agent used to stimulate immune system
52. **Virion:**
- (A) Protective agent used to stimulate immune system
 - (B) Nucleocapsid
 - (C) Lytic Phage
 - (D) Double Stranded DNA
53. **Prophage:**
- (A) Nucleocapsid
 - (B) Lytic Phage
 - (C) Double Stranded DNA
 - (D) DNA incorporated into host chromosome
54. **Vaccine:**
- (A) Mysterious brain infection in man
 - (B) Protective agent used to stimulate immune system
 - (C) Double Stranded DNA
 - (D) Nucleocapsid
55. **Prion:**
- (A) Double Stranded DNA
 - (B) Mysterious brain infection in man
 - (C) DNA incorporated in to host chromosome
 - (D) Protective agent used to stimulate immune system
56. **Hepatitis A:**
- | | |
|--------------------------|-----------------|
| (A) Infectious hepatitis | (B) Serum virus |
| (C) D'Herelle 1917 | (D) Twort 1915 |
57. **Adenovirus:**
- | | |
|--------------------------|-----------------|
| (A) Twort 1915 | (B) Common cold |
| (C) Infectious hepatitis | (D) Serum virus |

58. Bacteriophage:

- (A) D'Herelle 1917 (B) Serum virus
(C) Infectious hepatitis (D) Common cold

59. HIV:

- (A) Common cold (B) Failure of immune system
(C) Infectious hepatitis (D) Serum virus

60. Hepatitis B:

- (A) Infectious hepatitis (B) D'Herelle 1917
(C) Serum virus (D) Common cold

61. Phyla:

- (A) Decomposer (B) Kingdom Animalia
(C) Monera (D) Related classes

62. Multicellular Eukaryotic heterotrophs:

- (A) Related classes (B) Decomposer
(C) Kingdom Animalia (D) Monera

63. Yellow fever:

- (A) 1801 (B) 1901
(C) 1900 (D) 1892

64. Bacteria:

- (A) Kingdom Monera (B) Kingdom Animalia
(C) Kingdom Fungi (D) Kingdom Protocista

65. Fungi:

- (A) Monera (B) Kingdom Animalia
(C) Related classes (D) Decomposer

66. Protista:

- (A) Euglena and Amoeba (B) Dicotyledonae
(C) Mushroom (D) Monocotyledonae

67. Release by Lysis or Budding:

- (A) Virion (B) Dicotyledonae
(C) Monocotyledonae (D) Euglena and Amoeba

68. **Chitin in cell wall:**
(A) Dicotyledonae (B) Mushroom
(C) Cd4 receptor (D) Virion
69. **Zea mays:**
(A) Monocotyledonae (B) Dicotyledonae
(C) Euglena and Amoeba (D) Virion
70. **T lymphocyte:**
(A) Virion (B) Dicotyledonae
(C) Monocotyledonae (D) Cd4 receptor
71. **In the two kingdom systems which of these would characterize an animal:**
(A) Photosynthesis (B) Ingestion of food
(C) Cellulose cell wall (D) Inability to move
72. **The five kingdom system of classification was proposed by:**
(A) E-chattas (B) Robert Whittaker
(C) Linnaeus (D) Karlene and Margulis
73. **Organism with prokaryotic cells belong to the kingdom:**
(A) Protista (B) Fungi
(C) Monera (D) Animalia
74. **Polio virus is:**
(A) Rod like (B) Tadpole like
(C) Brick like (D) Spherical
75. **AIDS spread by:**
(A) Homosexuality (B) Immortal way of life
(C) Infected needles and syringes (D) All of these
76. **Which of the following is the correct arrangement of kingdoms?**
1. Monera Protista Animalia Fungi Plantae
2. Protista Monera Fungi Plantae Animalia
3. Monera Protista Fungi Plantae Animalia
4. Monera Protista Plantae Fungi Monera
(A) 1 (B) 2
(C) 3 (D) 4

77. **Linnaeus developed the system of nomenclature which we still use today is:**
(A) Common (B) Binomial
(C) Scientific (D) Phase
78. **The organisms are grouped into larger, more inclusive categories:**
(A) Species (B) Division
(C) Phylum (D) Taxa
79. **The mode of nutrition related to fungi in 5 kingdom classification is:**
(A) Photosynthesis (B) Absorption
(C) Ingestion (D) Chemosynthesis
80. **A group of organisms at any particular level in a classification system is called a:**
(A) Species (B) Taxon
(C) Genus (D) Phylum
81. **Which of the following is not true about viruses?**
(A) Obligate intracellular parasite (B) Contain DNA and RNA
(C) Are acellular (D) Uses host machinery
82. **A virus which incorporates its DNA into the DNA of its host organism is a:**
(A) Virulent phage (B) Prophage
(C) Lytic phage (D) None of these
83. **Which virus is transmitted by faecal oral route?**
(A) Influenza virus (B) Hepatitis A virus
(C) Dengue virus (D) Hepatitis C virus
84. **The plant kingdom is first divided into which category of classification?**
(A) Family (B) Division
(C) Order (D) Class
85. **Identifying organisms by their Genus and Species names is called:**
(A) Nomenclature (B) Systematic
(C) Binomial Nomenclature (D) Succession
86. **The seven bones in the human neck correspond with the same seven, much larger, neck bones in the giraffe. They are:**
(A) Analogues (B) Homologues
(C) Vestiges (D) All (A), (B) and (C)

87. If you compare a human arm with the front leg of an alligator or horse, or the flipper of a whale or a bat's skin-covered wing then it will be helpful to you to classify these animals on the basis of:
- (A) Genetics (B) Analogy
(C) Homology (D) Biochemistry
88. The fact that all land animals with backbones have the basic pattern of "five-boned" arms, this similarity is due to an inheritance from a:
- (A) Common ancestor (B) Different ancestors
(C) Both (A) and (B) (D) (A) or (B)
89. Organisms in the Kingdom Animalia are:
- (A) Multicellular & heterotrophic (B) Multicellular & autotrophic
(C) Unicellular & autotrophic (D) Unicellular & Heterotrophic
90. Which of the following groups would contain the largest number of organisms?
- (A) Class (B) Order
(C) Phylum (D) Family
91. What do plants and animals have in common?
- (A) Both are heterotrophic (B) Both are autotrophic
(C) Both are prokaryotic (D) Both are eukaryotic
92. If two organisms are in the same phylum, they must also be in the same:
- (A) Class (B) Species
(C) Family (D) Kingdom
93. The level of hierarchy just below Phylum is:
- (A) Order (B) Family
(C) Class (D) Kingdom
94. Which of the following is necessary for a virus to reproduce?
- (A) A living host cell (B) A vaccine
(C) A high body temperature (D) Sunlight, water, and food
95. A _____ is a submicroscopic infectious particle composed of a protein coat and a nucleic acid core.
- (A) Virus (B) Bacterium
(C) Slime mold (D) Water mold

96. **All viruses:**
- (A) Contain DNA (B) Contain RNA
(C) Contain protein (D) Are intracellular parasites
97. **An example of latent period in which DNA of phage is integrated with the DNA of host coli chromosome is:**
- (A) Lysis (B) Lysogenic-phase
(C) Prophage (D) Attenuated virus
98. **Which of the following is a un-matching set regarding viral diseases?**
- (A) Rhabdo virus — Rabies (B) Paramyxo virus — Mumps
(C) Rhino virus — yellow fever (D) Arbo virus — Encephalitis
99. **HIV is:**
- (A) Plus strand virus (B) Un-enveloped minus strand virus
(C) Retrovirus (D) Large genome virus
100. **Virus is a Latin word meaning:**
- (A) Minute creature (B) Poison
(C) Medicine (D) Disease
101. **Viroids differ from other viruses in having:**
- (A) Only naked RNA molecule (B) Only naked DNA molecule
(C) Virus genome with satellite DNA (D) Virus genome with histone
102. **The first to isolate a plant virus as crystal:**
- (A) W.M. Stanely (B) Smith
(C) Stakmann (D) Ivanowski
103. **Genetic material of tobacco mosaic virus is:**
- (A) RNA (B) DNA
(C) Fat (D) Protein
104. **Small pox, yellow fever, Diphtheria, herpes, Tetanus, Mumps, Citrus Canker, Typhoid, AIDS, Measles are some examples of diseases, How many of them are caused by viruses?**
- (A) 4 (B) 3
(C) 2 (D) 6

- 105. Herpes and shingles are caused by:**
(A) Medium and large genome DNA virus
(B) Small genome DNA virus
(C) Medium and large genome RNA virus
(D) Small genome RNA virus
- 106. The viruses whose genome act directly as messenger RNA after infecting a host cell are called:**
(A) Plus strand DNA viruses (B) Minus strand RNA viruses
(C) Plus strand RNA viruses (D) Minus strand DNA viruses
- 107. The best known anti-HIV drug is:**
(A) Benzodiazepine (B) Leodopa
(C) Azidothymidine (D) None of these
- 108. Living organisms can be classified on the basis of:**
(A) Homology (B) Cytology
(C) Biochemistry (D) All of these
- 109. Encephalitis is caused by:**
(A) Arbo virus (B) Rhino virus
(C) Rhabdo virus (D) Paramyxo virus
- 110. A plant infected from an external source of virus through injured parts is:**
(A) Vertical transmission (B) Horizontal transmission
(C) Retrograde transmission (D) None of these
- 111. During lytic cycle how many phages are released from infected host cell:**
(A) 100-300 (B) 100-500
(C) 100-200 (D) 100-400
- 112. When a bacteriophage is integrated into a cellular genome it is called a:**
(A) Macrophage (B) Microphage
(C) Prophage (D) Lytic-phage
- 113. _____ are small naked fragments of RNA that infect plant cells.**
(A) Prions (B) Prophages
(C) Macrophages (D) Viroids

- 114. Viruses that cause lysis in host cells are called:**
(A) Temperate viruses (B) Phagocytic viruses
(C) Virulent viruses (D) Infectious viruses
- 115. Which of the following is not a viral disease?**
(A) Mumps (B) Measles
(C) Chicken pox (D) Diphtheria
- 116. Copying the HIV virus' nucleic acid depends on:**
(A) Replicase (B) Reverse transcriptase
(C) Transcriptase (D) Reverse replicase
- 117. The first virus to be purified was the:**
(A) Flu virus (B) Tobacco mosaic virus
(C) Smallpox virus (D) Polio virus
- 118. When a virus kills the infected host cell in which it is replicating, the reproductive cycle is called a _____ cycle.**
(A) Lysogenic (B) Phagocytic
(C) Lytic (D) Endocytic
- 119. Which of the following are not matched correctly?**
(A) Virulent virus-lytic cycle
(B) Temperate virus-non-infecting virus
(C) Lysogenic virus-genome becomes part of host genome
(D) Lytic cycle-kills host cell
- 120. Which of the following is not true about viruses?**
(A) Obligate intracellular parasite (B) Contain DNA and RNA
(C) A cellular (D) Use host machinery
- 121. Which of the following is not a virus structure?**
(A) Capsid (B) Capsomere
(C) Nucleoprotein (D) Mitochondria
- 122. The virus capsid may be described as:**
(A) Outside protein coat (B) Phospholipid envelope
(C) Virus protein spike (D) Nucleoprotein

- 123. Which is not true? Viruses are classified by:**
(A) Nucleic acid type (B) Morphology
(C) Presence of envelope (D) Type of cytopathic effect
- 124. What is the distinguishing feature of retroviruses?**
(A) Encode RNA polymerase (B) Encode reverse transcriptase
(C) Lack an envelope (D) DNA virus
- 125. Which of the following is not a DNA virus?**
(A) Herpes virus (B) Hepatitis B virus
(C) Rabies virus (D) Bacteriophage virus
- 126. Pigs are reservoir to:**
(A) Hepatitis B (B) Hepatitis C
(C) Hepatitis D (D) Hepatitis E
- 127. Which of the following organs do hepatitis viruses infect?**
(A) Lungs (B) Gut
(C) Muscles (D) Liver
- 128. Which hepatitis virus is parentally transmitted?**
(A) Hepatitis A (B) Hepatitis C
(C) Hepatitis E (D) Hepatitis A and Hepatitis E
- 129. HIV is not transmitted by:**
(A) Sexual contact (B) Parental route
(C) Vertical transmission (D) Oro-faecal route
- 130. Margulis and Schwartz renamed Whittaker's kingdom Protista as:**
(A) Prokaryotae (B) Plantae
(C) Protoctista (D) Eukaryotae
- 131. The basic unit of classification is:**
(A) Genus (B) Kingdom
(C) Family (D) Species
- 132. Viruses are denied a kingdom of their own because:**
(A) They are too poorly understood
(B) They are too small
(C) Their genetics cannot be determined
(D) They are not organisms

- 133. Prokaryotic organisms make up the:**
- (A) Archaeobacteria, Eubacteria, and Protists
 - (B) Archaeobacteria and Protists
 - (C) Protists and Eubacteria
 - (D) Eubacteria, Archaeobacteria and cyanobacteria
- 134. In printed scientific names, only the _____ is capitalized.**
- (A) Kingdom
 - (B) Family
 - (C) Genus
 - (D) Species
- 135. Viruses range in size from:**
- (A) 20 nm to 250 nm
 - (B) 50nm to 400 nm
 - (C) 100 nm to 200 nm
 - (D) 50 nm to 300 nm
- 136. Common cold is caused by:**
- (A) Arbo virus
 - (B) Rhabdo virus
 - (C) Rhino virus
 - (D) Herpes virus
- 137. Measles and mumps are caused by:**
- (A) Rhino virus
 - (B) Paramyxo virus
 - (C) Rhabdo virus
 - (D) Arbo virus
- 138. Hepatitis-B viral genome contains:**
- (A) 259 nucleotides
 - (B) 459 nucleotides
 - (C) 359 nucleotides
 - (D) 159 nucleotides
- 139. The immune system protects the body from diseases. Because the AIDS virus weakens the immune system therefore:**
- (A) People with AIDS are more vulnerable to other diseases
 - (B) The AIDS virus is spread very easily
 - (C) People with AIDS are immune to all other diseases
 - (D) All of the above
- 140. Viruses are symmetrical in structure. We know this because they can be:**
- (A) Un-enveloped
 - (B) Ionized
 - (C) Crystallized
 - (D) Both (A) and (C)

- 141. Once bound to the cell surface, the virus must enter:**
(A) The genetic material into the cell (B) The capsid into the host cell
(C) The envelope into the host cell (D) All of these
- 142. The transmission of virus from host to progeny is:**
(A) Vertical transmission (B) Horizontal transmission
(C) Both (A) and (B) (D) Neither (A) nor (B)
- 143. Some RNA viruses have no DNA stage. Messenger RNA is synthesized from an RNA template. These viruses are:**
(A) Plus strand RNA viruses (B) Minus strand RNA viruses
(C) Bacteriophages (D) Variola viruses
- 144. The phage reproductive cycle that kills the bacterial host cell is:**
(A) Temperate (B) Non virulent
(C) Lysogenic (D) Lytic
- 145. Reverse transcription, carried out by retroviruses, is the process by which?**
(A) RNA is duplicated
(B) DNA is duplicated
(C) RNA information is copied into DNA
(D) DNA information is copied into RNA
- 146. Electrophoresis is used to:**
(A) Match a gene with its function (B) Clone genes
(C) Separate fragments of DNA (D) Cut DNA into fragments
- 147. Cycle A is the _____ cycle and cycle B is the _____ cycle.**

- (A) Lytic Lysogenic (B) Repressor Phage
(C) Lysogenic Lytic (D) Repressor Lysogenic

148. The pointer is indicating the virus's:

|-----|
25 sec.

- (A) Envelope (B) Capsid
(C) Contractile sheath (D) Tail
149. Hepatitis A is caused by:
(A) Enveloped RNA virus (B) Enveloped DNA virus
(C) Un-enveloped RNA virus (D) Un-enveloped DNA virus
150. Colorado Tick fever is caused by:
(A) Double stranded RNA virus (B) Single stranded RNA virus
(C) Double stranded DNA virus (D) Single stranded DNA virus

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(D)	3.	(B)	4.	(A)	5.	(B)
6.	(A)	7.	(B)	8.	(D)	9.	(A)	10.	(B)
11.	(A)	12.	(C)	13.	(C)	14.	(D)	15.	(D)
16.	(C)	17.	(B)	18.	(B)	19.	(C)	20.	(D)
21.	(D)	22.	(A)	23.	(C)	24.	(B)	25.	(C)
26.	(A)	27.	(C)	28.	(B)	29.	(C)	30.	(A)
31.	(A)	32.	(D)	33.	(D)	34.	(C)	35.	(C)
36.	(A)	37.	(D)	38.	(B)	39.	(D)	40.	(C)
41.	(C)	42.	(D)	43.	(D)	44.	(A)	45.	(C)
46.	(C)	47.	(D)	48.	(D)	49.	(A)	50.	(D)
51.	(A)	52.	(B)	53.	(D)	54.	(B)	55.	(B)
56.	(A)	57.	(B)	58.	(A)	59.	(B)	60.	(C)
61.	(D)	62.	(B)	63.	(B)	64.	(A)	65.	(D)
66.	(A)	67.	(A)	68.	(B)	69.	(A)	70.	(D)
71.	(B)	72.	(B)	73.	(C)	74.	(D)	75.	(D)
76.	(C)	77.	(B)	78.	(D)	79.	(B)	80.	(B)
81.	(B)	82.	(B)	83.	(B)	84.	(B)	85.	(C)
86.	(B)	87.	(C)	88.	(A)	89.	(A)	90.	(C)
91.	(D)	92.	(D)	93.	(C)	94.	(A)	95.	(A)
96.	(D)	97.	(B)	98.	(C)	99.	(C)	100.	(B)
101.	(A)	102.	(A)	103.	(A)	104.	(D)	105.	(A)
106.	(C)	107.	(C)	108.	(D)	109.	(A)	110.	(B)
111.	(C)	112.	(C)	113.	(D)	114.	(C)	115.	(D)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
116.	(B)	117.	(B)	118.	(C)	119.	(B)	120.	(B)
121.	(D)	122.	(A)	123.	(D)	124.	(B)	125.	(C)
126.	(D)	127.	(D)	128.	(B)	129.	(D)	130.	(C)
131.	(D)	132.	(D)	133.	(D)	134.	(C)	135.	(A)
136.	(C)	137.	(B)	138.	(C)	139.	(A)	140.	(C)
141.	(A)	142.	(A)	143.	(B)	144.	(D)	145.	(C)
146.	(C)	147.	(A)	148.	(A)	149.	(C)	150.	(A)



KINGDOM PROKARYOTAE (MONERA)

1. Which of the following are true bacteria?
(A) Arhcaeobacteria (B) Cyanobacteria
(C) Eubacteria (D) None of the above
2. The first scientist who observed microbes was:
(A) Leeuwenhoek (B) Louis Pasteur
(C) Robert Koch (D) Heckle
3. Vaccine against anthrax was developed by:
(A) Leeuwenhoek (B) Louis Pasteur
(C) Robert Koch (D) Jenner
4. The process of fermentation was discovered by:
(A) Leeuwenhoek (B) Louis Pasture
(C) Robert Koch (D) Heckle
5. Germ theory of diseases was given by:
(A) Leeuwenhoek (B) Louis Pasteur
(C) Robert Koch (D) Heckle
6. The smallest bacterium is:
(A) E. Coli (B) Mycoplasma
(C) Epulopiscum (D) Staphylococci
7. The largest bacterium is:
(A) E. Coli (B) Mycoplasma
(C) Epulopiscum (D) Staphylococci

8. The size of bacterium *Escherichia coli* is:
(A) 2.1 to 1.5 μm (B) 1.1 to 2.5 μm
(C) 1.1 to 1.5 μm (D) 2.1 to 2.5 μm
9. The rod shaped bacteria are:
(A) Cocci (B) Bacilli
(C) Spirillum (D) None of the above
10. The pair of cocci bacteria in which cell division occurs in one plane is called:
(A) Diplococcus (B) Streptococcus
(C) Tetrad (D) Sarcina
11. The long chain of cocci bacteria in which cell division occurs in one plane is called:
(A) Diplococcus (B) Streptococcus
(C) Tetrad (D) Sarcina
12. The pair of cocci bacteria in which cell division occurs in two plane is called:
(A) Diplococcus (B) Streptococcus
(C) Tetrad (D) Sarcina
13. The pair of cocci bacteria in which cell division occurs in three plane is called:
(A) Diplococcus (B) Streptococcus
(C) Tetrad (D) Sarcina
14. Which of the following bacteria are cocci?
(A) *E. Coli* (B) *Pseudomonas*
(C) *D. Pneumoniae* (D) *B. Subtilis*
15. Which of the followings is curved or comma shaped spiral?
(A) Vibrio (B) Spirillum
(C) Spirochete (D) None of the above
16. Which of the following is thick rigid spiral?
(A) Vibrio (B) Spirillum
(C) Spirochete (D) None of the above
17. A bacterium with single polar flagellum is called:
(A) Atrichous (B) Monotrichous
(C) Lophotrichous (D) Amphitrichous

18. A bacterium without flagellum is called:
(A) Atrichous (B) Monotrichous
(C) Lophotrichous (D) Amphitrichous
19. A bacteria in Which flagellum surround it is called:
(A) Atrichous (B) Monotrichous
(C) Lophotrichous (D) Amphitrichous
20. A bacterium in which flagellum surrounds is called:
(A) Atrichous (B) Monotrichous
(C) Pritrichous (D) Amphitrichous
21. The structure used in the conjugation of bacteria are:
(A) Capsule (B) Slime
(C) Pili (D) Mesosome
22. Which of the following structure makes the cell wall sticky?
(A) Capsule (B) Slime
(C) Pili (D) Mesosome
23. The major locomotory organs in bacteria are:
(A) Cilia (B) Slime
(C) Pili (D) Flagella
24. Gram positive cell wall have peptidoglycan:
(A) 10% (B) 20%
(C) 40% (D) 50%
25. Gram negative cell wall have Peptidoglycan:
(A) 10% (B) 20%
(C) 40% (D) 50%
26. The thickness f cell wall of gram negative bacterium is:
(A) 1-5 nm (B) 1-7 nm
(C) 8-9 nm (D) 8-11 nm
27. The enzymes for respiratory metabolism in bacteria are present in:
(A) Cell wall (B) Cell membrane
(C) Cytoplasmic matrix (D) Plasmid

28. The plasma membrane and every thing present in it is called:
(A) Cytoplasm (B) Protoplast
(C) Nucleoid (D) Matrix
29. Nucleoids of bacteria are stained with:
(A) Crystal violet stain (B) Feulgen stain
(C) Eosin stain (D) None of the above
30. The extra nuclear double stranded DNA in bacteria are called:
(A) Nucleoid (B) Chromosome
(C) Plasmid (D) None of the above
31. The ribosome of bacteria are:
(A) 60S (B) 70S
(C) 80S (D) 90S
32. The structure involved in the replication of bacteria are:
(A) Ribosomes (B) Cell membrane
(C) Plasmid (D) Mesosomes
33. The resistant structure developed during reproduction of vegetative cells of bacteria is called:
(A) Plasmids (B) Mesosomes
(C) Slime (D) Cysts
34. The bacteria which use decay matter as a food are called:
(A) Saprophytes (B) Parasites
(C) Saprozoic (D) None of the above
35. The photosynthetic bacteria release:
(A) CO₂ (B) Oxygen
(C) Sulphur (D) None of the above
36. In which phase the growth of bacteria is rapid?
(A) Lag phase (B) Log phase
(C) Stationary phase (D) Decline
37. In which phase the growth of bacteria is equal?
(A) Lag phase (B) Log phase
(C) Stationary phase (D) Decline

38. Which of the following is not sterilization method for controlling bacteria?
- (A) Filtration (B) High temperature
(C) Antiseptics (D) Radiation
39. Hormones and serum are sterilized by:
- (A) High temperature (B) Low temperature
(C) Filtration (D) Radiation
40. Which of the following antibiotic causes allergic reactions?
- (A) Streptomycin (B) Tetracycline
(C) Penicillin (D) None of the above
41. The filaments of cyanobacteria are called:
- (A) Heteroysts (B) Trichome
(C) Hormogonia (D) Akintes
42. The barrel shaped cells present in the filaments of cyanobacteria are called:
- (A) Heteroysts (B) Trichome
(C) Hormogonia (D) Akintes
43. The fragments of the filament of cyanobacteria are called:
- (A) Heterocysts (B) Trichome
(C) Hormogonia (D) Akintes
44. The accessory pigments of the cyanobacteria are called:
- (A) Chlorophyll (B) Phycobilins
(C) Xanthophylls (D) Carotene
45. The thick wall reproductive cell of the cyanobacteria are called:
- (A) Heterocysts (B) Trichome
(C) Hormogonia (D) Akintes
46. Antone Van leeuwenhoek firstly observed small creatures in rain:
- (A) Water (B) Rain water
(C) Saliva (D) Infusion
47. Louis Pasteur did not discovered vaccine against the disease:
- (A) Anthrax (B) Fowl cholera
(C) Foot and mouth disease (D) Rabies

- 48. The aim of the germ plasma theory was:**
(A) To prove symptom of a disease (B) To discover the treatment of disease
(C) To prove the cause of a disease (D) To discover vaccine against a disease
- 49. The smallest bacteria on the earth are:**
(A) Myco plasma (B) Escherichia coli
(C) Staphylococci (D) Epulopiscium fishlesoni
- 50. The largest bacteria on the earth are:**
(A) Mycoplasma (B) Escherichia coli
(C) Staphylococci (D) Epulopiscium fishlesoni
- 51. In some bacteria division occurs in one plane and bacteria are arranged in chain. Such bacteria are called:**
(A) Diplococcus (B) Streptococcus
(C) Tetrad (D) Sarcina
- 52. When division occurs in random planes, it will produce an arrangement called:**
(A) Diplococcus (B) Strptococcus
(C) Tetrad (D) Staphylococcus
- 53. Which of the following is flexible spiral?**
(A) Vibrio (B) Spirillum
(C) Spirochete (D) None of the above
- 54. The condition in which bacteria are without flagella is called:**
(A) Atrichous (B) Monotrichous
(C) Lophotrichous (D) Ampitrichous
- 55. Chemotaxis is phenomenon in which an organism:**
(A) Eat a chemical (B) Detect a chemical
(C) Show response to a chemical (D) Change a chemical
- 56. Tuft of flagella is present only at one pole of bacteria in case of:**
(A) Atrichous (B) Monotrichous
(C) Lophotrichous (D) Ampitrichous

57. Which of the following structure is used in sexual reproduction of bacteria?
(A) Cell wall (B) Endospore
(C) Capsule (D) Pili
58. Which of the following is not include in the envelope of the bacteria?
(A) Capsule (B) Slime
(C) Cell wall (D) Cell membrane
59. Arrange the position of cell membrane, cell wall, slime and capsule from outer to inner surface:
(A) Cell wall – Cell membrane – Slime – Capsule
(B) Capsule – Slime – Cell wall – Cell membrane
(C) Slime – Capsule – Cell wall – Cell membrane
(D) Cell wall – Capsule – Slime – Cell membrane
60. Which of the following are not the characteristics of cell Gram positive cell all?
(A) It has two major layers (B) It is more permeable
(C) It has outer membrane (D) It has lipids 1 – 4%
61. Which of the following are the characteristics of Gram negative cell wall?
(A) It has two major layers (B) It is more permeable
(C) It has outer membrane (D) It has lipids 1 – 4%
62. The cell wall of Archeobactira does not contain:
(A) Lipids (B) Proteins
(C) Peptidoglycan (D) Carbohydrates
63. Which of the following is not the function of membrane?
(A) It regulate the control of material (B) It contain respiratory enzyme
(C) It plays role in division of cell (D) None of the above
64. Nucleoid is stained with:
(A) Gram positive Stain (B) Gram negative stain
(C) Feulgen stain (D) Eosin stain
65. Which of the following contain DNA?
(A) Slime (B) Plasmid
(C) Ribosome (D) Pili

66. Which of the following are chemosynthetic bacteria:
- (A) The bacteria which synthesize food from organic compounds
 - (B) The bacteria which synthesize food from inorganic compounds
 - (C) The bacteria which release energy from organic compounds
 - (D) The bacteria which release energy from the inorganic compounds
67. Which of the bacteria can grow in any condition?
- (A) Aerobic bacteria
 - (B) Anaerobic bacteria
 - (C) Facultative bacteria
 - (D) Microaerophilic bacteria
68. The generation time of bacteria is:
- (A) The interval of time between young and old age of bacteria
 - (B) The interval of time until the completion of the next division
 - (C) The interval of time between two generations
 - (D) The interval of time between two divisions
69. The rapid growth of bacteria occurs in the phase:
- (A) Lag phase
 - (B) Log phase
 - (C) Stationary Phase
 - (D) Decline phase
70. The bacterial growth becomes equal with the death rate in the:
- (A) Lag phase
 - (B) Log phase
 - (C) Stationary Phase
 - (D) Decline phase
71. Sexual reproduction in bacteria takes place by:
- (A) Fusion of gamete
 - (B) Fusion of nuclei
 - (C) Exchange of nucleic
 - (D) Exchange of part of DNA
72. Which of the following bacteria are not used in?
- (A) Food production
 - (B) Drug production
 - (C) Alcohol production
 - (D) Antibiotics production
73. Which of the following methods do not come within the method of sterilization?
- (A) Use of filter paper to filter water
 - (B) Boiling of water
 - (C) Washing the toilet with phenyl
 - (D) Use of rays
74. Which of the following is antiseptics?
- (A) Quinine
 - (B) Phenyl
 - (C) Dettol
 - (D) Sodium bicarbonate

75. Which of following is Disinfectant:
(A) Quinine (B) Phenyl
(C) Dettol (D) Sodium bicarbonate
76. Which of following is Disinfectant:
(A) Quinine (B) Phenyl
(C) Dettol (D) Sodium bicarbonate
77. Which of the following is relevant to vaccine:
(A) A vaccine is compound which kills germ
(B) A vaccine is a name of a drug
(C) A vaccine is synthesized from plants
(D) A vaccine is drive from the germs
78. Louis Pasteur did not synthesize the vaccine of:
(A) Chicken cholera (B) Anthrax
(C) Small pox (D) Rabies
79. The antibiotic penicillin is not used today because:
(A) It has become ineffective (B) It is too costly to be used by the patients
(C) It causes allergic reaction (D) It is not available in market
80. A person eats a drug and becomes deaf. Which drug he might have eaten?
(A) Quinine (B) Streptomycin
(C) Penicillin (D) Tetracycline
81. The cyanobacteria are also called blue green algae because:
(A) They have blue green cell wall (B) They have blue green chloroplast
(C) They have blue green pigments (D) None of the above
82. Reserved food material in cyanobacteria is:
(A) Glucose (B) Starch
(C) Lipids (D) Glycogen
83. The broken piece of filament of cyanobacteria is called:
(A) Trichome (B) Hormogonia
(C) Heterocyst (D) Akinete

84. The thick walled enlarged reproductive cells are called:

- | | |
|----------------|----------------|
| (A) Trichome | (B) Hormogonia |
| (C) Heterocyst | (D) Akinete |

85. The water bloom is a:

- | | |
|---------------------------|-------------------------------------|
| (A) Water with bad smell | (B) Water with a layer of organisms |
| (C) Water cannot be drunk | (D) Polluted water |

86. Super blue green algae is cyanobacteria which:

- | | |
|--------------------------|---------------------------|
| (A) Pollute water | (B) has nutritional value |
| (C) Cause disease in man | (D) None of the above |

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(B)	2.	(A)	3.	(B)	4.	(B)	5.	(C)
6.	(B)	7.	(C)	8.	(C)	9.	(B)	10.	(A)
11.	(B)	12.	(C)	13.	(D)	14.	(C)	15.	(A)
16.	(B)	17.	(B)	18.	(A)	19.	(C)	20.	(C)
21.	(C)	22.	(B)	23.	(D)	24.	(D)	25.	(A)
26.	(D)	27.	(B)	28.	(B)	29.	(B)	30.	(C)
31.	(B)	32.	(D)	33.	(D)	34.	(A)	35.	(C)
36.	(B)	37.	(C)	38.	(C)	39.	(C)	40.	(C)
41.	(B)	42.	(A)	43.	(C)	44.	(B)	45.	(C)
46.	(B)	47.	(C)	48.	(C)	49.	(A)	50.	(D)
51.	(B)	52.	(D)	53.	(C)	54.	(A)	55.	(C)
56.	(C)	57.	(D)	58.	(D)	59.	(C)	60.	(C)
61.	(C)	62.	(C)	63.	(D)	64.	(C)	65.	(B)
66.	(D)	67.	(C)	68.	(B)	69.	(B)	70.	(C)
71.	(D)	72.	(C)	73.	(C)	74.	(C)	75.	(B)
76.	(A)	77.	(D)	78.	(D)	79.	(C)	80.	(B)
81.	(C)	82.	(D)	83.	(B)	84.	(D)	85.	(B)
86.	(B)								



THE KINGDOM PROTISTA (OR PROTOCTISTA)

- Which of the following is not present in protista?
(A) Photosynthesis (B) Embryo
(C) Flagella (D) Parasites
- Who amongst the followings formed group of prokaryotes within protista in 1861?
(A) John Hogg (B) Earnest Haeckel
(C) Herbert Copland (D) Robert Whittaker
- Who amongst the followings did propose the formation of protista for microscopic organisms in 1866?
(A) Johan Hogg (B) Earnest Haekal
(C) Herbert Copland (D) Robert Whittaker
- Who amongst the following separated the prokaryotes from the protista and gave it the status of kingdom?
(A) Johan Hogg (B) Earnest Haekal
(C) Herbert Copland (D) Robert Whittaker
- Who amongst the following placed only unicellular eukaryotes in protista?
(A) Johan Hogg (B) Earnest Haekal
(C) Herbert Copland (D) Robert Whittaker
- How many phyla of protoctista formed by Margulis and Schwartz?
(A) 17 (B) 23
(C) 27 (D) 29
- Euglena belongs to phylum:
(A) Zooflagellates (B) Amoebas
(C) Actinozoan (D) Foraminifer

8. Radiolarians belong to:
- (A) Zooflagellates (B) Amoebas
(C) Actinozoan (D) Foraminifer
9. Vorticella belongs to:
- (A) Ciliates (B) Amoebas
(C) Actinozoan (D) Foraminifer
10. Amoebic dysentery is caused by:
- (A) Amoeba (B) Trypanosoma
(C) Entamoeba (D) Stentor
11. Which of the following is giant amoeba?
- (A) Vorticella (B) Pelomyxa
(C) Stentor (D) None of above
12. Which of the following Zooflagellates lives as symbionts in the gut of termites?
- (A) Trichonymphas (B) Trypanosoma
(C) Choanflagellaes (D) None of above
13. Which of the following Zooflagellates are supposed to be the ancestors of the sponges?
- (A) Trichonymphas (B) Trypanosoma
(C) Choanflagellaes (D) None of above
14. Which of the following dose cause sleeping sickness?
- (A) Trichonymphas (B) Trypanosoma
(C) Choanflagellaes (D) None of above
15. Which of the following group have two nuclei?
- (A) Ciliates (B) Amoebas
(C) Actinozoan (D) Foraminifer
16. The shape of the ciliates is maintained by:
- (A) Cell wall (B) Cell membrane
(C) Pellicle (D) Cilia

17. Conjugation takes place in which of the following protozoans?
(A) Ciliates (B) Amoebas
(C) Actinopoda (D) Foraminifera
18. The shell of foraminiferans is made up of:
(A) Silica (B) Calcium carbonate
(C) Sponging fibers (D) None of above
19. The shell of actinopoda is made up of:
(A) Silica (B) Calcium carbonate
(C) Spongin fibers (D) None of above
20. Locomotory organs are absent in:
(A) Ciliates (B) Apicomplexans
(C) Actinopoda (D) Foraminifera
21. In man, plasmodium first enters into the:
(A) RBC (B) Liver
(C) Salivary gland (D) None of above
22. 50 to 60% photosynthesis in the earth takes place by:
(A) Plants (B) Algae
(C) Photosynthetic bacteria (D) Cyanobacteria
23. The filaments of algae which lack cross walls are called:
(A) Thallus (B) Coenocytes
(C) Colony (D) Plant like
24. Which of the followings have thallus body?
(A) Euglena (B) Volvox
(C) Sea weed (D) Ceratium
25. Which of the followings is a red pigment?
(A) Xanthophyll (B) Phycoerythrin
(C) Phycocyanin (D) Carotene
26. Ceratium belongs to which of the following groups of algae?
(A) Eukaryophyta (B) Pyrrophyta
(C) Chrysophyta (D) Phaeophyta

27. **Pinnularia is belonged to which of the following groups?**
(A) Euglenophyta (B) Pyrrophyta
(C) Chrysophyta (D) Phaeophyta
28. **Amoeba move and obtain food by means of:**
(A) Plasmodium (B) Flagella
(C) Cilia (D) Psuedopodia
29. **Ulva belongs to which of the following groups?**
(A) Chlorophyta (B) Pyrrophyta
(C) Chrysophyta (D) Phaeophyta
30. **Flagella are absent in which of the following groups of algae?**
(A) Euglenophyta (B) Rhodophyta
(C) Chrysophyta (D) Phaeophyta
31. **Which of the following pigments is absent in Dinoflagellates?**
(A) Chlorophyll a (B) Carotenes
(C) Xanthophyll (D) Fucoxanthin
32. **Which of the followings are called kelps?**
(A) Diatoms (B) Brown algae
(C) Red algae (D) Green algae
33. **Which of the followings is stem like?**
(A) Blades (B) Holdfast
(C) Stipes (D) Kelps
34. **The red algae attach with the rock by:**
(A) Blades (B) Holdfast
(C) Stipes (D) Kelps
35. **Which of the followings is a colonial alga?**
(A) Spirogyra (B) Chlorella
(C) Volvox (D) Ulva
36. **Which of the following is a unicellular alga?**
(A) Spirogyra (B) Chlorella
(C) Volvox (D) Ulva

37. African sleeping sickness is caused by:
- (A) Entamoeba (B) Trypanosoma
(C) Vorticella (D) Pelomyxa
38. Which of the followings is not obtained from algae?
- (A) Algin (B) Carrageenan
(C) Agar (D) None of above
39. The closest relative of fungi is probably:
- (A) Animals (B) Slime mold
(C) Brown Algae (D) Vascular plants
40. Phytophthora causes which of the following diseases in potato?
- (A) Fire blight (B) Late blight
(C) Red rots (D) Mildew
41. Which of the following reasons is not valid reason for the formation of Protista as a separate kingdom?
- (A) None of them could fit themselves in any other kingdom
(B) They are unicellular organisms
(C) They are ancestors of all other kingdoms
(D) They do not produce blastula and embryo
42. Which of the following reasons seems to be most reasonable for not placing protista in other kingdom?
- (A) None of them could fit themselves in any other kingdom
(B) Most of them are unicellular or have simple multi cellular body
(C) They are ancestors of all other kingdoms
(D) They do not produce blastula and embryo
43. Who from the following scientists proposed the formation of Monera as a separate kingdom?
- (A) John Hogg (B) Ernst Haeckel
(C) Herbert Copeland (D) Robert Whittaker

44. **The difference between the kingdom Protista of Robert whittaker and Margulis and Schwartz is:**
- (A) Whittaker placed simple organisms in Protista while Margulis and Schwartz placed complex organism in Protista
 - (B) Whittaker placed unicellular organism while Margulis and Schwartz placed unicellular, and simple multicellular organism
 - (C) Whittaker did not place fungi and fungi like protists while Margulis and Schwartz did
 - (D) None of above
45. **In which character, protists do not show diversity?**
- (A) Ways of obtaining nutrients
 - (B) Interaction with other organisms
 - (C) Mode of reproduction
 - (D) None of the above
46. **Which of following groups does not form pseudopodia?**
- (A) Amoebas
 - (B) Actinopoda
 - (C) Foraminifera
 - (D) Apicomplexans
47. **Which of following characters is not of zooflagellates?**
- (A) These protists are mostly unicellular. A few organisms are colonial
 - (B) They have spherical or elongated bodies
 - (C) They have single central nucleus
 - (D) They have pseudopodia
48. **Which of following are free living zooflagellates?**
- (A) Trichonymphas
 - (B) Trypanosoma
 - (C) Choanoflagellates
 - (D) None of above
49. **Which of the following zooflagellates is the possible ancestor of sponge?**
- (A) Trichonymphas
 - (B) Trypanosoma
 - (C) Choanoflagellates
 - (D) None of above
50. **Micronuclei of ciliates are involved in:**
- (A) Control of nutrition
 - (B) Sexual reproduction
 - (C) Asexual reproduction
 - (D) Control of movement of cilia
51. **Which of the followings is not the function of macronucleus?**
- (A) Control of nutrition
 - (B) Sexual reproduction
 - (C) Control of metabolism
 - (D) Control of movement of cilia

52. Which group of the followings have outer shell or test?
(A) Amoebas (B) Actinopoda, Foraminifera
(C) Apicomplexans (D) Ciliates
53. Which of the following take part in the formation of coral reefs?
(A) Amoebas (B) Foraminifera
(C) Apicomplexans (D) Ciliates
54. Which group of the followings has no locomotory organs?
(A) Amoebas (B) Actinopoda, Foraminifera
(C) Apicomplexans (D) Ciliates
55. The coenocytes are:
(A) An algae without nucleus (B) An algae with many nuclei
(C) An algae with one nucleus (D) None of above
56. A thallus is a body:
(A) Having no specific structure
(B) Having roots, but stem and leaves are absent
(C) Having stem but no true leaves or roots
(D) Having no specific root, stem and leaves
57. Which of the following pigment is absent in algae:
(A) Carotenoids (B) Xanthophylls
(C) Phycoerythrin (D) Phycocyanin
58. Some biologists believe that Euglena is an animal, because:
(A) It can move (B) It lacks cell wall
(C) It reproduces like plants (D) It can ingest food like animal
59. Which of the following pigment is not present in dinoflagellates?
(A) Chlorophyll a (B) Carotenes
(C) Fucoxanthin (D) Phycoerythrin
60. Which characteristic of the following is not shown by Diatoms?
(A) They are usually unicellular
(B) They do not have cilia as locomotory organs
(C) Their pigments are chlorophyll a, chlorophyll c, carotenes and fucoxanthin
(D) The cell wall of each diatom consists of two shells

61. **The kelps are:**
(A) Small red algae (B) Large red algae
(C) Small brown algae (D) Large brown algae
62. **The red algae have a red pigment called:**
(A) Chlorophyll a, (B) Carotenes
(C) Fucoxanthin (D) Phycoerythrin
63. **Monophyletic lineage means:**
(A) Origin from one group (B) Origin from one phylum
(C) Origin from one ancestor (D) Origin from many ancestor
64. **Green algae are supposed to be ancestor of plants because:**
(A) They perform photosynthesis like plants
(B) Their body is plant like
(C) Their pigments are plant like
(D) Some of them are multicellular like plants
65. **Which of the following algae is used as food source?**
(A) Volvox (B) Spirogyra
(C) Ulva (D) Chlorella
66. **Fungus like protists is not placed in Fungi because:**
(A) Their body is not fungi like
(B) Their method of reproduction is not plant like
(C) Their cell wall is not plant like
(D) Their method of reproduction is not plant like
67. **The feeding stage of slime mold is called:**
(A) Trypanosoma (B) Plasmodium
(C) Volvox (D) Swarm cells
68. **Physarum polycephalum is used as model organism in biology for the study of:**
(A) Mitosis (B) Streaming movement of cytoplasm
(C) Methods of reproduction (D) Methods of locomotion

69. **Phytophthora infestansi** is notorious in human history because:
- (A) It has caused many disease in man
 - (B) It has caused famine for man
 - (C) It has destroyed many animals
 - (D) None of above
70. The kingdom Protista contain ————— major groups of eukaryotic organisms.
- (A) 4
 - (B) 2
 - (C) 3
 - (D) 5
71. **Trichonymphas** are:
- (A) Symbiont
 - (B) Parasites
 - (C) Green Algae
 - (D) Red Algae
72. Who Proposed the Kingdom Protista for microscopic organisms?
- (A) Haeckel
 - (B) Copeland
 - (C) Whittaker
 - (D) John Hogg
73. African sleeping sickness is caused by:
- (A) Pelomyxa
 - (B) Stentor
 - (C) Entamoeba
 - (D) Trypanosoma
74. These are unicellular organisms with a flexible flagella:
- (A) Actinopods
 - (B) Foraminiferans
 - (C) Flagellates
 - (D) Ciliates
75. The cell wall consists of two over lapping shell in:
- (A) Euglenoids
 - (B) Brown algae
 - (C) Dinoflagellates
 - (D) Diatoms
76. **Polysiphonia** is a representative of:
- (A) Brown algae
 - (B) Diatoms
 - (C) Green algae
 - (D) Red algae
77. It has cells with two halves:
- (A) Desmid
 - (B) Ulva
 - (C) Dinoflagellats
 - (D) Volvox

78. It is a fungus like protist:
- (A) Chlorella (B) Physarum polycephalum
(C) Rhizopus (D) Penicillium
79. Oomycetes show close relation with fungi and their cell wall contains:
- (A) Chitin (B) Muramic acid
(C) Silica (D) Cellulose
80. Amoeba moves and obtains food by means of:
- (A) Cilin (B) Flagella
(C) Pseudopodia (D) Gametangia
81. The sexual process exhibited by most ciliates is called:
- (A) Oogamy (B) Fertilization
(C) Binary Fission (D) Conjugation
82. Parasitic Protozoans that form spores at some stage in their life belong to:
- (A) Apicomplexans (B) Ciliates
(C) Actinopods (D) Diatoms
83. Algae in which body is differentiated into blade, stipe and hold fast belong to:
- (A) Kelps (B) Euglenoids
(C) Golden algae (D) Green algae
84. The feeding stage of a slime mold is called:
- (A) Mycelium (B) Pseudopodium
(C) Hyphae (D) Plasmodium
85. All protists have evolved from:
- (A) Protists (B) Prokaryotes
(C) Polyphyletic (D) Plants
86. Eukaryotic kingdom arose from:
- (A) Prokaryotes (B) Polyphyletic
(C) Plasmodium (D) Protists
87. The protists are:
- (A) Eukaryotic (B) Prokaryotic
(C) Subcellular (D) All of the above

88. Which one is not develop from a blastula?
- (A) Protists (B) Prokaryotes
(C) Plasmodium (D) Polyphyletic
89. The kingdom protista contains how many major groups of eukaryotic organisms?
- (A) Five (B) Three
(C) Two (D) Four
90. In which year Herbert Copeland elevated the prokaryotes to the status of kingdom?
- (A) 1932 (B) 1938
(C) 1931 (D) 1929
91. Most biologists regard the Protists as a _____ group of organism.
- (A) Polyphyletic (B) Protists
(C) Prokaryotes (D) Plasmodium
92. Which of these is an example of foraminifera?
- (A) Plasmodium (B) Protists
(C) Limestone (D) Foramis
93. A common example of the group apicomplexans is:
- (A) Polyphyletic (B) Plasmodium
(C) Limestone (D) Prokaryotes
94. Paramecium, vorticella and stentor belong to the group:
- (A) Ciliata (B) Silica
(C) Limestone (D) Tsetse
95. Which of these causes amoebic dysentery is human?
- (A) Zooflagelates (B) Euglenoid
(C) Ciliates (D) Entamoeba histolytica
96. The giant amoeba obtains its energy from:
- (A) Methanogenic bacteria (B) Foramis
(C) Trichonympha (D) Apicomplexans

97. Which of these has multiple membrane-bound nuclei but none of the other organelles?
- (A) Giant amoeba (B) Forams
(C) Ciliata (D) Plasmodium
98. Which of these live as symbionts in the guts of termites?
- (A) Red (B) Trichonympha
(C) Tsetse (D) Silica
99. Trypanosoma is transmitted by the bite of infected:
- (A) Entamoeba histolytica (B) common fly
(C) Tsetse fly (D) Trichonymphus
100. Shells of actinopods are made of:
- (A) Silica (B) Giant amoeba
(C) Ciliata (D) Limestone
101. The feeding stage of a slime mold is:
- (A) Blastostyle (B) Gastrozooids
(C) Plasmodium (D) Sporozoite
102. Which of these lack specific structure for locomotion but move by flexing?
- (A) Kelps (B) Apicomplexans
(C) Zooflagellates (D) Euglenoid
103. Which are the major producers in aquatic ecosystem?
- (A) Green Algae (B) Apicomplexans
(C) Diatoms (D) Euglenoid
104. Phycoerythrin is found in:
- (A) Red algae. (B) Euglenoid algae.
(C) Apicomplexans (D) Kelps
105. Which of the following are thought to be closely related to zooflagellates?
- (A) Euglenoid (B) Giant amoeba
(C) Red algae (D) Apicomplexans
106. The largest brown algae are called:
- (A) Kelps (B) Euglenoid
(C) Plasmodium (D) Red

- 107. Which one red algae incorporate in their cell walls?**
(A) COCa_3 (B) CaCO_3
(C) Kelps (D) Plasmodium
- 108. Which is a naked mass of cytoplasm having many nuclei?**
(A) Limestone (B) Plasmodium
(C) Kelps (D) Euglenoid
- 109. What was the cause of Irish potato famine of the 19th century?**
(A) Polyphyletic (B) Phytophthora Infestans
(C) Prokaryotes (D) Euglenoid
- 110. Protists:**
(A) Eukaryotic (B) Actinopod
(C) Euglena (D) Bacteria
- 111. Earnst Haeckel:**
(A) 1865 (B) 1863
(C) 1864 (D) 1866
- 112. Monera:**
(A) Actinopod (B) Eukaryotic
(C) Bacteria (D) Euglena
- 113. Radiolarians:**
(A) Actinopod (B) Bacteria
(C) Euglena (D) Eukaryotic
- 114. Zooflagellate:**
(A) Bacteria (B) Eukaryotic
(C) Euglena (D) Actinopod
- 115. Flagellates:**
(A) Malaria (B) Symbionts
(C) Foraminiferans (D) Coordinated movement
- 116. Cilia:**
(A) Symbionts (B) Saprophyte
(C) Malaria (D) Coordinated movement

117. Conjugation:

- | | |
|--------------------------|----------------|
| (A) Coordinated movement | (B) Ciliates |
| (C) Symbionts | (D) Saprophyte |

118. Shell:

- | | |
|--------------------|--------------|
| (A) Foraminiferans | (B) Ciliates |
| (C) Saprophyte | (D) Malaria |

119. Plasmodium:

- | | |
|--------------------------|--------------------|
| (A) Coordinated movement | (B) Foraminiferans |
| (C) Symbionts | (D) Malaria |

120. Rhodophyta:

- | | |
|-----------------|------------------|
| (A) Chrysophyta | (B) Oomycetes |
| (C) Chondrus | (D) Acetabularia |

121. Diatoms:

- | | |
|------------------|-----------------|
| (A) Chondrus | (B) Oomycetes |
| (C) Acetabularia | (D) Chrysophyta |

122. Brown algae:

- | | |
|----------------|-----------------|
| (A) Myxomycota | (B) Oomycetes |
| (C) Oomycetes | (D) Macrocystis |

123. Green algae:

- | | |
|-----------------|------------------|
| (A) Oomycetes | (B) Myxomycota |
| (C) Macrocystis | (D) Acetabularia |

124. Slime mold:

- | | |
|-----------------|-----------------|
| (A) Macrocystis | (B) Chrysophyta |
| (C) Myxomycota | (D) Chondrus |



8

CHAPTER

FUNGI

1. The number of species of fungi are:
(A) 80,000 (B) 90,000
(C) 100,000 (D) 110,000
2. Which of the following are pathogenic fungi?
(A) Truffles (B) Morels
(C) Rust (D) Penicillium
3. Which of the following fungi is used in breweries?
(A) Truffles (B) Morels
(C) Rust (D) Penicillium
4. Which of the following fungi is a delicious fungus?
(A) Truffles (B) Morels
(C) Rust (D) Penicillium
5. Which of the following is not present in fungi?
(A) Cell wall (B) Centrioles
(C) Spores (D) Nuclei
6. Which of the following is a resemblance of fungi with animals?
(A) Mitosis (B) Spores
(C) Chitin (D) Hyphae
7. Contaminated milk, egg and meat may also have small amount of:
(A) Aspergillus (B) Mycorrhiza
(C) Yeast (D) Griseofulvin

8. Which of the followings is the special character of fungi, present only in it?
(A) Chitin (B) Centrioles
(C) Hyphae (D) Nuclear mitosis
9. The body of fungus is called:
(A) Hyphae (B) Thallus
(C) Mycelium (D) Coenocytes
10. The mycelium is composed of:
(A) Hyphae (B) Thallus
(C) Cells (D) Coenocytes
11. Which of the followings is a non-hyphal fungus?
(A) Truffles (B) Yeast
(C) Rust (D) Penicillium
12. Which of the following may be called world's largest organism?
(A) Truffles (B) Yeast
(C) Armillaria (D) Penicillium
13. The fungi which absorb decomposed food are called:
(A) Saprotrophs (B) Parasites
(C) Predators (D) Mutualistic
14. Rhizoids are present in fungi:
(A) Saprotrophs (B) Parasites
(C) Predators (D) Mutualistic
15. Which of the following fungi have haustoria?
(A) Saprotrophs (B) Parasites
(C) Predators (D) Mutualistic
16. The fungi arthrotrichs are:
(A) Saprotrophs (B) Parasites
(C) Predators (D) Mutualistic
17. The association in which both organisms get benefits is called:
(A) Saprotrophs (B) Parasites
(C) Predators (D) Mutualistic

18. The mutualistic association is observed between fungi and algae called:
- (A) Lichens (B) Mycorrhizae
(C) Arthrobotrys (D) None of the above
19. Which of the following is true for mushrooms whose gills glow in the dark?
- (A) Amanita verna (B) Truffles
(C) Agaricus (D) Omphalotus olearius
20. The lichens which form branching system are called:
- (A) Crustose (B) Foliose
(C) Fruticose (D) None of the above
21. The lichens which are leaf like are called:
- (A) Crustose (B) Foliose
(C) Fruticose (D) None of the above
22. The structures produced inside the sporangia are called:
- (A) Crustose (B) Foliose
(C) Fruticose (D) None of the above
23. An outgrowth in fungi which detaches and forms new hyphae is called:
- (A) Spore (B) Conidia
(C) Fragment (D) Bud
24. Naked spores are called:
- (A) Spore (B) Conidia
(C) Fragment (D) Bud
25. The fusion of cytoplasm of fungi is called:
- (A) Plasmogamy (B) Karyogamy
(C) Cytogamy (D) Oogamy
26. The fusion of nuclei of fungi is called:
- (A) Plasmogamy (B) Karyogamy
(C) Cytogamy (D) Oogamy
27. The dikaryotic hyphae is produced only by:
- (A) Plasmogamy (B) Karyogamy
(C) Cytogamy (D) Oogamy

28. **Rhizopus belongs to which of the following groups?**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
29. **Penicillium belongs to which of the following groups?**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
30. **Rusts belongs to which of the following groups?**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
31. **Conjugation takes place in:**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
32. **The number of species of ascomycota is:**
(A) 60,000 (B) 50,000
(C) 40,000 (D) 20,000
33. **Ascospores are formed by meiosis. The number of Ascospores in an ascus is:**
(A) 2 (B) 4
(C) 6 (D) 8
34. **The asexual spore in Ascomycetes is:**
(A) Ascospore (B) Basidiospore
(C) Conidia (D) Simple spore
35. **Club fungi are:**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
36. **Basidium is present in:**
(A) Conjugation fungi (B) Sac fungi
(C) Club fungi (D) Fungi imperfecti
37. **Which of the followings is smut?**
(A) Ustilago (B) Aspergillus
(C) Puccinia (D) None of the above

38. Which of the following is rust?
(A) Ustilago (B) Aspergillus
(C) Puccinia (D) None of the above
39. Sexual reproduction is absent in which of the followings?
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
40. Which of the followings can act as bioindicators?
(A) Smut (B) Mycorrhizae
(C) Lichens (D) Aspergillus
41. Which of the followings are poisonous fungi?
(A) Morels (B) Truffles
(C) Toadstools (D) Rust
42. Which of the following fungi is used to give aroma to cheese?
(A) Yeasts (B) Penicillium
(C) Aspergillus (D) Neurospora
43. Which of the following fungi is used for producing Soya paste:
(A) Yeasts (B) Penicillium
(C) Aspergillus (D) Neurospora
44. Citric acid is obtained from:
(A) Yeasts (B) Penicillium
(C) Aspergillus (D) Neurospora
45. Natural dyes are obtained from fungi:
(A) Yeasts (B) Penicillium
(C) Aspergillus (D) Neurospora
46. Which of the following drugs is used for lowering the blood pressure?
(A) Penicillin (B) Lovastatin
(C) Cyclosporine (D) Ergotone
47. Which of the following drugs is used to relieve headache?
(A) Penicillin (B) Lovastatin
(C) Cyclosporine (D) Ergotone

48. Which of the following is an oral or vaginal thrush?
- (A) Ringworm (B) Candidosis
(C) Histoplasmosis (D) Ergotism
49. Which of the following becomes more active in defective immune system like AIDS?
- (A) Penicillin (B) Lovastatin
(C) Cyclosporine (D) Aspergillosis
50. Most of the visible part of lichen consists of?
- (A) Fungi (B) Algae
(C) Roots (D) Bacteria
51. Which of the following fungi causes wood rotting?
- (A) Ustilago (B) Aspergillus
(C) Puccinia (D) Shelf fungi
52. Which of the following is not a similarity of fungus with plants?
- (A) Both have cell wall (B) Both lack centrioles
(C) Both are autotrophic (D) Both are non-motile
53. Which of the following is not a difference of fungi from animals?
- (A) Fungi have cell wall but absent in animals
(B) Fungi are heterotrophs but the animals are not
(C) Fungi are absorptive heterotrophs
(D) Fungi are non-motile
54. In mitosis of fungi:
- (A) Nuclear membrane disappear
(B) Nucleoli disappear
(C) Fungi are absorptive heterotrophs
(D) Fungi are non-motile
55. A mycelium is a group of:
- (A) Cells (B) Fungi
(C) Hyphae (D) Tissue

56. **A coenocytic hyphae:**
(A) With cross walls (B) Without cross walls
(C) Without nuclei (D) Without cytoplasm
57. **All nuclei of the fungi are haploid except:**
(A) Nuclei of gametes (B) Nucleic of spores
(C) Nuclei of zygote (D) None of the above
58. **The world's largest organism may be:**
(A) An algae (B) A fungi
(C) A plant (D) An animal
59. **The haustoria is special structure which:**
(A) Penetrate into the soil (B) Penetrate into the plants
(C) Penetrate into the host (D) None of the above
60. **Rust fungi belong to genus?**
(A) Ustilago (B) Aspergillus
(C) Puccinia (D) Yeast
61. **Lovastatin is fungal product which lowers the blood.**
(A) Suger (B) Urea
(C) Ca^{++} (D) Cholestrol
62. **Bioindicators are the organisms which:**
(A) Indicate about the change in seasons
(B) Indicate about the change in environment
(C) Indicate about the change in structural changes in organisms
(D) None of the above
63. **Which of the following Lichens is attached with the rock:**
(A) Crustose lichens (B) Foliose lichens
(C) Fruticose lichens (D) None of the above
64. **Fungi store food in form of:**
(A) Starch (B) Glycogen
(C) Cellulose (D) Glucose

65. **The imperfect Fungi are also called:**
(A) Basidiomycetes (B) Ascomycetes
(C) Deutromycetes (D) Zygomycetes
66. **Sexual reproduction in fungi takes place by:**
(A) Fusion of gamates (B) Fusion of hyphae
(C) Fusion of nuclei (D) Fusion of cytoplasm
67. **Heterokaryotic hyphae are those hypae which have:**
(A) Nucleus of same hyphae (B) Nucleus of different hyphae
(C) Two nuclei of same hyphae (D) Two nuclei of different hyphae
68. **Which of the following is fruiting body?**
(A) Conidia (B) Basidiospore
(C) Basidium (D) Sporangium
69. **Which of the following groups is multinucleate?**
(A) Zygomycota (B) Ascomycota
(C) Basidiomycota (D) Deutromycota
70. **Ascospores are:**
(A) Haploid (B) Diploid
(C) Dikaryotic (D) None of the above
71. **Ustilago tritici is a:**
(A) Smut of wheat (B) Loose smut of wheat
(C) Rust of wheat (D) None of the above
72. **Deutromycota is group of fungi in which:**
(A) Ascospores are present (B) Sexual reproduction is present
(C) Sexual reproduction is absent (D) Basidiospores are present
73. **Parasexuality is a phenomenon in which:**
(A) Exchange of gametes between different hyphae
(B) Exchange of gametes within the same hyphae
(C) Exchange of part of chromosome between two hyphae
(D) Exchange of part of chromosome in the same hyphae

74. The blue green colour of *pencillium* is due to the presence of:
- (A) Blue hyphae (B) Blue gametes
(C) Blue spores (D) Blue conidia
75. The rapid growth of hyphae of fungi takes place due to:
- (A) Rapid cell division (B) Cytoplasmic flow through the hypae
(C) Rapid absorption of food (D) None of the above
76. Which function of the fungi do you believe to be most important?
- (A) Decomposition (B) Fungi used as food
(C) Bioindicator (D) Bioremediation
77. Penicillin was the first antibiotics discovered by:
- (A) Pasteur (B) Edward Jenner
(C) A. Fleming (D) None of the above
78. Lovastatin is used:
- (A) For lowering the blood pressure
(B) For lowering the blood cholesterol
(C) For removing germs form the body
(D) For lowering body temperature
79. Histoplasmosis is a:
- (A) Heart disease (B) Lung disease
(C) Kidney disease (D) None of the above
80. Aflatoxins is a:
- (A) Disease (B) Toxin
(C) Drug (D) None of the above
81. Which of the following is not symptom of Ergotism?
- (A) Convulsion (B) Psychotic delusion
(C) Gangrene (D) Indigestion
82. Fungi resemble plants because they:
- (A) Have cell wall (B) Lack centriole
(C) Are non-motile (D) All of the above

83. **Fungi resemble animals because they are:**
(A) Heterotrophs (B) Saprotrophs
(C) Heterosporous (D) Autotrophs
84. **Fungal cell walls contain chitin, which is also found in exoskeleton of:**
(A) Chordates (B) Molluscs
(C) Echinoderms (D) Arthropods
85. **Fungi are different from animals because they:**
(A) Are non-motile (B) Have cell wall
(C) Are absorptive heterotrophs (D) All of the above
86. **In lichens, fungus protects the algal partner from:**
(A) Dessication (B) Strong light
(C) Both A and C (D) High temperature
87. **Fungi grow best in habitats which have:**
(A) Moisture and organic food (B) Moisture and carbon dioxide
(C) Moisture and light (D) Moisture and Oxygen
88. **In fungi, asexual reproduction takes place by:**
(A) Conidia (B) Budding
(C) Fragmentation (D) All of the above
89. **Which of the following is not true for spores produced by fungi?**
(A) They are non-motile (B) They need water for their dispersal
(C) They are haploid (D) They are produced in large number
90. **The number of ascospores inside each ascus is commonly:**
(A) 12 (B) 10
(C) 8 (D) 6
91. **In basidiomycetes, fruiting body is made up of mycelium which is:**
(A) Polykaryotic (B) Monokaryotic
(C) Trikaryotic (D) Dikaryotic
92. **Poisonous mushrooms are called as:**
(A) Tuber (B) Truffles
(C) Morels (D) Toadstools

93. **Griseofulvin is obtained from fungi and is used to:**
(A) Relieve migraine (B) Lower blood cholesterol
(C) Prevent transplant rejection (D) Inhibit fungal growth
94. **Which of the following is not a fungal disease of plants?**
(A) Potato wilt (B) Ergot of rye
(C) Tobacco mosaic disease (D) Cotton root rot
95. **Fungi can absorb the food from substrate because they have:**
(A) Ascospores (B) Conidia
(C) Rhizoids (D) Sporangioophores
96. **Which of the following is associated with asexual reproduction in fungi?**
(A) Ascospores (B) Zygozores
(C) Conidia (D) Basidiospores
97. **Mycelium consists of long, slender, branched tubular thread like filaments, called as:**
(A) Sporangia (B) Karyogamy
(C) Haustoria (D) Hyphae
98. **Parasitic fungi absorb nutrients from the cytoplasm of living host with the help of special hyphal tips called:**
(A) Facultative (B) Hyphae
(C) Haustoria (D) Karyogamy
99. **The parasites which can grow on their host as well as by themselves by artificial growth media are called:**
(A) Facultative (B) Karyogamy
(C) Rhizoids (D) Glycogen
100. **Which of this mushroom is a carnivorous fungus?**
(A) Karyogamy (B) Sporangia
(C) Glycogen (D) Oyster
101. **Lichens are ecologically very important as:**
(A) Bioinsecticide (B) Biofertilizer
(C) Biological control (D) Bioindicators

- 102. Which one is mutualistic association between certain fungi and roots of vascular plants?**
(A) Ascomycota / Ascomycetes (B) Mycorrhizae
(C) Puccinia (D) Migraine
- 103. Which of the following is a major structural component of fungus cell wall?**
(A) Cellulose (B) Peptidoglycon
(C) Chitin (D) Lignin
- 104. Spores are produced inside the reproductive structures called:**
(A) Ascocarps (B) Cyclosporine
(C) Ascomycota / Ascomycetes (D) Sporangia
- 105. Fusion of nuclei is called as:**
(A) Rhizoids (B) Ascocarps
(C) Dikaryotic / Heterokaryotic (D) Karyoganny
- 106. A fungal hypha having two nuclei of different genetic types is called as:**
(A) Ascomycota / Ascomycetes (B) Cyclosporine
(C) Dikaryotic / Heterokaryotic (D) A-Fleming
- 107. Ascospores are produced in special fruiting bodies called as:**
(A) Ascocarps (B) Bacidiocarp
(C) Conidia (D) Spores
- 108. Which is the largest group of fungi, including over 60,000 species?**
(A) Ascomycota / Ascomycetes (B) Ascocarps
(C) Conidia (D) Puccinia
- 109. Basidiomycetes are also called as:**
(A) Sac fungi. (B) Neutral fungi.
(C) Club fungi. (D) All of the above
- 110. Which species are the most common rust fungi?**
(A) Ustilago (B) Pilobolus
(C) Puccinia (D) Aspergillus
- 111. Imperfect fungi show special kind of genetic recombination called as:**
(A) Conidia (B) Rhizoids
(C) Parasexuality (D) Puccinia

- 112. Penicillium reproduces asexually by means of naked spores called as:**
- (A) Conidia (B) Buds
(C) Frangments (D) Rhizoids
- 113. Which one are the modified hyphae which anchor the fungus to substrate?**
- (A) Rhizoids (B) Stolon
(C) Ascus (D) Sporangiphore
- 114. What percentage of all kinds of vascular plants has mycorrhizal mutualistic association with fungi?**
- (A) 93 (B) 95
(C) 97 (D) 99
- 115. How many species of mushrooms, morels and truffles are edible?**
- (A) 100 (B) 400
(C) 200 (D) 300
- 116. Which one is obtained from a soil fungus used in organ transplantation?**
- (A) Ampiciline (B) Tetracyclin
(C) Puccinia (D) Cyclosporine
- 117. Penicillin is the first antibiotic, discovered by:**
- (A) A-Fleming (B) Al-Razi
(C) A-Humming (D) None of the above
- 118. Ergotine is used to relieve:**
- (A) Hepatitis C (B) Candodosis
(C) Skin cancer (D) Migraine
- 119. In 1983, a functional artificial chromosome was made of:**
- (A) Haemophilus influenzae (B) Saccharomyces cirvisiae
(C) Homo sapiens (D) Cassia fistula
- 120. Histoplasmosis is a serious infection of:**
- (A) Lung (B) Abdomen
(C) Heart (D) Small intestine

121. Some strains of *Aspergillus flavus* produce one of the most carcinogenic mycotoxins called as:
- (A) Aflatoxins (B) Antitoxin
(C) Detoxin (D) All of the above
122. Which is caused by eating bread made from purple ergot – contaminated rye flour?
- (A) Migraine (B) Lung cancer
(C) Ergotism (D) Appendix
123. Up to which percentage of world's fruit is lost each year due to fungal attack:
- (A) 48 (B) 50
(C) 52 (D) 54
124. Ergotism:
- (A) A-Fleming (B) Toadstool
(C) Carcinogenic (D) Contaminated rye flour
125. Aflatoxin:
- (A) Morel (B) Contaminated rye flour
(C) Carcinogenic (D) A-Fleming
126. Penicillin:
- (A) Morel (B) Pink bread mold
(C) Contaminated rye flour (D) A-Fleming
127. Amanita:
- (A) A-Fleming (B) Toadstool
(C) Morel (D) Contaminated rye flour
128. Neurospora:
- (A) Pink bread mold (B) Morel
(C) A-Fleming (D) Contaminated rye flour
129. Bioremediation:
- (A) Contaminated rye flour (B) Degradation of pollutants
(C) Imperfect fungi (D) Anchoring Hyphae

130. Rhizoid:

- (A) Anchoring Hyphae
- (B) Septate hyphae
- (C) Imperfect fungi
- (D) Coenocytic hyphae

131. Deuteromycetes:

- (A) Degradation of pollutants
- (B) Septate hyphae
- (C) Imperfect fungi
- (D) Coenocytic hyphae

132. Zygomycetes:

- (A) Septate hyphae
- (B) Imperfect fungi
- (C) Coenocytic hyphae
- (D) Perfect fungi

133. Ascomycetes:

- (A) Septate hyphae
- (B) Perfect fungi
- (C) Coenocytic hyphae
- (D) Imperfect fungi degradation of pollutants

134. Conidia:

- (A) Mass of hyphae
- (B) Non-motile asexual spores
- (C) Source of an antibiotic
- (D) Fruiting body

135. Lichen:

- (A) Decomposer
- (B) Mutualist
- (C) Fruiting body
- (D) Mass of hyphae

136. Saprobes:

- (A) Source of an antibiotic
- (B) Non-motile asexual spores
- (C) Mass of hyphae
- (D) Decomposer

137. Mycelium:

- (A) Source of an antibiotic
- (B) Mass of hyphae
- (C) Fruiting body
- (D) Mutualist

138. Penicillium:

- (A) Source of an antibiotic
- (B) Decomposer
- (C) Fruiting body
- (D) Mutualist

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(C)	3.	(B)	4.	(A)	5.	(B)
6.	(C)	7.	(D)	8.	(D)	9.	(C)	10.	(A)
11.	(B)	12.	(C)	13.	(A)	14.	(A)	15.	(B)
16.	(C)	17.	(D)	18.	(A)	19.	(D)	20.	(C)
21.	(B)	22.	(A)	23.	(D)	24.	(B)	25.	(A)
26.	(B)	27.	(A)	28.	(A)	29.	(D)	30.	(C)
31.	(A)	32.	(A)	33.	(B)	34.	(C)	35.	(B)
36.	(C)	37.	(A)	38.	(C)	39.	(D)	40.	(C)
41.	(B)	42.	(B)	43.	(C)	44.	(C)	45.	(B)
46.	(B)	47.	(D)	48.	(C)	49.	(D)	50.	(A)
51.	(D)	52.	(C)	53.	(B)	54.	(C)	55.	(C)
56.	(B)	57.	(C)	58.	(B)	59.	(C)	60.	(C)
61.	(D)	62.	(B)	63.	(B)	64.	(B)	65.	(C)
66.	(C)	67.	(D)	68.	(C)	69.	(A)	70.	(A)
71.	(B)	72.	(C)	73.	(D)	74.	(D)	75.	(B)
76.	(A)	77.	(C)	78.	(B)	79.	(B)	80.	(B)
81.	(D)	82.	(C)	83.	(A)	84.	(D)	85.	(D)
86.	(C)	87.	(D)	88.	(D)	89.	(D)	90.	(C)
91.	(C)	92.	(C)	93.	(D)	94.	(C)	95.	(A)
96.	(D)	97.	(D)	98.	(B)	99.	(C)	100.	(D)
101.	(D)	102.	(B)	103.	(C)	104.	(A)	105.	(D)
106.	(C)	107.	(A)	108.	(A)	109.	(C)	110.	(C)
111.	(C)	112.	(A)	113.	(A)	114.	(B)	115.	(C)
116.	(D)	117.	(A)	118.	(D)	119.	(B)	120.	(A)
121.	(A)	122.	(C)	123.	(B)	124.	(D)	125.	(C)
126.	(D)	127.	(B)	128.	(A)	129.	(B)	130.	(A)
131.	(C)	132.	(C)	133.	(A)	134.	(B)	135.	(B)
136.	(D)	137.	(B)	138.	(A)				

SCHOOLZ

9
CHAPTER

KINGDOME PLANTAE

1. The number of species of plants is:
(A) 340,000 (B) 350,000
(C) 30,000 (D) 370,000
2. Which of the following is not the characteristic of the plants?
(A) Eukaryotic (B) Embryo
(C) Motile (D) Cellulose
3. Mosses belongs to:
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) Lycopsida
4. Which of the followings is not a bryophyte?
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) Lycopsida
5. Marchantia is an example of:
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) Lycopsida
6. Funaria is an example of:
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) Lycopsida
7. Which of the following plant is called amphibious plant?
(A) Bryophytes (B) Embryophytes
(C) Tracheophytes (D) None of the above

8. Which of the following is a male reproductive cell?
(A) Antheridia (B) Archegonia
(C) Anthrozoids (D) Oocyte
9. Which of the following is a female reproductive organ?
(A) Antheridia (B) Archegonia
(C) Anthrozoids (D) Oocyte
10. Which of the following is a male reproductive cell?
(A) Antheridia (B) Archegonia
(C) Anthrozoids (D) Oocyte
11. Thallus body is present in which of the following?
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) Lycopsida
12. Which of the following is not a character of monocots:
(A) Petals 5 or multiple of five (B) Single cotyledon
(C) Scattered vascular bundle (D) Parallel venation
13. Wings are involved in pollination in case of:
(A) Ferns (B) Gymnosperms
(C) In only pinus (D) Angiosperms
14. Meristematic tissues are present in:
(A) Bryopsida (B) Anthocerotae
(C) Hepaticopsida (D) None of the above
15. Which of the following is a diploid?
(A) Antheridia (B) Oospore
(C) Anthrozoids (D) Oocyte
16. The vascular plants are:
(A) Bryophytes (B) Embryophytes
(C) Tracheophytes (D) None of the above
17. Which of the following are called club mosses?
(A) Bryopsida (B) Psilopsida
(C) Sphenopsida (D) Lycopsida

18. Which of the following is called whisk fern?
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
19. Which of the following is called horse tail?
(A) Bryopsida (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
20. Which of the following are true ferns?
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
21. Rhizome is present in:
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
22. Ligules are present in:
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
23. Which of the following group of plants have microphylls?
(A) Rhynia (B) Lycopodium
(C) Adiantum (D) Gingko
24. The unequal growth during evolution of megaphylls is called:
(A) Overtopping (B) Planation
(C) Webbing (D) Fusion
25. Which of the following plants are also called arthropytes?
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
26. Which of the following is a class?
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsida
27. Circinate venation is present in:
(A) Rhynia (B) Lycopodium
(C) Adiantum (D) Gingko

28. Fronds are present in:
(A) Filicineae (B) Psilopsida
(C) Sphenopsida (D) Lycopsidea
29. Which of the following is called maiden hair fern?
(A) Rhynia (B) Lycopodium
(C) Adiantum (D) Ginkgo
30. The thin walled cells in the edge of the capsule of adiantum are:
(A) Annulus (B) Stomium
(C) Indusium (D) Frond
31. Oosphere is formed in the:
(A) Neck (B) Venter
(C) Antheridium (D) Capsule
32. The plants which produce seeds are called:
(A) Bryophytes (B) Pteridophytes
(C) Tracheophytes (D) Spermatophytes
33. The evolution of seed occurs in:
(A) Triassic period (B) Carboniferous period
(C) Devonian period (D) Silurian period
34. Match seed with one of the following:
(A) Ovary (B) Ovule
(C) Stamen (D) Carpel
35. Match megasporangium with one of the following:
(A) Ovary (B) Ovule
(C) Stamen (D) Carpel
36. Match male gametophytes with one of the followings:
(A) Stamen (B) Pollen
(C) Carpel (D) Ovary
37. Which of the following structures is absent in gymnosperms?
(A) Pollen (B) Archegonium
(C) Pollen tube (D) Ovary

38. The female gametophyte of angiosperms are composed of:
(A) 3 cells (B) 5 cells
(C) 7 cells (D) 9 cells
39. The endosperm forms:
(A) Testa (B) Tegmen
(C) Store food (D) All of the above
40. The number of petals in monocots is:
(A) 4,5 or multiple (B) 3 or multiple
(C) 4 or multiple (D) 5 or multiple
41. The number of species of family Rosaceae is:
(A) 1000 (B) 15000
(C) 2000 (D) 3000
42. Which of the following are not the characteristics of the leaves of family Rosaceae?
(A) Alternate (B) Adnate
(C) Ex-stipulate (D) Compound
43. Which of the following is the characteristic of the flower of the Rosaceae?
(A) Unisexual (B) Perigynous
(C) Actinomorphic (D) Sessile
44. Which of the following is not the placentation of the family Rosaceae?
(A) Basal (B) Axile
(C) Marginal (D) All of the above
45. Number of petals in family Rosaceae are:
(A) 3 (B) 4
(C) 5 (D) 6
46. Which of the following fruits does not belong to family Rosaceae?
(A) Apple (B) Mango
(C) Apricot (D) Peach
47. The branches of which tree are used as walking sticks:
(A) Pyrus (B) Crataegus
(C) Rose (D) Almond

48. Which of the following trees is used for making tobacco pipes?
(A) *Pyrus* (B) *Crataegus*
(C) *Rose* (D) *Almond*
49. *Capsicum frutescens* is a:
(A) *Potato* (B) *Tobacco*
(C) *Tomato* (D) *Red pepper*
50. Ovary is obliquely placed in which of the following families?
(A) *Rosaceae* (B) *Solanaceae*
(C) *Poaceae* (D) *Fabaceae*
51. Vitamin C is present in the fruit of:
(A) *Physalis* (B) *Solanum tubersum*
(C) *Capsicum annum* (D) *Lysopersicum*
52. Which of the following plants is rich in atropine?
(A) *Petunia* (B) *Datura*
(C) *Solanum nigrum* (D) *Physalis*
53. Which of the following is an ornamental plant?
(A) *Petunia* (B) *Datura*
(C) *Solanum nigrum* (D) *Physalis*
54. The number of species of family *fabaceae* are:
(A) 3000 (B) 6000
(C) 9000 (D) 12000
55. *Cicer arietinum* is:
(A) *Sweet pea* (B) *Peanut*
(C) *Chick pea* (D) *Shisham*
56. Which of the following is not the floral character of the family *Fabaceae*?
(A) *Bisexual* (B) *Actinomorphic*
(C) *Bracteate* (D) *Perigynous*
57. Which of the following are the anterior most petals?
(A) *Standard* (B) *Wing*
(C) *Keel* (D) *None of the above*

58. The fruit of family Fabaceae is a:
(A) Nut (B) Pod
(C) Cryopsis (D) None of the above
60. Which of the followings is a fodder crop?
(A) Butea (B) Medicago
(C) Dalbergia (D) Clitoria
61. Vegetable oil is obtained from:
(A) Hypogea (B) Medicago
(C) Dalbergia (D) Clitoria
62. The seed of plant used as “ratti”:
(A) Hypogea (B) Medicago
(C) Dalbergia (D) Clitoria
63. The number of species of Caesalpiniaceae present in Pakistan is:
(A) 300 (B) 500
(C) 40 (D) 60
64. The biological name of Kachnar is:
(A) Tamarindus indica (B) Cassia fistula
(C) Bauhinia variegata (D) Cassia senna
65. The biological name of amaltas is:
(A) Tamarindus indica (B) Cassia fistula
(C) Bauhinia variegata (D) Cassia senna
66. Which of the following inflorescence is not present in family Caesalpiniaceae?
(A) Panicle (B) Spike
(C) Terminal raceme (D) Helicoids
67. Number of calyx in family Caesalpiniaceae is:
(A) 3 (B) 4
(C) 5 (D) 6
68. Number of corolla in family Caesalpiniaceae are:
(A) 5 (B) 10
(C) 15 (D) 20

69. The leaves of which of following plants are used for curing ring worms?
(A) Tamarindus indica (B) Cassia fistula
(C) Bauhinia variegata (D) Cassia senna
70. Which of the followings is used in tanning?
(A) Acacia nilotica (B) Cassia fistula
(C) Bauhinia variegata (D) Cassia senna
71. The total number of species of Mimosaceae is:
(A) 2000 (B) 2200
(C) 2800 (D) 2600
72. Which of the following plants is “touch me not”?
(A) Acacia nilotica (B) Albizzia lebbek
(C) Mimosa podica (D) Prosopis cineraria
73. Which of the followings plants is the “kikar”?
(A) Acacia nilotica (B) Albizzia lebbek
(C) Mimosa podica (D) Prosopis cineraria
74. Which of the following is the inflorescence of family Mimosaceae?
(A) Corymb (B) Cymose
(C) Panicle (D) Spike
75. Which the followings is the floral character of family Mimosaceae?
(A) Monosexual (B) Actinomorphic
(C) Hypogynous (D) Perigynous
76. The placentation in family Mimosaceae is:
(A) Axile (B) Basal
(C) Marginal (D) All of the above
77. Gum is obtained form:
(A) Acacia nilotica (B) Albizzia lebbek
(C) Mimosa podica (D) Prosopid cineraria
78. The dye “katha” is obtained from:
(A) Acacia nilotica (B) Albizzia lebbek
(C) Acacia catechu (D) Prosopis cineraria

79. The leaves of plants used as blood purifier:
(A) *Acacia nilotica* (B) *Albizzia lebbek*
(C) *Mimosa podica* (D) *Prosopis cineraria*
80. The number of genera of the family Gramineae is:
(A) 300 (B) 500
(C) 600 (D) 700
81. The biological name of rice is:
(A) *Triticum vulgare* (B) *Avena sativa*
(C) *Oryza sativa* (D) *Bambusa*
82. The biological name of oat is:
(A) *Triticum vulgare* (B) *Avena sativa*
(C) *Oryza sativa* (D) *Bambusa*
83. The grasses are:
(A) Annual herbs (B) Annual tree
(C) Perennial tree (D) None of the above
84. The spikelets are arranged on slender axis called:
(A) Thalamus (B) Pedicel
(C) Rachilla (D) Glumes
85. Hair-like structures present on spikelet are called:
(A) Lemma (B) Palae
(C) Awn (D) Glumes
86. The bracts which cover the spikelets are called:
(A) Lemma (B) Palae
(C) Awn (D) Glumes
87. Which of the following is the characteristic of the flower of family Poaceae?
(A) Large (B) Pedicillate
(C) Complete (D) Hypogynous
88. The perianth of the family Poaceae is called:
(A) Lemma (B) Palae
(C) Lodicules (D) Glumes

89. The fruit of family poaceae is a:
- (A) Nut (B) Caryopsis
(C) Pod (D) Legume
90. Which of the following is an ornamental plant?
- (A) Zea mays (B) Festuca
(C) Oryza (D) Avena
91. Sugar is obtained from:
- (A) Zea mays (B) Avena sativa
(C) Saccharum munja (D) Saccharum officinarum
92. Ropes are formed from:
- (A) Zea mays (B) Avena sativa
(C) Saccharum munja (D) Saccharum officinarum
93. The phylogenetic system of classification is a system in which the organisms are classified on the basis of:
- (A) External similarities (B) Internal similarities
(C) Similarity in origin (D) Similarity in organization
94. Kingdom plantae mainly includes:
- (A) Eukaryotic autotrophic, multicellular, non-motile organisms
(B) Develop from embryos
(C) Have cell wall outer to cell membrane. This cell wall is made up of cellulose.
(D) They have vascular tissue (xylem and phloem)
95. Which of the following divisions of Tracheophyta is called Whisk ferns:
- (A) Psilopsida (B) Lycopsida
(C) Sphenopsida (D) Pteropsida
96. Which of the following is not the character of the bryophytes?
- (A) Vascular system absent
(B) Gametophyte dominant
(C) Gametophyte attached to sporophyte
(D) Homosporous

97. **The bryophytes are also called amphibious plants because:**
(A) Their shape is amphibian like (B) They live in water
(C) They cannot live without water (D) They live both in water and land
98. **The heteromorphic alternation of generation are those in which:**
(A) Gametophyte and sporophyte are similar in structure and size
(B) Gametophyte and sporophyte are dissimilar structure but similar in size
(C) Gametophyte and sporophyte are similar in structure but dissimilar in size
(D) Gametophyte and sporophyte are dissimilar in both structure and size
99. **Which of the followings is not the characteristic of gametophyte of bryophytes?**
(A) Haploid (B) Dominant
(C) Dependent (D) Free living generation
100. **Which of the followings is the characteristic of the sporophyte of bryophytes?**
(A) Haploid (B) Dominant
(C) Dependent (D) Free living generation
101. **Which stage of the followings is haploid in bryophytes?**
(A) Sporophyte (B) Gametophyte
(C) Zygote (D) Embryo
102. **Which of the followings is not the adaptation of bryophytes on land?**
(A) They have compact body
(B) They have pores in their body
(C) They transfer their sperms by water
(D) They have rhizoids
103. **Protonema stage is produced in:**
(A) Hepaticae (B) Musci
(C) Anthocerotae (D) Pteridophytes
104. **Anthocerotae are slightly advanced than the Musci and Hepaticae due to:**
(A) Sporophyte is dominant over gametophyte
(B) Gametophyte is dominant over sporophyte
(C) Sporophyte has chloroplast
(D) Gametophyte has chloroplast

- 105. It is believed that the alternation of generation increase the chance of survival by producing variation in:**
- (A) Gametes and spores at the same time
 - (B) Gametes
 - (C) Spores
 - (D) Zygote
- 106. Which of the following characteristics is absent in tracheophytes?**
- (A) They have root, stem and leaves
 - (B) They have vascular systems in stems, roots and leaves
 - (C) They have protected sporangia
 - (D) Their gametophyte is dominant
- 107. Which of the following plants are rootless?**
- (A) Psilopsida
 - (B) Lycopsidea
 - (C) Sphenopsida
 - (D) Pteropsida
- 108. Rhizome is:**
- (A) Under ground stem
 - (B) Under ground root
 - (C) Under ground fruit
 - (D) None of the above
- 109. The evolution of leaf took place in some primitive fern like plants approximately:**
- (A) 350 million years ago
 - (B) 360 million years ago
 - (C) 370 million years ago
 - (D) None of above
- 110. Unequal growth takes place during which stage during evolution of seed?**
- (A) Overtopping
 - (B) Planation
 - (C) Fusion or wedding
 - (D) None of the above
- 111. The sporophylls are:**
- (A) Reproductive stem
 - (B) Reproductive leaves
 - (C) Reproductive roots
 - (D) None of the above
- 112. Ligules are present in the leaves of:**
- (A) Psilopsida
 - (B) Lycopsidea
 - (C) Sphenopsida
 - (D) Pteropsida

113. Which of the following are also called arthropytes?
(A) Psilopsida (B) Lycopsida
(C) Sphenopsida (D) Pteropsida
114. The sporangia of class Filicineae is called foliar sporangia because:
(A) The sporangia are flower like
(B) The sporangia develop from leaves
(C) The sporangia are attached with leaves
(D) None of the above
115. The pattern of development of the leave of ferns is called circinate vernation. In this case,
(A) Leaves coil over others
(B) Leaf coil on itself
(C) Leaves are arranged on stem in a coil pattern
(D) None of the above
116. Sorus in Adiantum is a:
(A) Group of leaves (B) Group of stems
(C) Group of spores (D) Group of sporangia
117. Meiosis in Adiantum takes place during:
(A) Spermatozoa formation (B) Egg formation
(C) Spore formation (D) None of the above
118. A monoecious plant is the one in which:
(A) Male and female reproductive organs are present on different plants
(B) Male and female reproductive organs are present on same plant
(C) Male and female reproductive organs are present on same stem or leaf
(D) None of the above
119. The unfertilized egg is called:
(A) Oospore (B) Oosphere
(C) Zygote (D) None of the above
120. The evolution of seed occurred about 365 million years ago during late:
(A) Devonian period (B) Jurassic period
(C) Triassic period (D) None of the above

- 121. Seed may be defined as:**
(A) A fertilized ovule (B) A fertilized ovary
(C) A fertilized zygote (D) A fertilized embryo
- 122. Heterosporous condition is necessary for the evolution of seed because:**
(A) Two types of spore become motile
(B) Only smaller spore is motile and larger spore remains immotile
(C) Only larger spore become motile and smaller spore becomes immotile
(D) Larger spore stores food and smaller spore becomes motile
- 123. Megaspores are retained within the megasporangium, so that:**
(A) It stores food (B) It protects Zygote
(C) It changes into seed (D) None of the above
- 124. Reduction to a single functional megaspore per sporangium takes place so that:**
(A) Seed has only one embryo (B) Fruit can be formed
(C) The healthy embryo is produced (D) None of above
- 125. Female gametophyte is:**
(A) Carpel (B) Ovule
(C) Ovary (D) Embryo sac
- 126. Male Gametophyte is:**
(A) Pollen grain (B) Anther
(C) Stamen (D) Pollen sac
- 127. Which of the following structure is not present in Gymnosperm?**
(A) Pollen grain (B) Ovule
(C) Ovary (D) Archegonium
- 128. How many species of Angiosperms are present?**
(A) 235,000 (B) 250,000
(C) 230,000 (D) 260,000
- 129. Which of the following characteristics is not of the monocot?**
(A) They have single cotylendon in the seed
(B) The number of sepals or petals is 3 or multiple of 3
(C) The vascular bundles are scattered in the stem
(D) They have reticulate veins in the leaves

130. Which of the following plants do not belong to family Rosaceae?
(A) Orange (B) Pyrus
(C) Rosa (D) Apple
131. The floral characteristic not found in family Solanaceae:
(A) They have five sepals (B) They have five petals
(C) They have five stamens (D) They have five carpals
132. Which of following plants is a weed?
(A) Solanum tubersum (B) Nocotiana tovacum
(C) Lycopersicum esculentum (D) Solanum nigrum
133. Legume is the characteristic of fruit in the family:
(A) Rosaceae (B) Solanceae
(C) Fabaceae (D) Poaceae
134. Family poaceae has a characteristic inflorescence called:
(A) Spike (B) Spikelet
(C) Raceme (D) Umbel
135. How many species of plants are known?
(A) 412000 (B) 227000
(C) 360000 (D) 120000
136. Whisk ferns belong to the group:
(A) Lycopsida (B) Filicinae
(C) Psilopsida (D) Pteropsida
137. Bryophytes are generally thought to have evolved from:
(A) Golden algae (B) Green algae
(C) Red algae (D) Brown algae
138. Gametophyte in bryophytes is:
(A) Diploid (B) Pentaploid
(C) Haploid (D) Triploid
139. The class hepaticae includes about:
(A) 1100 sps. (B) 600 sps.
(C) 1200 sps. (D) 900 sps.

- 140. Pteropsida is divided into how many classes?**
(A) 3 (B) 5
(C) 4 (D) 6
- 141. Which of the following are highly evolved of all the plants on earth?**
(A) Gymnosperms (B) Bryophytes
(C) Pteridophytes (D) Angiosperms
- 142. Family Rosaceae has how many genera in Pakistan?**
(A) 30 (B) 29
(C) 27 (D) 31
- 143. The botanical name of egg plants is:**
(A) Atropa bellodone (B) Capsicum annum
(C) Solanum melangena (D) Datura.
- 144. It belongs to family caesalpinaceae:**
(A) Cassia fistula (B) Lupinus
(C) Arachis hypogaea (D) Butea
- 145. Hornworts are placed in the class:**
(A) Antheridia (B) Anthocerotae
(C) Axile (D) Arthropytes
- 146. The male sex organs of bryophytes are called:**
(A) Anthocerotae (B) Axile
(C) Arthropytes (D) Antheridia
- 147. The sex organs in a moss plant are mixed with sterile hairs called:**
(A) Fronds (B) Paraphyses
(C) Protonema (D) Psilopsida
- 148. The spores of a moss develop into an alga-like structure called:**
(A) Paraphyses (B) Fronds
(C) Protonema (D) Psilopsida

149. Which of the following are called vascular plants because of the presence of vascular tissue?
- (A) Arthropytes (B) Fronds
(C) Tracheophytes (D) Psilopsida
150. Which is considered to be the earliest group of vascular plants?
- (A) Protonema (B) Paraphyses
(C) Fronds (D) Psilopsida
151. Which were the first land plants that formed the true leaves and roots?
- (A) Lycopods (B) Spermatophytes
(C) Protonema (D) Heterosporous
152. The gametophyte of Lycopsidea is mainly:
- (A) Protonema (B) Lycopods
(C) Tracheophytes (D) Under ground
153. Sphenopsida or horsetails are also called:
- (A) Arthropytes (B) Arthropytes
(C) Anthocerotae (D) Antheridia
154. The leaves of class Filicinae are called _____.
- (A) Ramenta (B) Arthropytes
(C) Circinate veneration (D) Fronds
155. The pattern of development in a young, immature frond is called:
- (A) Spermatophytes (B) Ramenta
(C) Circinate veneration (D) Solanaceae
156. In *Adiantum*, the rhizome is covered by brownish scales called:
- (A) Spermatophytes (B) Ramenta
(C) Circinate veneration (D) Fronds
157. First complete seeds appeared about how many million years ago?
- (A) 365 (B) 366
(C) 364 (D) 367

- 158. Which is an integumented indehiscent megasporangium?**
(A) Heterosporous (B) Ramenta
(C) Fronds (D) Ovule
- 159. All seeds producing plants are called:**
(A) Spermatophytes (B) Circinate vernation
(C) Ramenta (D) Heterosporous
- 160. The gymnosperms produce seeds, but no fruits that's why called as:**
(A) Ramenta (B) Heterosporous
(C) Enclosed Seeded (D) Open Seeded
- 161. The term Angiosperm literally means:**
(A) Ramenta (B) Enclosed seeded
(C) Circinate vernation (D) Fronds
- 162. Family Rosaceae has about how many species?**
(A) 2001 (B) 2003
(C) 2000 (D) 2002
- 163. Capsicum frutescence belongs to the family:**
(A) Spermatophytes (B) Circinate vernation
(C) Heterosporous (D) Solanaceae
- 164. Placentation in family Solanaceae is:**
(A) Basal (B) Marginal
(C) Axile (D) All of these
- 165. Family Fabaceae has about _____ genera in Pakistan.**
(A) 83 (B) 85
(C) 82 (D) 84
- 166. Clitoria ternatea belongs to the family:**
(A) Fabaceae (B) Mimosaceae
(C) Dissimilar (D) Cassia alata

- 167. The leaves of which plant are use to cure ring worm and skin diseases.**
(A) Cassia fistula (B) Capsicum annum
(C) Cassia alata (D) None of these
- 168. Albizzia lebbek is a member of the family:**
(A) Fabaceae (B) Poacaea
(C) Mimosaceae (D) None of the above
- 169. The sexual reproduction is said to be oogamous or heterogamous if the two fusing gametes are:**
(A) In bundle (B) In circle
(C) Scattered (D) In periphery
- 170. The vascular bundles in a monocot stem are:**
(A) Mimosaceae (B) Heterospory
(C) Scattered (D) Angiosperms
- 171. Which is the phenomenon of production of two types of spores?**
(A) Heterogametic (B) Homospory
(C) Homo gametic (D) Heterospory
- 172. Double fertilization is the characteristic feature of:**
(A) Axile (B) Solanaceae
(C) Angiosperms (D) Scattered
- 173. Tracheophytes:**
(A) Non-vascular plants (B) Psilopsida
(C) Anthocerus (D) Vascular plants
- 174. Hepaticae:**
(A) Psilopsida (B) Antheridia
(C) Non-vascular plants (D) Anthocerus
- 175. Antherozoids:**
(A) Vascular plants (B) Anthocerus
(C) Non-vascular plants (D) Antheridia

176. Hornwort:

- (A) Non-vascular plants
- (B) Anthocerus
- (C) Antheridia
- (D) Psilopsida

177. Rootless sporophyte:

- (A) Non-vascular plants
- (B) Anthocerus
- (C) Antheridia
- (D) Psilopsida

178. Cooksonia:

- (A) Picea
- (B) Stigma
- (C) Double fertilization
- (D) Dichotomously branched

179. Seeds:

- (A) Double fertilization
- (B) Late Devonian
- (C) Dichotomously branched
- (D) Stigma

180. Hemlock:

- (A) Stigma
- (B) Dichotomously branched
- (C) Double fertilization
- (D) Picea

181. Carpel:

- (A) Dichotomously branched
- (B) Picea
- (C) Late Devonian
- (D) Stigma

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(C)	3.	(A)	4.	(D)	5.	(C)
6.	(A)	7.	(A)	8.	(A)	9.	(B)	10.	(C)
11.	(C)	12.	(A)	13.	(B)	14.	(B)	15.	(B)
16.	(C)	17.	(D)	18.	(B)	19.	(C)	20.	(A)
21.	(B)	22.	(D)	23.	(B)	24.	(A)	25.	(C)
26.	(A)	27.	(C)	28.	(A)	29.	(A)	30.	(B)
31.	(B)	32.	(D)	33.	(C)	34.	(B)	35.	(B)
36.	(B)	37.	(D)	38.	(B)	39.	(C)	40.	(B)
41.	(C)	42.	(C)	43.	(C)	44.	(C)	45.	(C)
46.	(B)	47.	(B)	48.	(A)	49.	(D)	50.	(B)
51.	(C)	52.	(B)	53.	(B)	54.	(C)	55.	(C)
56.	(B)	57.	(C)	58.	(B)	59.	(C)	60.	(B)
61.	(A)	62.	(B)	63.	(D)	64.	(C)	65.	(B)
66.	(D)	67.	(C)	68.	(B)	69.	(B)	70.	(C)
71.	(B)	72.	(C)	73.	(A)	74.	(D)	75.	(B)
76.	(C)	77.	(A)	78.	(C)	79.	(A)	80.	(C)
81.	(C)	82.	(B)	83.	(A)	84.	(C)	85.	(C)
86.	(D)	87.	(D)	88.	(C)	89.	(B)	90.	(B)
91.	(D)	92.	(C)	93.	(C)	94.	(D)	95.	(A)
96.	(C)	97.	(C)	98.	(D)	99.	(C)	100.	(C)
101.	(B)	102.	(C)	103.	(B)	104.	(C)	105.	(C)
106.	(D)	107.	(A)	108.	(A)	109.	(A)	110.	(A)
111.	(B)	112.	(B)	113.	(C)	114.	(C)	115.	(B)
116.	(D)	117.	(C)	118.	(B)	119.	(B)	120.	(A)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
121.	(A)	122.	(D)	123.	(C)	124.	(C)	125.	(D)
126.	(A)	127.	(C)	128.	(A)	129.	(D)	130.	(A)
131.	(D)	132.	(D)	133.	(C)	134.	(B)	135.	(C)
136.	(C)	137.	(B)	138.	(C)	139.	(D)	140.	(A)
141.	(D)	142.	(B)	143.	(C)	144.	(A)	145.	(B)
146.	(D)	147.	(B)	148.	(C)	149.	(C)	150.	(D)
151.	(A)	152.	(D)	153.	(B)	154.	(D)	155.	(C)
156.	(B)	157.	(A)	158.	(D)	159.	(A)	160.	(D)
161.	(B)	162.	(C)	163.	(D)	164.	(C)	165.	(C)
166.	(A)	167.	(C)	168.	(C)	169.	(A)	170.	(C)
171.	(D)	172.	(C)	173.	(D)	174.	(C)	175.	(D)
176.	(B)	177.	(D)	178.	(D)	179.	(B)	180.	(D)
181.	(D)								

10
CHAPTER

KINGDOME ANIMALIA

1. Which of the following is not the characteristic of the grade Radiata?
(A) Diploblastic (B) Radial symmetry
(C) Cnidaria (D) Sponges
2. Which of the following is not the characteristic of grade Radiata?
(A) Bilateral Symmetry (B) Anterior end
(C) Diploblastic (D) Ventral
3. Which of the following does not belong to series Proterostomia?
(A) Aschelminthes (B) Annelida
(C) Echinodermata (D) Mollusca
4. Which of the following series is Deuterostomia?
(A) Aschelminthes (B) Annelida
(C) Hemichordata (D) Mollusca
5. Which of the followings is the characteristic of the diploblastic organization?
(A) Mesoglea (B) Gastrovascular cavity
(C) Tube like (D) Acoelomate
6. Which of the following phyla is acoelomate?
(A) Annelida (B) Nematoda
(C) Platyhelminthes (D) Arthropoda
7. Which of the following phyla is pseudocoelomate?
(A) Annelida (B) Nematoda
(C) Platyhelminthes (D) Arthropoda

8. Which of the following phyla is coelomate?
- (A) Annelida (B) Nematoda
(C) Mollusca (D) Arthropoda
9. Spicules are present in which of the following phyla?
- (A) Annelida (B) Mollusca
(C) Porifera (D) Echinodermata
10. Which of the following structure is not present in sponges?
- (A) Spicule (B) Ostia
(C) Mesoglea (D) Osculum
11. Asexual reproduction in sponges take place by:
- (A) Fragmentation (B) Gemmule
(C) Gonad (D) Binary fission
12. The condition in which male gonads become mature earlier than female is called:
- (A) Hermaphrodite (B) Protoandrous
(C) Oogamy (D) Misogamy
13. Which of the followings is not a sponge?
- (A) Scone (B) Leucosolenia
(C) Physalia (D) Euplectella
14. Which of the followings is not the use of sponges?
- (A) Sound absorption (B) Surgical operation
(C) Edible (D) None of the above
15. Which of the followings is the characteristic feature of the phylum Cnidaria?
- (A) Mesoglea (B) Nematocysts
(C) Tentacles (D) Polyp
16. Match gastrozoid with:
- (A) Polyps (B) Medusa
(C) Zooid (D) None of the above
17. Which of the following takes part in nutrition in coelentrates?
- (A) Balstostyle (B) Gastrozoid
(C) Gonozoid (D) None of the above

18. Match calcium carbonate with one of the following:
- (A) Polyp (B) Corals
(C) Medusa (D) Gemmule
19. Which of the following structures is used for asexual reproduction in coelenterates?
- (A) Balstostyle (B) Gastrozoid
(C) Gonozoid (D) None of the above
20. Which of the following structures is used for sexual reproduction in coelenterates?
- (A) Balstostyle (B) Gastrozoid
(C) Gonozoid (D) Medusa
21. Which of the following is sea anemone?
- (A) Obelia (B) Actinia
(C) Madrepore (D) Physalia
22. Which of the following is a coral?
- (A) Obelia (B) Actinia
(C) Madrepore (D) Physalia
23. Alternation of generation is present in which of the following?
- (A) Obelia (B) Actinia
(C) Madrepore (D) Physalia
24. Polymorphism is present in which of the following?
- (A) Obelia (B) Actinia
(C) Madrepore (D) Hydra
25. Mesenteries are present in:
- (A) Obelia (B) Actinia
(C) Madrepore (D) Hydra
26. Which of the following animals does not belong to phylum Platyhelminthes?
- (A) Taenia (B) Fasciola
(C) Schistosoma (D) Madrepore

27. Which of the followings is liver fluke?
(A) Taenia (B) Fasciola
(C) Schistosoma (D) Dugesia
28. Which of the following is planaria?
(A) Taenia (B) Fasciola
(C) Schistosoma (D) Dugesia
29. Which of the followings is tape worm?
(A) Taenia (B) Fasciola
(C) Schistosoma (D) Dugesia
30. The excretory system of flat worms is composed of:
(A) Ganglia (B) Flamae cell
(C) Nephridia (D) Nephron
31. Match proglottids with one of the following:
(A) Taenia (B) Fasciola
(C) Schistosoma (D) Dugesia
32. Which of the followings is hook worm?
(A) Taenia (B) Fasciola
(C) Schistosoma (D) Ancylostoma
33. Which of the followings is the characteristic feature of the phylum Annelida?
(A) Nephridia (B) Metameirc segmentation
(C) Parapodia (D) Setae
34. Which of the followings is a parasite?
(A) Nereis (B) Stylaria
(C) Hirudo (D) Earth worm
35. Hydrostatic skeleton is present in:
(A) Annelida (B) Nematoda
(C) Mollusca (D) Arthropoda
36. Match digestive system with one of the following:
(A) Nephrida (B) Parapodia
(C) Prostomium (D) Metameric

37. **Excretion in annelids take place by:**
(A) Flame cells (B) Nephridia
(C) Malpighian tubes (D) None of above
38. **Which of the followings is locomotory organ in annelids?**
(A) Palps (B) Tentacles
(C) Parapodia (D) Prostomium
39. **Which of the following coeloms is present phylum Arthropoda?**
(A) Segmentation (B) Jointed foot
(C) Haemocoel (D) Malpighian tubes
40. **Which of the following coeloms is present phylum Arthropoda?**
(A) Simple coelom (B) Pseudocoel
(C) Haemocoel (D) Acoelomate
41. **The excretory system of arthropods is composed of:**
(A) Malpighian tubules (B) Flame cell
(C) Nephridia (D) Nephron
42. **Which of the followings is not the respiratory organ in arthropods?**
(A) Gills (B) Tracheae
(C) Book lungs (D) None of above
43. **The respiratory organ in scorpion is:**
(A) Gills (B) Tracheal system
(C) Book lungs (D) None of above
44. **The exoskeleton of arthropods is composed of:**
(A) Bones (B) Cartilage
(C) Cutin (D) Chitin
45. **Which of the following developmental stages in insects is similar to adult?**
(A) Egg (B) Larve
(C) Pupa (D) Nymph
46. **Which of the followings in not crustacean?**
(A) Daphnia (B) Cyclops
(C) Spider (D) Prawn

47. Which of the following classes of arthropods have pairs of antennae?
(A) Crustacea (B) Insecta
(C) Arachnida (D) None of above
48. Which of the following structure is absent in class Arachnida?
(A) Chelicerae (B) Pedipalps
(C) Legs (D) Antennae
49. Which of the following insects does spread cholera?
(A) House fly (B) Tsetse fly
(C) Mosquito (D) None of above
50. The body of mollusks is covered by glandular epithelial membrane called:
(A) Shell (B) Mantle
(C) Cuticle (D) None of above
51. Rasping tongue like structure is present in the mouth of mollusks called:
(A) Radula (B) Mantle
(C) Cuticle (D) None of above
52. The excretory system of phylum mollusca is composed of:
(A) Malpighian tubules (B) Flame cell
(C) Nephridia (D) Nephron
53. Which of the followings is called shipworm?
(A) Slug (B) Teredo
(C) Loligo (D) Sepia
54. Which of the following phyla is called spiny skinned animals?
(A) Aschelminthes (B) Annelida
(C) Echinodermata (D) Mollusca
55. Which of the following echinoderms have globular shape?
(A) Cake urchin (B) Starfish
(C) Brittle star (D) Sea urchin
56. Which of the following echinoderms have long arms?
(A) Cake urchin (B) Starfish
(C) Brittle star (D) Sea urchin

57. The origin of exoskeleton of echinoderms is:
- (A) Ectoderm (B) Mesoderm
(C) Endoderm (D) All of the above
58. Water enters into the water vascular system through:
- (A) Ostia (B) Spines
(C) Madreporite (D) Mouth
59. Water vascular system in echinoderms is used for:
- (A) Digestion (B) Respiration
(C) Locomotion (D) All of above
60. Which of the following larvae is produce by the echinoderms?
- (A) Trochophore (B) Bipinnaria
(C) Brachiolaria (D) B and C
61. Which of the following processes is not present in echinoderms?
- (A) Radial cleavage (B) Radial symmetry
(C) Enterocoelous (D) Proterostomia
62. Which is wrongly placed in following for hemichordates?
- (A) Proboscis (B) Collar
(C) Thorax (D) Trunk
63. Excretory system of hemichordates is composed of:
- (A) Kidney (B) Glomerulus
(C) Nephron (D) Nephridia
64. Which of the following characteristic is not fundamental characteristic for chordates in the following?
- (A) Notochord (B) Hollow dorsal CNS
(C) Vertebral column (D) Gill slits
65. Which of the followings is not sub phylum of chordata?
- (A) Urochordata (B) Cephalochordata
(C) Protochordata (D) Vertebrata
66. Which of the following sub phyla is also called tunicata:
- (A) Urochordata (B) Cephalochordata
(C) Protochordata (D) Vertebrata

67. **Amphioxus belongs to which of the following subphyla?**
(A) Urochordata (B) Cephalochordata
(C) Protochordata (D) Vertebrata
68. **Which of the followings is not anamniote?**
(A) Cyclostomata (B) Amphibia
(C) Reptiles (D) Osteichythes
69. **Lampreys belong to:**
(A) Cyclostomata (B) Amphibia
(C) Chondrichthyes (D) Osteichythes
70. **Swim bladder is present in which of the following fishes?**
(A) Cyclostomata (B) Osteichythes
(C) Chondrichthyes (D) None of above
71. **Sharks belong to:**
(A) Cyclostomata (B) Osteichythes
(C) Chondrichthyes (D) None of above
72. **The scales present in the chondrichthyes are:**
(A) Ganiod (B) Cycloid
(C) Ctenoid (D) Placoid
73. **Ancestors of the amphibians:**
(A) Lamprey (B) Shark
(C) Dipnoi (D) Salmon
74. **Which of the following characteristics is absent in amphibians?**
(A) Lung (B) Gill
(C) Larvae (D) None of above
75. **Which of the followings is not the characteristic of the amphibians?**
(A) Larva (B) Pokiliothermic
(C) Amniotes (D) Double circulation
76. **Membrane present around the embryo:**
(A) Amnion (B) Allantois
(C) Chorion (D) None of above

77. Which of the followings is tuatara?
(A) Lizard (B) Snake
(C) Sphenodon (D) Crocodile
78. Archaeopteryx is:
(A) Amphibian (B) Reptile
(C) Bird (D) Mammal
79. Which of the following is not relevant to birds:
(A) Feathers (B) Air sacs
(C) Bladder (D) Syrinx
80. Which of the following structures is used for crushing of food in birds?
(A) Syrinx (B) Gizzard
(C) Neck (D) None of above
81. Match “running bird” with one of the followings:
(A) Sparrow (B) Hen
(C) Kiwi (D) Parrot
82. The possible ancestors of the mammals are:
(A) Amphibians (B) Reptiles
(C) Birds (D) Fish
83. Which of the followings is not relevant to ear?
(A) Pinnae (B) Incus
(C) Ossicle (D) Stapes
84. Which of the followings is not relevant to mammals?
(A) Ear pinna (B) Homeothermic
(C) Mammary gland (D) Right aortic arch
85. The pouched mammals are:
(A) Prototheria (B) Metatheria
(C) Eutheria (D) None of above
86. The placental mammals are:
(A) Prototheria (B) Metatheria
(C) Eutheria (D) None of above

87. Which of the followings are not pouched mammal?
(A) Opossum (B) Kangaroo
(C) Echidna (D) Tasmania wolf
88. According to W. Whittaker, Animals are placed:
(A) Only in kingdom animalia
(B) Only in kingdom protista
(C) Both in kingdom animalia and protista
(D) Only in monera
89. Sub-kingdom Parazoa have animals which:
(A) Are unicellular
(B) Are without tissue
(C) Tissues are not organized into organs
(D) None of the above
90. Pseudocoel is a false coelom because:
(A) It is a reduced cavity
(B) It is not derived from true body cavity
(C) It is not derived from the mesoderm
(D) It is not derived from true coelom
91. Which of the following characteristics is not of the Bilateria?
(A) They have bilateral symmetry
(B) They have anterior and posterior ends
(C) They may be triploblastic or diploblastic
(D) They have dorsal and ventral sides
92. Which of the following characteristics is of Deuterostomia?
(A) Cleavage or division of the zygote is spiral or determinate
(B) The mouth arises from the blastopore
(C) Mesoderm is derived from the wall of developing gut
(D) Coelom or body cavity is formed by the splitting of the mesoderm
93. Which of the following phyla is not Proterostomia?
(A) Phylum Aschelminthes (B) Phylum Annelida
(C) Phylum Echinodermata (D) Phylum Arthropoda

94. **In case of radial and indeterminate cleavage:**
- (A) The planes of division are diagonal to the polar axis
 - (B) The cleavage produces tiers of the cells on top of each other
 - (C) The line or planes of cleavage are not symmetrical
 - (D) They produce unequal cells around the axis of polarity
95. **Which of the following is not the character of the diploblastic organization?**
- (A) They belong to division radiata
 - (B) They show higher degree of specialization
 - (C) They have no special transport system
 - (D) Mesoderm is absent in them
96. **Which of the following phyla does not show triploblastic organization?**
- (A) Pylum Cnidaria
 - (B) Phylum Annelida
 - (C) Phylum Arthropoda
 - (D) Phylum Mollusca
97. **In Acoelomate:**
- (A) Coelom is formed of blastocoel
 - (B) Coelom is not formed from mesoderm
 - (C) Coelom is filled by mesenchyma
 - (D) Coelom is in highly reduced form
98. **Which of the followings is the skeleton of sponges?**
- (A) Coral
 - (B) Spicule
 - (C) Spine
 - (D) Chitin
99. **Protoandrous is a condition in which:**
- (A) Both male and female sex organs are present
 - (B) Both male and female sex organs are present but male sex organs become mature first
 - (C) Both male and female sex organs are present but female sex organs become mature first
 - (D) In which sex organs are absent at all
100. **Which of the following is the beautiful sponge?**
- (A) Sycon
 - (B) Leucoselenia
 - (C) Euplectella
 - (D) Spongilla

- 101. Which of the following is a fresh water sponge?**
(A) Sycon (B) Leucoselenia
(C) Euplectella (D) Spongilla
- 102. The coelenterates were named as coelenterate due to:**
(A) Presence of nematocyst (B) Presence of coelom
(C) Presence of enteron (D) None of above
- 103. The mesoglea is a:**
(A) Group of cells (B) Group of tissues
(C) Group of organs (D) Neither of above
- 104. Which of the following function is not performed by polyps of coelenterate colony?**
(A) It is responsible for nutrition
(B) It is responsible for asexual reproduction
(C) It is responsible for sexual reproduction
(D) It is responsible for defence of the colony
- 105. Which of the following is the function of medusa of coelenterate colony?**
(A) It is responsible for nutrition
(B) It is responsible for asexual reproduction
(C) It is responsible for sexual reproduction
(D) It is responsible for defence of the colony
- 106. The zooid is:**
(A) A polyp (B) A medusa
(C) Any polyp or medusa (D) Base of the colony
- 107. Which of the following is the Portuguese man of war?**
(A) Hydra (B) Physalia
(C) Obelia (D) Jelly fish
- 108. Which of the following is involved in formation of coral reefs?**
(A) Madrepore (B) Actinia
(C) Physalia (D) Aurelia

- 109. Coral reef is:**
(A) An animal (B) A plant
(C) A stone (D) None of above
- 110. Which of the following is the free living platyhelminthes?**
(A) Taenia solium (B) Fasciola hepatica
(C) Schistosoma (D) Dugesia
- 111. Which of the following is the characteristic of parasite?**
(A) It does not have well developed respiratory system
(B) It does not have well developed digestive system
(C) It does not have well developed reproductive system
(D) It does not have well developed circulatory system
- 112. The excretory system of flat worm is composed of:**
(A) Nephridia (B) Nephron
(C) Flame cells (D) None of above
- 113. Which of the followings is not the parasitic adaptation of parasite?**
(A) The epidermis is absent in them (B) They have developed adhesive organs
(C) They show simple life cycles (D) They depend on host for food
- 114. Which of the following methods is used for disinfestations of flat worms?**
(A) Use boiled milk (B) Use boiled water
(C) Use boiled meat (D) Use boiled food
- 115. Tube within tube type digestive system is:**
(A) In which one digestive tube is present within another tube
(B) In which one digestive has two opening
(C) In which one digestive system is present within the outer body wall
(D) In which fluid is present between the digestive tube and outer body wall
- 116. Which of the following is also called pin worm?**
(A) Ascaris lumbricoides (B) Enterobius vermicularis
(C) Rhabditis (D) Acyclomstoma duodenale
- 117. In metameric segmentation:**
(A) The body is divided externally (B) The body is divided internally
(C) Both A and B (D) None of above

- 118. Which of the followings is fresh water annelid?**
(A) Nereis (B) Stylaria
(C) Hirudo (D) Earthworm
- 119. The hydrostatic skeleton is a:**
(A) Skeleton produced due to some solid object
(B) Skeleton produced due to some fluid
(C) Skeleton produced due to pressure of fluid
(D) None of above
- 120. Which of the followings is called natural plough?**
(A) Nereis (B) Stylaria
(C) Hirudo (D) Earthworm
- 121. In which of the following classes of the Annelida, parapodia are present:**
(A) Class Polychaeta (B) Class Oligochaeta
(C) Class Hirudinea (D) None of above
- 122. In which of the following classes of the Annelida head is absent?**
(A) Class Polychaeta (B) Class Oligochaeta
(C) Class Hirudinea (D) None of above
- 123. It is generally believed that annelids and arthropods have common origin because:**
(A) Both have coelom (B) Both are segmented
(C) Both have blood vascular system (D) Both produce larva
- 124. The coelom of the arthropods is called haemocoel because:**
(A) They do not have true coelom
(B) Their coelom contain blood
(C) Their coelom is not mesodermal in origin
(D) None of above
- 125. The nitrogenous waste of arthropods is:**
(A) Urea (B) Uric acid
(C) Ammonia (D) None of above

- 126. Exchange of gases in arthropods takes by:**
(A) Blood (B) Trachea
(C) Vessels (D) None of above
- 127. The nymph or instar is:**
(A) An arthropod (B) A larva
(C) An adult animal (D) Reproductive cell
- 128. Which of the following class of Arthropoda has gills for respiration?**
(A) Crustacean (B) Insecta
(C) Arachnida (D) Myriapoda
- 129. Which of the following class of Arthropoda has gills for respiration?**
(A) Crustacean (B) Insecta
(C) Arachnida (D) Myriapoda
- 130. Which of the following factors has made the arthropods most successful animals?**
(A) They have jointed appendages (B) They have wings
(C) They have exoskeleton of chitin (D) They have layer of cutin
- 131. The importance of Moulting or ecdysis in arthropods is that:**
(A) It makes the body of arthropods more strong
(B) It helps the arthropods to grow
(C) It is used for reproduction
(D) None of the above
- 132. Which of the following is the significant factor in importance of insects?**
(A) The locust damage the crops (B) They act as scavengers
(C) They cause many diseases (D) None of the above
- 133. Which is the largest invertebrate animal?**
(A) Sea anemone (B) Squids
(C) Earthworm (D) Star fish
- 134. Which of the followings is a difference in molluscs and arthropods?**
(A) Exoskeleton (B) Segmentation
(C) Coelom (D) None of above

- 135. The color of blood of Mollusca:**
(A) Red (B) White
(C) Blue (D) Green
- 136. Which of the followings is a similarity between annelids and molluscs?**
(A) Both have segmentation (B) Both have similar larva
(C) Both reproduce asexually (D) Both live on land
- 137. Which of the followings destroy our garden?**
(A) Loligo (B) Sepia
(C) Octopus (D) Slug
- 138. Which of the followings form pearl?**
(A) Loligo (B) Sepia
(C) Octopus (D) Slug
- 139. Which of the following echinoderms is star shaped with long arm?**
(A) Cake urchin (B) Starfish
(C) Brittle Star (D) Sea urchin
- 140. Water canal system in echinoderm is used for:**
(A) Digestion (B) Locomotion
(C) Reproduction (D) Respiration
- 141. Which of the followings is the primitive character in echinoderms?**
(A) They do not have exoskeleton (B) They have radial symmetry
(C) They have no true coelom (D) Regeneration take place in them
- 142. Which of the followings is advance character in echinoderms?**
(A) They have mesodermal skeleton (B) They have radial symmetry
(C) They have no true coelom (D) Regeneration take place in them
- 143. Which of the following is not similarity between the Echinodermata and Hemichordata?**
(A) Both have similarity in the formation of coelom
(B) Both have similarity in formation of mouth
(C) Both have radial symmetry
(D) Both have mesodermal endoskeleton

- 144. Convergent is an evolution in which:**
- (A) Two similar groups
 - (B) Two similar groups have different origin
 - (C) Two different group have same origin
 - (D) None of the above
- 145. Which of the followings is not a chordate character?**
- (A) Gill slits are present in all the chordates throughout their life
 - (B) Gill slits are present only in lower chordates
 - (C) Gill slits are present only in higher chordates
 - (D) Gill slits are present in only in embryonic stage
- 146. The lower chordates are:**
- (A) Without notochord
 - (B) Without skull
 - (C) Without gill slits
 - (D) Without nerve chord
- 147. The higher chordates have:**
- (A) Notochord in adults
 - (B) Vertebral column in adults
 - (C) Gill slits is present in all adult chordates
 - (D) All of the above
- 148. The Urochordata have:**
- (A) Notochord in larva
 - (B) notochord in adult
 - (C) Notochord is not produced at all
 - (D) Notochord is present in larva and adult
- 149. Which of the following is not an-amniote?**
- (A) Amphibia
 - (B) Reptiles
 - (C) Birds
 - (D) Mammals
- 150. Which of the following is the characteristic of the class Cyclostomata?**
- (A) Bony skeleton
 - (B) Scales are present
 - (C) Unpaired fins are present
 - (D) Fertilization is internal
- 151. Swim bladder is present in:**
- (A) Cyclostomata
 - (B) Chondrichthyes
 - (C) Osteichthyes
 - (D) None of above

- 152. Boney skeleton is present in:**
(A) Cyclostomata (B) Chondrichthyes
(C) Osteichthyes (D) None of above
- 153. Which of the followings has single chambered heart?**
(A) Cyclostomata (B) Chondrichthyes
(C) Osteichthyes (D) None of above
- 154. Which of followings is not the adaptation in fish for aquatic mode of life:**
(A) They have gills (B) They have fins
(C) They have cartilaginous skeleton (D) They have streamline body
- 155. Which of the following fishes is taken as ancestor of the amphibian?**
(A) Sharks (B) Dipnoi
(C) Trout (D) Carps
- 156. Which of the followings is fish like characteristics in amphibian:**
(A) They have gills (B) They have tail
(C) They have limbs (D) None of above
- 157. Tuatara (Sphenodon) is found in:**
(A) Pakistan (B) Australia
(C) New Zealand (D) America
- 158. The modern birds have evolved from which of the following reptiles?**
(A) Dinosaurs (B) Crocodiles
(C) Lizards (D) Sphenodon
- 159. Which of the following characteristics of the Archaeopteryx is the reptilian characteristic?**
(A) Feathers on the body (B) It has beak
(C) It has teeth (D) It has tail
- 160. The voice organ of birds is:**
(A) Larynx (B) Pharynx
(C) Syrinx (D) Vocal cord
- 161. The reptilian ancestor of the mammals is:**
(A) Dinosaurs (B) Crocodiles
(C) Cotylosaurs (D) Lizards

- 162. Mammals have become dominant in the:**
(A) Cenozoic era (B) Paleozoic era
(C) Mesozoic era (D) None of above
- 163. The mammals have:**
(A) Right aortic arch (B) Left aortic arch
(C) Both right and left (D) None of above
- 164. The birds have:**
(A) Right aortic arch (B) Left aortic arch
(C) Both right and left (D) None of the following
- 165. The voice organ in mammals is:**
(A) Larynx (B) Pharynx
(C) Syrinx (D) Vocal cord
- 166. Which of the following mammals have cloaca?**
(A) Prototheria (B) Metatheria
(C) Eutheria (D) None of above
- 167. Which of the followings is an egg lying mammal?**
(A) Echidna (B) Kangaroo
(C) Sphenodon (D) Mice
- 168. Stigma:**
(A) Late (B) Devonian
(C) Double fertilization (D) Dichotomously branched
- 169. Which of the following is not included in grade Bilateria?**
(A) Nematods (B) Coelentrates
(C) Molluscs (D) Annelids
- 170. Which of the following is a feature of series Deuterostomia?**
(A) Mouth arises from blastopore or anterior margin
(B) Mesoderm is derived from wall of developing gut
(C) Cleavage of zygote is spiral and determinate
(D) Coelom is formed due to splitting of mesoderm

- 171. Pseudocoelom is non-homologous to true coelom because:**
- (A) It has no relation with reproductive and excretory organs
 - (B) It is not lined by coelomic epithelium
 - (C) It develops from blastocoel
 - (D) All of the above
- 172. Which of the following are called as sponges?**
- (A) Coelentrata
 - (B) Porifera
 - (C) Nematoda
 - (D) Protozoa
- 173. The food of Porifera consists of microscopic organisms and organic particles in a percentage ratio of:**
- (A) 10% & 90% respectively
 - (B) 20% & 80% respectively
 - (C) 30% & 70% respectively
 - (D) 40% & 60% respectively.
- 174. Protoandrous means:**
- (A) Male sex cells develop first
 - (B) Male and female sex develop simultaneously
 - (C) Female sex cells develop first
 - (D) None of the above
- 175. The shell of sponges is composed of:**
- (A) Silica
 - (B) Chitin
 - (C) Calcium carbonate
 - (D) Both A and D
- 176. Which of the following is a motile coelentrates?**
- (A) Jelly fish
 - (B) Hydra
 - (C) Obelia
 - (D) Corals
- 177. Mode of nutrition in coelentrates is:**
- (A) Herbivorous
 - (B) Detritivorous
 - (C) Omnivorous
 - (D) Carnivorous
- 178. Which of the following is a unisexual group?**
- (A) Porifera
 - (B) Annelida
 - (C) Nematoda
 - (D) Platyhelminthes

- 179. Which of the following is not a parasite?**
(A) Liver fluke (B) Blood fluke
(C) Tape worm (D) Planaria
- 180. Which of the following are adaptations for parasitic mode of life in Platyhelminthes?**
(A) Resistant cuticle (B) Adhesive organs like suckers
(C) Simplified digestive system (D) All of the above
- 181. Which of the following is not a class of phylum Annelida?**
(A) Oligochaeta (B) Polychaeta
(C) Hirudinea (D) Crustacea
- 182. Annelida and Arthropoda are belived to have common origin because both have:**
(A) Segmented body (B) Cuticle
(C) Appendages (D) All of the above
- 183. Cuttle fish is included in class:**
(A) Gastropoda (B) Myriapoda
(C) Cephalopoda (D) Pelecypoda
- 184. Which of the following is not a similarity between echinoderms & chordates?**
(A) Biochemical peculiarities
(B) Radial cleavage during development of embryos
(C) Water vascular system
(D) Formation of anus from blastobpore
- 185. Which of the following is not a sub-phylum of phylum Chordata?**
(A) Cephalochordata (B) Hemichordata
(C) Craniata (D) Urochordata
- 186. Which of the following is a class of Pisces?**
(A) Cyclostomata (B) Osteichthyes
(C) Chondrichthyas (D) All of the above
- 187. The adaptive character which helps the fish to live in water is:**
(A) Non-paired appendages (B) External fertilization
(C) Stream-lined body (D) Ventral suctorial mouth

- 188. Archaeopteryx resembles the present day bird in having similar:**
(A) Syrinx (B) Gizzard
(C) Skull (D) None of above
- 189. The reptilian features of protoheria are:**
(A) Mammary glands and cloaca (B) Cloaca and cloacal opening
(C) Bill and webbed toes. (D) Mammary glands and webbed toes.
- 190. In arthropods, the organs of excretion are:**
(A) Malpighian tubules (B) Nephridia
(C) Flame cells (D) Kidneys
- 191. According to Robert Whittaker's classification, Protozoa belong to kingdom:**
(A) Fungi (B) Protista/Protoctista
(C) Monera (D) Pig/cattle
- 192. Which of the following have indeterminate shape and are asymmetrical?**
(A) Porifera (B) Protista/Protoctista
(C) Sponges/Porifera/Parazoa (D) Mesenchyma/Parenchyma
- 193. In platyhelminthes, mesoderm forms a loops, cellular tissue called _____.**
(A) Protista (B) Mesenchyma/Parenchyma
(C) Porifera (D) Protoctista
- 194. A true coelom is filled with a fluid called:**
(A) Osculum (B) Coelomic fluid
(C) Protoctista (D) Choanocytes
- 195. Choanoderm is made of flagellated collar cells called:**
(A) Coelentrata (B) Chitin
(C) Choanocytes (D) Coelomic fluid
- 196. In sponges, the pore through which water leaves the body is known as:**
(A) Osculum (B) Coelentrata
(C) Coelomic fluid (D) Chitin
- 197. Euplectella belongs to phylum:**
(A) Porifera (B) Protoctista
(C) Parazoa (D) Protista

- 198. Which is also known as cnidaria?**
(A) Urochordata (B) Sponges
(C) Coelentrata (D) Parazoa
- 199. Tape worm completes its life cycle in two hosts, humans and:**
(A) Mosquito (B) Dog
(C) Pig/cattle (D) Sheep
- 200. Sense organs of nematods are called as:**
(A) Protoctista (B) Porifera
(C) Papillae (D) Parazoa
- 201. Ancylostoma duodenale is commonly known as:**
(A) Pin worm (B) Ship worm
(C) Hook worm (D) None of the above
- 202. For locomotion the body wall of annelids contains longitudinal muscles and:**
(A) Circular (B) Uric acid
(C) Hook (D) Coelentrata
- 203. In arthropods, nitrogenous wastes are in the form of solid:**
(A) Ammonia (B) Ammonia with water
(C) Urea (D) Uric acid
- 204. What is the abrupt change of form or structure during the life cycle of an insect?**
(A) Mesenchyma (B) Mantle
(C) Parenchyma (D) Metamorphosis
- 205. What type of blood circulatory system is in arthropods?**
(A) Open (B) Close
(C) Mix (D) All of the above
- 206. Exosekeleton of arthropods is made up of:**
(A) Scales (B) Spicules
(C) Bones (D) Chitin
- 207. The body of molluscs is covered by a glandular epithelium called:**
(A) Medreporite (B) Parenchyma
(C) Mantle (D) Mesenchyma

- 208. The giant squid is the largest invertebrate reaching a length of:**
(A) 13m (B) 15m
(C) 11m (D) 17m
- 209. The ability of an organism to reform lost organs is called:**
(A) Regeneration (B) Fragmentation
(C) Budding (D) Metamorphosis
- 210. The hydrostatic organ of bony fish is called:**
(A) Osculum (B) Swim bladder
(C) Gills (D) None of the above
- 211. Which of the following has three chambered heart?**
(A) Reptiles (B) Fish
(C) Amphibians/Frog (D) All of the above
- 212. Red blood cells of are non-nucleated in.**
(A) Mammals (B) Amphibians
(C) Both A and B (D) None of the above
- 213. Opossum belongs to sub-class:**
(A) Eutheria (B) Prototheria
(C) Mesenchyma (D) Metatheria
- 214. The system in which water moves inside the body of an Enhinoderm is known as:**
(A) Mesenteries (B) Water vascular system
(C) Swim bladder (D) Radula
- 215. Insects have how many pairs of leg?**
(A) 9 (B) 5
(C) 3 (D) 7
- 216. Molluscs have rasping tongue like structure ————— in the mouth cavity.**
(A) Mollusca (B) Mammals
(C) Mantle (D) Radula

217. Which of these includes 50,000 living species and is the second largest phylum of invertebrates?
- (A) Mammals (B) Mantle
(C) Metatheria (D) Mollusca
218. The larva of molluscs is called as:
- (A) Trochophore (B) Acidia
(C) Pinnularia (D) Brachiolaria
219. Robert Whittaker:
- (A) Tissues organized into organs and systems.
(B) Do not have body cavity
(C) 5-kingdom classification
(D) Marine sponge
220. Acoelomata:
- (A) Do not have body cavity
(B) Tissues organized into organs and systems
(C) Have false body cavity
(D) Ingestion of food
221. Eumetazoa:
- (A) Have false body cavity
(B) Ingestion of food
(C) Tissues organized into organs and systems
(D) 5-kingdom classification
222. Choanocytes:
- (A) Tissues organized into organs and systems
(B) 5-kingdom classification
(C) Do not have body cavity
(D) Ingestion of food

223. Sycon:

- (A) Ingestion of food
- (B) Have false body cavity
- (C) Tissues organized into organs and systems
- (D) Marine sponge

224. Nematocysts:

- (A) Umbrella like sexually reproducing individuals
- (B) Stinging cells
- (C) Excretion
- (D) Corals

225. Gastrozooids:

- (A) Hydra
- (B) Endoparasite
- (C) Umbrella like sexually reproducing individuals
- (D) Stinging cells

226. Madreporite:

- | | |
|--------------------|------------------|
| (A) Corals | (B) Hydra |
| (C) Stinging cells | (D) Endoparasite |

227. Flame cells:

- | | |
|--------------------|------------------|
| (A) Excretion | (B) Endoparasite |
| (C) Stinging cells | (D) Hydra |

228. Fasciola:

- (A) Endoparasite
- (B) Hydra
- (C) Stinging cells
- (D) Umbrella like sexually reproducing individuals

229. Parapodia:

- (A) Breathing
- (B) Leech
- (C) Earth worm
- (D) Locomotion

230. Hermaphrodite:

- (A) Leech
- (B) Earth worm
- (C) Bisexual
- (D) Breathing

231. *Hirudo medicinalis*:

- (A) Earth worm
- (B) Bisexual
- (C) Uric acid
- (D) Leech

232. Nitrogenous waste:

- (A) Locomotion
- (B) Uric acid
- (C) Earth worm
- (D) Bisexual

233. Tracheae:

- (A) Leech
- (B) Locomotion
- (C) Breathing
- (D) Bisexual

234. Arthropoda:

- (A) Jointed appendages
- (B) Sieve like plate
- (C) Bisexual
- (D) Snail

235. Mollusca:

- (A) Snail
- (B) Spiny skinned animal
- (C) Sieve like plate
- (D) Larva

237. Trochophore:

- (A) Earth worm
- (B) Jointed appendages
- (C) Larva
- (D) Snail

238. Echinodermata:

- (A) Snail
- (B) Sieve like plate
- (C) Jointed appendages
- (D) Spiny skinned animal

239. Madreporite:

- (A) Sieve like plate
- (B) Spiny skinned animal
- (C) Snail
- (D) Jointed appendages

240. Hemichordata:

- (A) Baleglossus
- (B) Snail
- (C) Cranium present
- (D) Marsupials

241. Acrania:

- (A) Warm blooded
- (B) Cranium present
- (C) Cranium absent
- (D) Baleglossus

242. Cyclostomata:

- (A) Baleglossus
- (B) Jaws absent
- (C) Marsupials
- (D) Warm blooded

243. Homeothermic:

- (A) Warm blooded
- (B) Baleglossus
- (C) Marsupials
- (D) Jaws absent

244. Metatheria:

- (A) Cranium absent
- (B) Warm blooded
- (C) Marsupials
- (D) Cranium present

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(C)	3.	(C)	4.	(C)	5.	(C)
6.	(C)	7.	(B)	8.	(B)	9.	(C)	10.	(C)
11.	(B)	12.	(B)	13.	(C)	14.	(C)	15.	(B)
16.	(A)	17.	(B)	18.	(B)	19.	(B)	20.	(D)
21.	(B)	22.	(C)	23.	(A)	24.	(A)	25.	(B)
26.	(D)	27.	(B)	28.	(D)	29.	(A)	30.	(D)
31.	(A)	32.	(D)	33.	(B)	34.	(C)	35.	(A)
36.	(C)	37.	(B)	38.	(C)	39.	(B)	40.	(C)
41.	(A)	42.	(D)	43.	(C)	44.	(D)	45.	(D)
46.	(C)	47.	(A)	48.	(D)	49.	(A)	50.	(B)
51.	(A)	52.	(C)	53.	(B)	54.	(C)	55.	(D)
56.	(C)	57.	(B)	58.	(C)	59.	(C)	60.	(D)
61.	(D)	62.	(C)	63.	(D)	64.	(C)	65.	(C)
66.	(A)	67.	(C)	68.	(C)	69.	(A)	70.	(B)
71.	(C)	72.	(D)	73.	(C)	74.	(D)	75.	(C)
76.	(A)	77.	(C)	78.	(C)	79.	(C)	80.	(B)
81.	(C)	82.	(B)	83.	(C)	84.	(D)	85.	(B)
86.	(C)	87.	(C)	88.	(C)	89.	(C)	90.	(C)
91.	(A)	92.	(C)	93.	(C)	94.	(C)	95.	(C)
96.	(C)	97.	(B)	98.	(B)	99.	(A)	100.	(C)
101.	(B)	102.	(B)	103.	(C)	104.	(D)	105.	(C)
106.	(D)	107.	(C)	108.	(C)	109.	(C)	110.	(B)
111.	(A)	112.	(C)	113.	(D)	114.	(C)	115.	(C)
116.	(C)	117.	(C)	118.	(D)	119.	(B)	120.	(C)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
121.	(B)	122.	(C)	123.	(D)	124.	(A)	125.	(C)
126.	(B)	127.	(B)	128.	(B)	129.	(B)	130.	(B)
131.	(A)	132.	(C)	133.	(C)	134.	(B)	135.	(B)
136.	(B)	137.	(B)	138.	(C)	139.	(B)	140.	(D)
141.	(B)	142.	(C)	143.	(B)	144.	(B)	145.	(D)
146.	(B)	147.	(B)	148.	(A)	149.	(A)	150.	(C)
151.	(C)	152.	(C)	153.	(A)	154.	(C)	155.	(B)
156.	(A)	157.	(C)	158.	(B)	159.	(C)	160.	(C)
161.	(C)	162.	(B)	163.	(B)	164.	(A)	165.	(A)
166.	(C)	167.	(A)	168.	(C)	169.	(B)	170.	(B)
171.	(C)	172.	(B)	173.	(B)	174.	(A)	175.	(C)
176.	(A)	177.	(D)	178.	(C)	179.	(D)	180.	(B)
181.	(D)	182.	(D)	183.	(C)	184.	(C)	185.	(B)
186.	(D)	187.	(C)	188.	(C)	189.	(B)	190.	(A)
191.	(B)	192.	(C)	193.	(B)	194.	(B)	195.	(C)
196.	(A)	197.	(A)	198.	(C)	199.	(C)	200.	(C)
201.	(C)	202.	(C)	203.	(D)	204.	(D)	205.	(A)
206.	(D)	207.	(C)	208.	(B)	209.	(A)	210.	(B)
211.	(C)	212.	(D)	213.	(D)	214.	(B)	215.	(C)
216.	(D)	217.	(D)	218.	(A)	219.	(C)	220.	(A)
221.	(C)	222.	(D)	223.	(D)	224.	(B)	225.	(C)
226.	(A)	227.	(A)	228.	(A)	229.	(D)	230.	(C)
231.	(D)	232.	(B)	233.	(C)	234.	(A)	235.	(A)
236.	(D)	237.	(D)	238.	(A)	239.	(A)	240.	(C)
241.	(C)	242.	(B)	243.	(A)	244.	(C)		



11

CHAPTER

BIOENERGETICS

1. The quantitative study of energy relationship in the biological system is called:
(A) Biochemistry (B) Biotechnology
(C) Bioenergetics (D) Biophysics
2. Which of the following processes is not oxidation reduction reaction?
(A) Photosynthesis (B) Respiration
(C) Photorespiration (D) None of above
3. The compensation point comes in the:
(A) Morning (B) Evening
(C) Dawn (D) Night
4. The biologist who gave the hypothesis that plant spilt water and release water was:
(A) Calvin (B) Krebs
(C) Van Neil (D) Dixon
5. Which of the following is electron acceptor during light reaction of photosynthesis?
(A) NAD (B) FAD
(C) NADP (D) NADPH
6. Chlorophyll is present in:
(A) Stroma (B) Thylakoids
(C) Granum (D) Intergranum
7. Which of the followings is not the wavelength of visible light?
(A) 280 nm (B) 380 nm
(C) 180 nm (D) 580 nm

8. Which of the followings is not the wavelength of visible light?
(A) Carotenoids (B) Carotenes
(C) Xanthophylls (D) None of the above
9. Which of the following chlorophylls is present in bacteria?
(A) a (B) b
(C) c (D) None of the above
10. Which of the following wavelengths is least absorbed by the chlorophyll?
(A) Red (B) Blue
(C) Green (D) Orange
11. Match haem group of haemoglobin with one of the following:
(A) Chlorophyll (B) Chloroplast
(C) Porphyrin ring (D) Pyrrole
12. Which of the followings is the smallest unit?
(A) Chlorophyll (B) Phytol
(C) Porphyrin ring (D) Pyrrole
13. Which of the followings is tail of the chlorophyll molecule b?
(A) Chlorophyll (B) Phytol
(C) Porphyrin ring (D) Pyrrole
14. How many atoms of oxygen are present in chlorophyll b?
(A) 2 (B) 4
(C) 6 (D) 8
15. Which of the followings is not the accessory pigment?
(A) Chlorophyll a (B) Chlorophyll b
(C) Carotene (D) Xanthophylls
16. First action spectrum was obtained by:
(A) Calvin (B) Krebs
(C) Van Neil (D) Engelmann

17. The percentage of photosynthesis in land plants is:
(A) 5% (B) 10%
(C) 15% (D) 20%
18. The reduction of which of the following molecules takes place during photosynthesis?
(A) Water (B) Carbon dioxide
(C) Glucose (D) Oxygen
19. The oxidation of which of the following molecules takes place during photosynthesis?
(A) Water (B) Carbon dioxide
(C) Glucose (D) Oxygen
20. Which of the following components of the photo system has chlorophyll b molecules?
(A) Antenna complex (B) Reaction center
(C) Primary electron acceptor (D) ETC
21. Photosystem I absorbs which of the following lights?
(A) 600 nm (B) 680 nm
(C) 700 nm (D) 720 nm
22. Photosystem II absorbs which of the following lights?
(A) 600 nm (B) 680 nm
(C) 700 nm (D) 720 nm
23. The splitting of water and release of oxygen during light reaction is called:
(A) Hydrolysis (B) Photolysis
(C) Oxidation (D) Reduction
24. The synthesis of ATP during light reaction is called:
(A) Oxidative phosphorylation (B) Photophosphorylation
(C) Substrate phosphorylation (D) None of the above
25. Which of the following electron acceptors is absent during cyclic phosphorylation?
(A) Cytochromes (B) Ferredoxin
(C) NADP (D) PC

26. Which of the following mechanism is involved in the synthesis of ATP?
- (A) Reduction (B) Oxidation
(C) Chemiosmosis (D) None of above
27. Which of the followings is irrelevant?
- (A) Calvin cycle (B) Dark reaction
(C) Light reaction (D) C₃ pathway
28. Match rubisco with one of the followings:
- (A) RUBP (B) RBP
(C) RUBP carboxylase (D) RUBP reductase
29. Which of the following is the end product of calvin cycle?
- (A) Glucose (B) PGA
(C) G3P (D) Strach
30. The G3P molecules formed during Calvin cycle are:
- (A) 3 (B) 4
(C) 5 (D) 6
31. The carbon dioxide acceptor during dark reaction is:
- (A) Glucose (B) RuBP
(C) PGA (D) Rubisco
32. Which of the following compounds is formed during anaerobic reaction?
- (A) Pyruvic acid (B) Lactic acid
(C) Ethyl alcohol (D) None of above
33. Which of the following compounds is formed during aerobic reaction?
- (A) Pyruvic acid (B) Lactic acid
(C) Ethyl alcohol (D) None of above
34. How much Glucose is converted into ATP during anaerobic reaction?
- (A) 1% (B) 2%
(C) 3% (D) 4%

35. A molecule of ATP releases energy:
- (A) 6.3 Kcal (B) 7.3 Kcal
(C) 8.3 Kcal (D) 9.3 Kcal
36. The removal of hydrogen is controlled by an enzyme called:
- (A) Hydrogenase (B) Dehydrogenases
(C) Oxidase (D) Reductase
37. Pyruvic acid is produced as a result of:
- (A) Glycolysis (B) Krebs cycle
(C) Respiratory chain (D) Phosphorylation
38. Which of the followings is the end product of oxidative phase of glycolysis?
- (A) F-6-P (B) DAP
(C) G-6-P (D) PGAL
39. Which of the following compounds is produced during pyruvic acid oxidation?
- (A) DAP (B) PAGL
(C) Acetate (D) Acetyl CoA
40. The acetyl CoA unites with which of following molecule during Krebs cycle?
- (A) Citrate (B) Oxaloacetate
(C) Keto - glutrae (D) Fumrate
41. The oxidation of which of the following molecules produce FADH_2 during Krebs cycle?
- (A) Succinate (B) Fumrate
(C) Malate (D) Ketoglutrate
42. The oxidation of which of the following molecule produce oxalocatate during krebs cycle.
- (A) Succinate (B) Fumrate
(C) Malate (D) Ketoglutrate
43. Krebs cycle takes place in:
- (A) Cytosol (B) Matrix of mitochondria
(C) Inner membrane (D) Outer membrane of mitochondria

44. **Respiratory chain is present in:**
(A) Cytosol (B) Matrix of mitochondria
(C) Inner membrane (D) Outer membrane of mitochondria
45. **During respiratory chain, coenzyme Q is reduced by:**
(A) Cytochrome a (B) Cytochrome b
(C) Cytochrome c (D) Cytochrome a₃
46. **Which of the following electron acceptors is oxidized by an atom of oxygen?**
(A) Cytochrome a (B) Cytochrome b
(C) Cytochrome c (D) Cytochrome a₃
47. **The number of ATPs produced during transfer of electron from NADH to oxygen is:**
(A) 1 (B) 2
(C) 3 (D) 4
48. **The energy capturing process is:**
(A) Photosynthesis (B) Respiration
(C) Metabolism (D) Bioenergetics
49. **The energy releasing process is:**
(A) Photosynthesis (B) Respiration
(C) Metabolism (D) Bioenergetics
50. **The biological energy transformation is called:**
(A) Photosynthesis (B) Respiration
(C) Metabolism (D) Bioenergetics
51. **Which of the followings is not reactant in photosynthesis?**
(A) CO₂ (B) Water
(C) Light (D) Oxygen
52. **Which of the following is the most important factor for photosynthesis?**
(A) CO₂ (B) Water
(C) Light (D) Oxygen

- 53. The difference between photosynthesis and respiration is:**
- (A) Photosynthesis occurs at day time while respiration take place at night
 - (B) Photosynthesis and respiration both occurs at daytime
 - (C) Photosynthesis occurs at day while respiration occur day and night
 - (D) None of the above
- 54. The compensation point is a point when:**
- (A) Intake of oxygen but not carbon dioxide
 - (B) Intake of carbon dioxide but not oxygen
 - (C) Intake of both oxygen and carbon dioxide
 - (D) None of the gases is taken inside
- 55. When does the rate of photosynthesis and respiration become equal?**
- (A) During day time
 - (B) During night
 - (C) At dawn
 - (D) In the morning
- 56. The source of oxygen during photosynthesis is:**
- (A) Carbon dioxide
 - (B) Water
 - (C) Glucose
 - (D) Light
- 57. During the isotope tracer technique one group of plants was given H_2O containing O_{18} with CO_2 containing common oxygen O_{16} . The oxygen released during photosynthesis would be:**
- (A) Radioactive
 - (B) Not radioactive
 - (C) Some amount radioactive some none-radioactive
 - (D) None of the above
- 58. During the isotope tracer technique second group of plant was given H_2O containing common oxygen with CO_2 containing O_{18} . The oxygen released during photosynthesis would be:**
- (A) Radioactive
 - (B) Not radioactive
 - (C) Some amount radioactive some non-radioactive
 - (D) None of the above

59. **A reducing agent is that compound which:**
(A) Can remove electron from another compound
(B) Can add electron into another electron
(C) Can absorb electron from another compound
(D) None of the above
60. **The NADPH₂ has:**
(A) Oxidizing power (B) Reducing power
(C) Redox power (D) None of above
61. **Most of the photosynthetic enzymes are present in:**
(A) Stroma of chloroplast (B) Thylakoids of chloroplast
(C) Granum of chloroplast (D) Chlorophyll
62. **Chlorophylls are present in the:**
(A) Stroma of chloroplast (B) Thylakoids of chloroplast
(C) Granum of chloroplast (D) Intergranum
63. **Chemiosmosis during photosynthesis takes place in:**
(A) Stroma of chloroplast (B) Thylakoid membranes of chloroplast
(C) Granum of chloroplast (D) Intergranum
64. **In prokaryotes chlorophylls is present in the:**
(A) Stroma of chloroplast (B) Thylakoid membranes of chloroplast
(C) Granum of chloroplast (D) Photosynthetic membranes
65. **The pigment with red colour is:**
(A) Carotenoids (B) Carotenes
(C) Xanthophylls (D) Chlorophyll
66. **The pigment with yellow colour is:**
(A) Carotenoids (B) Carotenes
(C) Xanthophylls (D) Chlorophyll
67. **which of the following wavelengths is least absorb by chlorophyll?**
(A) Red (B) Green
(C) Yellow (D) Blue

68. Which of the followings is maximum absorbed by chlorophyll?
(A) Red (B) Green
(C) Yellow (D) Blue
69. The plants appear green because:
(A) They absorb green light
(B) They do not absorb green light
(C) The chlorophyll has originally green colour
(D) None of the above
70. The leaves of the plants become yellow due to deficiency of:
(A) Magnesium (B) Iron
(C) Sodium (D) Potassium
71. Which of the followings take part directly in the photosynthetic reactions?
(A) Chlorophyll a (B) Chlorophyll b
(C) Chlorophyll c (D) Chlorophyll d
72. Which of the followings is not an accessory pigment?
(A) Chlorophyll a (B) Chlorophyll b
(C) Carotenes (D) Xanthophylls
73. The absorption spectrum of light is maximum in the wavelength of:
(A) 430 and 670 nm (B) 330 and 660 nm
(C) 430 and 690 nm (D) 550 and 580 nm
74. The peaks of the action spectrum of photosynthesis are comparatively broader than the absorption spectrum of chlorophylls due to:
(A) Chlorophyll a (B) Chlorophyll b
(C) Accessory pigment (D) None of the above
75. The photosynthesis carried out by the terrestrial plants is:
(A) 5% of the total photosynthesis (B) 10% of the total photosynthesis
(C) 15% of the total photosynthesis (D) 20 % of the total photosynthesis
76. The photosynthesis carried out by the aquatic plants is:
(A) 70% of the total photosynthesis (B) 80% of the total photosynthesis
(C) 90% of the total photosynthesis (D) None of the above

77. **Air contains carbon dioxide about:**
(A) 0.03 to 0.04% (B) 0.02 to 0.03%
(C) 0.03 to 0.05% (D) None of above
78. **CO₂ is converted into sugar. This CO₂ is:**
(A) Reduced (B) Oxidized
(C) Both (A) and (B) (D) None of above
79. **ATP is synthesized during chemiosmosis in:**
(A) Antenna complex (B) Reaction centre
(C) Primary electron acceptor (D) Electron transport chain
80. **Cyclic phosphorylation starts when:**
(A) There is less amount of glucose (B) There is less amount of NADH
(C) There is less amount of ATP (D) None of the above
81. **Which of the following processes does not take place during chemiosmosis?**
(A) Synthesis of NADH
(B) Movement of H⁺ through electron transport chain
(C) Synthesis of ATP
(D) Movement of through ATP
82. **Rubisco is:**
(A) Compound used during dark reaction
(B) It is an electron acceptor
(C) A coenzyme
(D) An enzyme
83. **Which of the followings is common in aerobic anaerobic respiration?**
(A) Glycolysis (B) Krebs cycle
(C) Electron transport chain (D) Pyruvic acid oxidation
84. **Which of the following reactions does not take place in animals?**
(A) Glycolysis (B) Lactic acid fermentation
(C) Alcoholic fermentation (D) Krebs cycle
85. **Which of the following reactions take place during fatigue in the muscle of man?**
(A) Glycolysis (B) Lactic acid fermentation
(C) Alcoholic fermentation (D) Krebs cycle

86. In which reaction free energy is not required?
(A) Respiration (B) Photosynthesis
(C) Fermentation (D) None of above
87. Which of the following processes takes place in the presence and absence of oxygen?
(A) Glycolysis (B) Lactic acid fermentation
(C) Alcoholic fermentation (D) Krebs cycle
88. Which of the following reaction is included in the oxidative phase of glycolysis?
(A) Glucose +ATP (B) Fructose +ATP
(C) PAGL 6NAD (D) None of above
89. How many net ATPs are produced during glycolysis?
(A) 2 (B) 3
(C) 4 (D) 5
90. During oxidation of which electron acceptor, ATP is not produced:
(A) Coenzyme Q (B) Cytochrome b
(C) Cytochrome c (D) Cytochrome a and a₃
91. Co-enzyme Q is in turn oxidized by cytochrome:
(A) a₃ (B) a
(C) b (D) a
92. Glycolysis is the break down of:
(A) Maltose (B) Lactose
(C) Fructose (D) Glucose
93. The power house of the cell is:
(A) Ribosome (B) Mitochondria
(C) SER (D) RER
94. Carbon fixation refers to the initial incorporation of:
(A) Oxygen (B) Hydrogen
(C) CO₂ (D) Carbon
95. The mechanism for ATP synthesis is:
(A) Phosphorylation (B) Photosynthesis
(C) Chemosmosis (D) Chemosynthesis

96. Carbon dioxide enters the leaves through:
(A) Stroma (B) Cuticle
(C) Guard cells (D) Stomata
97. Haeme portion of haemoglobin contains:
(A) Carbon atom (B) Iron atom
(C) Phosphorous atom (D) Magnesium atom
98. Chlorophyll absorbs light energy, which is converted into chemical energy of:
(A) ATP (B) ATP & NADPH
(C) NADPH (D) None
99. Chlorophyll b is found alongwith chlorophyll a in all green plants and:
(A) Golden algae (B) Blue green algae
(C) Algae (D) Green algae
100. Pyruvic acid is the end product of:
(A) None (B) Electron transport chain
(C) Glycolysis (D) Krebs cycle
101. Stroma is fluid in the chloroplast which surrounds the:
(A) Thylakoids (B) Grana
(C) Matrix (D) Envelop
102. Which is a kind of chemical link between catabolism and anabolism?
(A) Double (B) ATP
(C) CO₂ (D) Grana
103. Van Niel hypothesized that plants split water as a source of:
(A) Oxygen (B) ATP
(C) Hydrogen (D) Both A and C
104. Choroplast has ————— membrane envelop.
(A) No (B) single
(C) Hydrogen (D) Double
105. Thylakoid sacs are stacked in columns called:
(A) Double (B) CO₂
(C) Grana (D) ATP

- 106. Conventionally “P” in ATP stands for:**
- (A) ATP molecule (B) 7.3 Kcal energy stored in it
(C) Entire phosphate group (D) All these
- 107. Visible light ranges from about 380 to how many nm in wavelength?**
- (A) 755 (B) 745
(C) 750 (D) 760
- 108. Air contains 0.03 – 0.04 % of:**
- (A) Oxygen (B) Nitrogen
(C) H₂O (D) CO₂
- 109. Each _____ consist of light gathering antenna complex and a reaction center.**
- (A) Grana (B) Stroma
(C) Photo system (D) ATP
- 110. Dark reactions take place in the _____ of chloroplast.**
- (A) ATP (B) Yellow
(C) Stroma (D) CO₂
- 111. Oxygen released during photosynthesis comes from:**
- (A) Radioactive isotop (B) water
(C) Air (D) Lumen
- 112. Water containing O¹⁸:**
- (A) Water (B) Radioactive
(C) Photosystem (D) Cyclic electron flow
- 113. Thylakoid interior space:**
- (A) Water (B) Cyclic electron flow
(C) Photosystem (D) Lumen
- 114. Photosynthetic pigments are organized into clusters:**
- (A) Lumen (B) Radioactive
(C) Water (D) Photosystem
- 115. Photo excited electrons take an alternative path:**
- (A) Cyclic electron flow (B) Radioactive
(C) Water (D) Lumen

- 116. Pyruvic acid:**
- (A) Radioactive (B) Mitochondria
(C) Photon (D) End product of glycolysis
- 117. Light behaves as wave as well as particles:**
- (A) Photon (B) 7.3 k.Cal.
(C) Mitochondria (D) Pyruvate
- 118. Cristae:**
- (A) 7.3 k.Cal (B) End product of glycolysis
(C) Mitochondria (D) Pyruvate
- 119. Break down of terminal phosphate of ATP:**
- (A) Pyruvate (B) End product of glycolysis
(C) 7.3 k.Cal (D) Photon
- 120. Acetyl-CoA:**
- (A) Mitochondria (B) Photon
(C) End product of glycolysis (D) Pyruvate
- 121. Photosynthetic prokaryotes:**
- (A) Muscle cells of humans (B) Internal clock located in the guard cells
(C) End product of glycolysis (D) Unstacked photosynthetic membrane
- 122. Daily Rhythmic opening and closing of stomata:**
- (A) Internal clock located in the guard cells
(B) Unstacked photosynthetic membrane
(C) Muscle cells of humans
(D) Laws of thermodynamics
- 123. Lactic acid form of anaerobic respiration:**
- (A) Laws of thermodynamics
(B) Unstacked photosynthetic membrane
(C) Internal clock located in the guard cells
(D) Muscle cells of humans

124. Biological energy transformation:

- (A) Electron transport intermediate
- (B) Muscle cells of humans
- (C) Laws of thermodynamics
- (D) Internal clock located in the guard cells

125. Cytochromes:

- (A) Unstacked photosynthetic membrane
- (B) Electron transport intermediate.
- (C) Laws of thermodynamics
- (D) Muscle cells of humans

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(C)	3.	(C)	4.	(C)	5.	(C)
6.	(A)	7.	(A)	8.	(D)	9.	(D)	10.	(C)
11.	(C)	12.	(D)	13.	(B)	14.	(C)	15.	(A)
16.	(D)	17.	(B)	18.	(B)	19.	(A)	20.	(A)
21.	(C)	22.	(B)	23.	(B)	24.	(B)	25.	(C)
26.	(C)	27.	(C)	28.	(C)	29.	(A)	30.	(D)
31.	(B)	32.	(D)	33.	(A)	34.	(B)	35.	(B)
36.	(B)	37.	(A)	38.	(D)	39.	(D)	40.	(B)
41.	(A)	42.	(C)	43.	(B)	44.	(C)	45.	(B)
46.	(D)	47.	(C)	48.	(A)	49.	(B)	50.	(D)
51.	(D)	52.	(C)	53.	(C)	54.	(D)	55.	(D)
56.	(B)	57.	(A)	58.	(B)	59.	(B)	60.	(B)
61.	(A)	62.	(B)	63.	(B)	64.	(D)	65.	(B)
66.	(D)	67.	(B)	68.	(A)	69.	(B)	70.	(A)
71.	(A)	72.	(A)	73.	(A)	74.	(C)	75.	(B)
76.	(B)	77.	(A)	78.	(A)	79.	(D)	80.	(C)
81.	(A)	82.	(D)	83.	(A)	84.	(C)	85.	(B)
86.	(B)	87.	(A)	88.	(C)	89.	(A)	90.	(A)
91.	(A)	92.	(D)	93.	(B)	94.	(C)	95.	(C)
96.	(D)	97.	(B)	98.	(B)	99.	(D)	100.	(C)
101.	(B)	102.	(B)	103.	(C)	104.	(D)	105.	(C)
106.	(C)	107.	(C)	108.	(D)	109.	(C)	110.	(C)
111.	(B)	112.	(B)	113.	(D)	114.	(D)	115.	(A)
116.	(D)	117.	(A)	118.	(C)	119.	(C)	120.	(D)
121.	(D)	122.	(A)	123.	(D)	124.	(C)	125.	(B)



12

CHAPTER

NUTRITION

1. Which of the followings does not come within nutrition?
(A) Taking in (B) Utilization
(C) Growth (D) None of above
2. The elements present in protein:
(A) Nitrogen (B) Phosphorus
(C) Magnesium (D) Iron
3. The elements present in cytochromes:
(A) Nitrogen (B) Phosphorus
(C) Magnesium (D) Iron
4. The elements present in chlorophyll:
(A) Nitrogen (B) Phosphorus
(C) Magnesium (D) Iron
5. Which of the followings is not used for replenishment of minerals?
(A) Sewage sludge (B) Fertilizers
(C) Green manure (D) None of above
6. The deficiency of which element causes stunted growth?
(A) Nitrogen (B) Phosphorus
(C) Potassium (D) Manganese
7. The deficiency of which element causes yellowness of the leaf margins?
(A) Nitrogen (B) Phosphorus
(C) Potassium (D) Manganese

8. The deficiency of which of the following elements causes chlorosis?
(A) Nitrogen (B) Phosphorus
(C) Potassium (D) Manganese
9. The nutrition of feeding on dead and decay matter is called:
(A) Saprophytic (B) Parasite
(C) Symbiotic (D) None of above
10. The nutrition of feeding on living organisms is called:
(A) Saprophytic (B) Parasitic
(C) Symbiotic (D) None of above
11. Lichens are:
(A) Saprophytic (B) Parasitic
(C) Symbiotic (D) None of above
12. The association of fungi and algae is called:
(A) Saprophytic (B) Parasite
(C) Symbiotic (D) None of above
13. The association of fungi and root of higher plants is called:
(A) Saprophytic (B) Parasite
(C) Mycorrhizae (D) Lichens
14. Which of the following is a pitcher plant?
(A) *Dionaea muscipula* (B) *Sarracenia purpurea*
(C) *Drosera intermedia* (D) None of the above
15. Which of the followings is a Venus fly trap?
(A) *Dionaea muscipula* (B) *Sarracenia purpurea*
(C) *Drosera intermedia* (D) None of above
16. The animals which feed on plants are called:
(A) Detritivores (B) Herbivores
(C) Carnivores (D) Omnivores
17. Which of the followings is detritivore?
(A) Mussels (B) Earth worm
(C) Horse (D) Cat

18. Which of the followings is carnivore?
(A) Mussels (B) Earth worm
(C) Horse (D) Cat
19. Which of the following groups have large premolar and molar teeth:
(A) Detritivores (B) Herbivores
(C) Carnivores (D) Omnivores
20. Which of the following animals is not omnivore?
(A) Fox (B) Man
(C) Dog (D) Pig
21. Match female mosquito with one of the following groups:
(A) Macrophagous feeders (B) Fluid feeders
(C) Ominivores (D) Herbivores
22. Which of the followings is not macrophagus feeder?
(A) Hydra (B) Snail
(C) Cat fish (D) Dog fish
23. Which of the following animals is irrelevant in method of feeding:
(A) Flea (B) Ticks
(C) Leech (D) Entamoeba
24. In which process of digestion, utilization of digested food take place?
(A) Ingestion (B) Digestion
(C) Absorption (D) Assimilation
25. Lysosomes are involved in which of the following steps in amoeba?
(A) Ingestion (B) Digestion
(C) Absorption (D) Assimilation
26. Absorption of food in planarians takes place by:
(A) Pharynx (B) Mouth
(C) Intestine (D) Intestinal caecae
27. Absorption of food in planarian takes place by:
(A) Pharynx (B) Mouth
(C) Intestine (D) Intestinal caecae

28. Which of the following structures is used for grinding of food in cockroach?
(A) Stomach (B) Crop
(C) Gizzard (D) Hepatic Caecae
29. Which of the followings is irrelevant about the digestion in cockroach?
(A) Intra cellular digestion (B) Extra cellular digestion
(C) Gizzard (D) Rectum
30. Which of the followings function is irrelevant to oral cavity?
(A) Grinding (B) Lubrication
(C) Absorption (D) Digestion
31. Which of the following mucous glands is present in front of ears?
(A) Sublingual (B) Sub maxillary
(C) Parotid (D) None of above
32. The enzyme present in the saliva is:
(A) Pepsin (B) Lipase
(C) Ptyalin (D) Lactase
33. The opening of the glottis is called:
(A) Glottis (B) Epiglottis
(C) Larynx (D) Vocal cords
34. The flap like structure present in larynx is called:
(A) Glottis (B) Eiglottis
(C) Larynx (D) Vocal cords
35. Vomiting is caused by:
(A) Peristalsis (B) Antiperistalsis
(C) Hunger pang (D) Swallowing
36. The cells secrete pepsinogen:
(A) Mucous (B) Parietal
(C) Zymogen (D) Oxyntic
37. The ph of fresh HCl is:
(A) 1 (B) 3
(C) 4 (D) 5

38. **Semi solid mass in the stomach is called:**
(A) Bolus (B) Chyme
(C) Food (D) Serum
39. **Pepsin acts on:**
(A) Protein (B) Lipids
(C) Carbohydrates (D) Nucleic acid
40. **The first part of small intestine is called:**
(A) Duodenum (B) Jejunum
(C) Ileum (D) None of above
41. **The length of Duodenum in cm is:**
(A) 20-25 (B) 30-35
(C) 10-15 (D) 40-50
42. **Which of the following enzymes is not present in pancreatic juice?**
(A) Amylase (B) Erypsin
(C) Lipase (D) Trypsin
43. **Fats are digested by:**
(A) Amylase (B) Erypsin
(C) Lipase (D) Trypsin
44. **Emulsification is caused by:**
(A) Gastric juice (B) Pancreatic juice
(C) Bile (D) Intestinal juice
45. **Bile secretes which of the following enzymes?**
(A) Amylase (B) Erypsin
(C) Lipase (D) None of above
46. **The hormone secretin stimulates the secretion of:**
(A) Gastric juice (B) Pancreatic juice
(C) None of above (D) Intestinal juice
47. **The enzyme acts on proteins:**
(A) Erypsin (B) Lipase
(C) Maltase (D) Lactase

48. In intestine, amino acids are absorbed by:
(A) Capillary (B) Epithellium
(C) Lacteal (D) None of above
49. The largest part of the large intestine:
(A) Caecum (B) Colon
(C) Rectum (D) Appendix
50. Most of the water in the digestive tract is absorbed in:
(A) Pharynx (B) Stomach
(C) Small intestine (D) Large intestine
51. Botulism is caused by:
(A) Salmonella (B) Campylobacter
(C) Clostridium (D) None of above
52. The condition with abnormal amount of fats is called:
(A) Anorexia (B) Obesity
(C) Bulima (D) Piles
53. The condition in which a person eats too little is called:
(A) Anorexia (B) Obesity
(C) Bulimia (D) Piles
54. The condition of bout of overeating is called:
(A) Anorexia (B) Obesity
(C) Bulimia (D) Piles
55. Concentration of bile is the function of:
(A) Liver (B) Gall bladder
(C) Pancreas (D) None
56. The sores in stomach or intestines are called:
(A) Anorexia (B) Obesity
(C) Ulcer (D) Piles
57. Nutrition is the process which involves:
(A) Selection of different types of food
(B) Analysis of different types of food
(C) Intake and utilization of food
(D) Breakdown food during respiration

58. Nitrogen is present in:

- (A) Carbohydrates
- (B) Protein
- (C) Nucleic acid
- (D) Lipids

59. Phosphorus is present in:

- (A) Carbohydrates
- (B) Protein
- (C) Nucleic acid
- (D) Lipids

60. In which compound iron is not present?

- (A) Chlorophyll
- (B) Cytochrome
- (C) Haemoglobin
- (D) None of above

61. In which group of the following Mg is present?

- (A) Chlorophyll
- (B) Cytochrome
- (C) Haemoglobin
- (D) None of above

62. Which of the followings is not the source of minerals?

- (A) Animal manure
- (B) Sewage sludge
- (C) Water
- (D) Artificial fertilizer

63. Which of the followings is chlorosis?

- (A) Shrinking of leaves
- (B) Lack of chlorophyll
- (C) Lack of cell wall
- (D) Lack of starch

64. The deficiency of phosphorus causes which of these diseases?

- (A) Stunted growth of root
- (B) Yellowish leaf margin
- (C) Chlorosis
- (D) Stunted growth of plant

65. Which of the followings is a parasitic mode of nutrition?

- (A) One organism gets food from the other
- (B) One organism gets protection from the other
- (C) One organism causes disease in the other
- (D) All the above

66. In saprophytic nutrition, one organism:

- (A) Eats another organism
- (B) Kills and eats another organism
- (C) Eats a dead organism
- (D) None of the above

67. **Lichen is an association between:**
(A) Algae and higher plants (B) Algae and fungi
(C) Fungi and roots of higher plant (D) None of the above
68. **Mycorrhizae is an association between:**
(A) Algae and higher plants (B) Algae and fungi
(C) Fungi and roots of higher plant (D) None of above
69. **The bacteria in nodules of leguminous plants produce nitrates by:**
(A) Decomposition of dead organism (B) Fixing atmospheric nitrogen
(C) Releasing nitrogen from the soil (D) None of the above
70. **Insectivore plants are:**
(A) Heterotrophich (B) Autotrophic
(C) Parasitic (D) None of the above
71. **Earthworm is:**
(A) Herbivore (B) Detritivores
(C) Carnivore (D) Omnivore
72. **Rodents are:**
(A) Herbivore (B) Detritivores
(C) Carnivore (D) Omnivore
73. **Which of the followings is the character of herbivores?**
(A) They have long incisors and small canines
(B) The have small incisors but large canines
(C) They have small incisors but without canines
(D) They are without incisors but small canines
74. **Which of the followings is not the characteristic of predator?**
(A) It eats the prey alive (B) It kills the prey but do not eat it
(C) It kills and eats the prey readily (D) It does not kill or eat the prey
75. **Which of the followings is the characteristic of carnivores?**
(A) They have large incisors but small canines
(B) They have small incisors but large canines
(C) They have large incisors and canines
(D) They have small incisors but without canines

76. Which of the followings is omnivore:
- (A) Dog (B) Rats
(C) Sheep (D) Rabbit
77. Which of the followings is fluid filter?
- (A) Earthworm (B) Sheep
(C) Whale (D) Fish
78. Which of the followings is not the character of the marcophagus?
- (A) They have tentacles (B) They scrape food
(C) They seize their prey (D) They tear their prey
79. Radula is a rasping organ, present in the mollusks. It is used to:
- (A) Scrape the food (B) Tear the food
(C) Kill the prey (D) None of the above
80. Which of the followings is not ectoparasite?
- (A) Flea (B) Entamoeba
(C) Tick (D) Mite
81. Which of the followings is not the process included in the digestion?
- (A) Conversion of amino acid into protein
(B) Conversion of protein into amino acid
(C) Conversion of glucose into starch
(D) Conversion of fatty acid into lipids
82. The reason why digestion takes place is:
- (A) Animals need food particles in the form of smaller molecules
(B) The large food molecule cannot pass through their membrane
(C) The small food molecules increase their membrane
(D) None of the above
83. Intracellular is type of digestion which takes place:
- (A) Outside the cell and outside the body
(B) Outside the cell but within the coelomic cavity
(C) Outside the cell but within the digestive cavity
(D) Inside the cell but outside the digestive cavity

- 84. Assimilation is a process in the body of amoeba in which:**
- (A) Food is broken into smaller pieces
 - (B) Food is absorbed form the vacuole
 - (C) Food is absorbed and utilized in different activities
 - (D) None of above
- 85. Egestion is process in body in which:**
- (A) Food is taken inside the body
 - (B) Food is broken into smaller pieces
 - (C) Food is absorbed and utilized in the body
 - (D) Undigested food is removed from the body
- 86. Which of the followings is correct about the sac like digestive system?**
- (A) A system having single opening called mouth for ingestion
 - (B) A system having single opening called mouth for egestion
 - (C) A system having single opening both for ingestion and egestion
 - (D) None of the above
- 87. In hydra intracellular digestion take place:**
- (A) In the cavity of coelenterons
 - (B) In ectodermal cells
 - (C) In gastrodermal cells
 - (D) None of the above
- 88. The function of the intestinal coecae of the planarians is to:**
- (A) Absorb the digested food
 - (B) Trasport the digested food
 - (C) Remove the undigested food
 - (D) None of the above
- 89. The types of digestion in planarian are:**
- (A) Intracellular digestion
 - (B) Extracellular digestion
 - (C) Both A and B
 - (D) None of the above
- 90. The function of the crop of the cockroach is to:**
- (A) Ingest the food
 - (B) Grind the food
 - (C) Store the food
 - (D) Digest the food
- 91. The function of the Gizzard in cockroach is to:**
- (A) Ingest the food
 - (B) Grind the food
 - (C) Store the food
 - (D) Digest the food

- 92. Grinding of food in man takes place by:**
(A) Incisor teeth (B) Canine teeth
(C) Molar teeth (D) Premolar teeth
- 93. Which of the following salivary glands is present below the tongue?**
(A) Sublingual glands (B) Submaxillary glands
(C) Parotid glands (D) None of the above
- 94. The function of the mucous of the salivary glands is to:**
(A) Digest the food (B) Make the food chew efficiently
(C) Transport the food (D) Break the food
- 95. The function of sodium bicarbonate is to:**
(A) Digest the food (B) Stabilize the pH
(C) Transport the food (D) Break the food
- 96. Which of the followings is not the function of saliva?**
(A) Digestion of food (B) Lubrication of food
(C) Stabilization of pH (D) Absorption of food
- 97. The Amylase or ptyalin acts on:**
(A) Protein (B) Starch
(C) Glucose (D) Lipids
- 98. Which of the following steps does not take place during act of swallowing?**
(A) Moving of tongue up and down
(B) Upward movement of the larynx
(C) Opening of the glottis
(D) The movement of epiglottis in horizontal direction
- 99. Which of the followings is not true about the peristalsis?**
(A) It is a wave of contraction
(B) Contraction start behind the bolus
(C) Relaxation start behind the bolus
(D) Squeezing of bolus forward
- 100. The hunger pang is caused due to:**
(A) Empty stomach (B) Low glucose level in the body
(C) Secretion of gastric juice (D) None of the above

- 101. Which of the followings is not true about the mucosa of the stomach?**
- (A) It forms the inner lining of the stomach
 - (B) It has many tubular glands
 - (C) It is composed of epithellium
 - (D) It is composed of connective tissues
- 102. Which of the followings is not the function of gastric juice?**
- (A) Digestion of food
 - (B) Protection of inner layer
 - (C) Transport of food
 - (D) Making the pH acidic
- 103. The function of the pepsin is to convert the protein into:**
- (A) Amino acid
 - (B) Peptones
 - (C) Dipeptides
 - (D) None of above
- 104. Heart burn is caused due to:**
- (A) Pain in heart
 - (B) Pain in stomach
 - (C) Out flow of gastric juice
 - (D) None of above
- 105. Gastrin is :**
- (A) An Enzyme of gastric juice
 - (B) It is a part of the stomach
 - (C) It stimulates the secretion of gastric juice
 - (D) It promotes the digestion of proteins
- 106. The length of duodenum is:**
- (A) 15 – 20cm
 - (B) 20 – 25 cm
 - (C) 25 – 35cm
 - (D) None of above
- 107. Which of the following enzymes acts on fats?**
- (A) Amylase
 - (B) Lipase
 - (C) Trypsin
 - (D) Enterokinase
- 108. Enterokinase acts on:**
- (A) Proteins
 - (B) Lipids
 - (C) Carbohydrates
 - (D) None of above
- 109. Bile contains which of these enzyme?**
- (A) Amylase
 - (B) Lipase
 - (C) Trypsin
 - (D) None of above

- 110. Emulsification means:**
- (A) Breakdown of proteins (B) Breakdown of starch
(C) Breakdown of fats (D) None of the above
- 111. Gall stone is caused due to precipitation of:**
- (A) Proteins (B) Cholesterol
(C) Starch (D) Glycogen
- 112. Secretin is hormone produced by the intestinal mucosa. It is secreted due to:**
- (A) Portentous food (B) Acidic food
(C) Alkaline food (D) Fatty food
- 113. Secretin is a hormone which:**
- (A) Stimulates the secretion of saliva
(B) Stimulates the secretion of gastric juice
(C) Inhibits the secretion of gastric juice
(D) Stimulates the secretion of bile
- 114. The length of the jejunum is about:**
- (A) 1.5 metres (B) 2.4 metres
(C) 3.4 metres (D) None of above
- 115. Which of the following enzymes convert the dipeptides into amino acids?**
- (A) Amylase (B) Amino peptidase
(C) Erypsin (D) Trypsin
- 116. Most of the fatty acids are absorbed by:**
- (A) Epithelium of the villi (B) Lacteals of the villi
(C) Blood capillaries of the villi (D) None of the above
- 117. The fats enter into blood in the form of:**
- (A) Fatty acid (B) Lipo-proteins
(C) Fats (D) None of above
- 118. Some humans consume milk and develop diarrhea due to:**
- (A) Milk proteins (B) Glycogen in milk
(C) Lactose in milk (D) None of the above

- 119. Appendicitis is:**
(A) A part of large intestine (B) A part of caecum
(C) A disease (D) None of above
- 120. Most of the water is absorbed by:**
(A) Oral cavity (B) Stomach
(C) Small intestine (D) Large intestine
- 121. Diarrhoea is abnormality of large intestine in which:**
(A) Less water is absorbed by the large intestine
(B) Less salts are absorbed by the large intestine
(C) More water is absorbed by the large intestine
(D) More salts are absorbed by the large intestine
- 122. Constipation is abnormality of large intestine in which:**
(A) Less water is absorbed by the large intestine
(B) Less salts are absorbed by the large intestine
(C) More water is absorbed by the large intestine
(D) More salts are absorbed by the large intestine
- 123. The bacteria in large intestine produce:**
(A) Vitamin A (B) Vitamin B
(C) Vitamin D (D) Vitamin K
- 124. Which of the followings is not the symptom of the dyspepsia?**
(A) Abdominal discomfort (B) Flatulence
(C) Heartburn (D) Fever
- 125. How do humans develop food poisoning?**
(A) Contaminated water (B) Contaminated milk
(C) Contaminated juice (D) None of the above
- 126. Botulism is caused due to:**
(A) Salmonella (B) Campylobacter
(C) Clostridium (D) None the above
- 127. Anorexia nervosa is abnormality in which:**
(A) A person eats too much (B) A person does not eat
(C) A person cannot digest food (D) None of the above

- 128. Bulimia nervosa is an abnormality in which:**
(A) A person eats too much (B) A person does not eat
(C) A person cannot digest food (D) None of the above
- 129. Nitrogen is present in:**
(A) Carbohydrates (B) Carbonates
(C) Proteins (D) Fats
- 130. Chlorophyll contains:**
(A) Sulphur (B) Calcium
(C) Nitrogen (D) Magnesium
- 131. Lack of chlorophyll results in:**
(A) Phosphorus (B) Chlorosis
(C) Symbiosis (D) Diagonosis
- 132. Release of nitrates by saprophytic bacteria helps in:**
(A) Nitrogen cycle (B) Water cycle
(C) Oxygen cycle (D) Carbon cycle
- 133. Feeding by living in or on other organisms is a:**
(A) Parasite (B) Fungicide
(C) Saprophyte (D) Insecticide
- 134. Canines are missing in:**
(A) Lions (B) Cats
(C) Horse (D) Man
- 135. The animals having structurally and functionally intermediate teeth between herbivores and carnivores are:**
(A) Omnivores (B) Saprozoic
(C) Detritivores (D) Insectivores
- 136. A common mussel has two large gills with:**
(A) Pseudopodia (B) Parapodia
(C) Flagella (D) Cilia

137. The cells scattered among cilia produce sticky mucous with food particles are:
- (A) Secretary (B) Respiratory
(C) Regulatory (D) Excretory
138. A fluid feeder animal is:
- (A) Male mosquito (B) Female cat
(C) Female mosquito (D) Male reptile
139. The common ectoparasites in non-human mammals are:
- (A) Lice & Mites (B) Mice & Mites
(C) Lice & Kites (D) Ticks & Mites.
140. An ectoparasite attacking both aquatic and terrestrial animals is:
- (A) Leech (B) Dragon fly
(C) Louse (D) Butter fly
141. It facilitates diffusion of materials to the body cells in planaria:
- (A) Chyme (B) Enzyme
(C) Branched intestine (D) Intestine
142. The food is ground in the cockroach in:
- (A) Crop (B) Mandible
(C) Mesenteron (D) Gizzard
143. The sac-like digestive system is:
- (A) Deficient (B) More efficient
(C) Coefficient (D) Less efficient
144. The digestive system of man consists of a long:
- (A) Inflated tube (B) Coiled tube
(C) Spiral tube (D) Dilated tube
145. The squeezing of food down along the alimentary canal is by the contraction of:
- (A) Circular and longitudinal muscles
(B) Longitudinal muscles
(C) Spiral and circular muscles
(D) Circular muscles

- 146. The human stomach is situated below:**
(A) Diaphragm (B) Nephron
(C) Neuron (D) Picogram
- 147. HCl adjusts pH of stomach ranging from:**
(A) 2 – 3 (B) 4 – 5
(C) 2 – 4 (D) 3 – 5
- 148. Pepsinogen is activated to pepsin by:**
(A) HCl (B) Active secretin
(C) Gastrin (D) HCl and active pepsin
- 149. Lipoproteins are subsequently hydrolysed by:**
(A) Lymph (B) Plasma
(C) Blood (D) Blood plasma enzyme
- 150. Mastication and communication is the function of:**
(A) Keats (B) Leech
(C) Peach (D) Teeth
- 151. Insufficient quality or quantity of bile secretions is responsible for causing:**
(A) Crustacean (B) Anorexia
(C) Eschechia (D) Dyspepsia
- 152. Treatment is likely to be prolonged in:**
(A) Epidemics (B) Ticks
(C) Bulimics (D) Systemic
- 153. Liver secretes bile into the:**
(A) Duodenum (B) Peritoneum
(C) Pericardium (D) Zymogen
- 154. _____ is the food that supplies the body with elements for metabolism.**
(A) Egestion (B) Autotrophs
(C) Phosphorus (D) Nutrient
- 155. The organisms capable of manufacturing their own food are called.**
(A) Autotrophs (B) Assimilation
(C) Mycorrhiza (D) Phosphorus

156. Which of these deficiencies ——— causes stunted growth of roots?
(A) Assimilation (B) Phosphorus
(C) Saprophytic nutrition (D) Puccinia
157. A kind of feeding on dead and decaying matter is called.
(A) Saprophytic nutrition (B) Puccinia
(C) Mycorrhiza (D) Leguminous
158. Which ——— parasitic fungus destroys the wheat plant?
(A) Mycorrhiza (B) Dodder (Cuscuta)
(C) Puccinia (D) Leguminous
159. Which ——— is a leaf less plant living as a twining parasite?
(A) Dodder (Cuscuta) (B) Omnivores
(C) Predator (D) Leguminous
160. Name ——— the association between a fungus and roots of higher plants.
(A) Leguminous (B) Mycorrhiza
(C) Predator (D) Insectivorous
161. Which ——— plants have nodules on their roots?
(A) Insectivorous (B) Mycorrhiza
(C) Leguminous (D) Dodder (Cuscuta)
162. Which of these plants are true autotrophs?
(A) Herbivorous (B) Detritivores
(C) Mycorrhiza (D) Insectivorous
163. Which of these ——— has a bilobed leaf with midrib.
(A) Venusflytrap (B) Herbivorous
(C) Ingestion (D) Facultative
164. The animals feeding on detritus are called:
(A) Facultative (B) Predator
(C) Filter feeders (D) Detritivores
165. Rodents and ungulates are the groups of ——— mammals.
(A) Macrophagus (B) Predator
(C) Filter feeders (D) Herbivorous

- 166. Prey is captured and killed by the:**
(A) Macrophagus (B) Venusflytrap
(C) Predator (D) Radula
- 167. Which ————— animals eat both plants and animals?**
(A) Carnivores (B) Omnivores
(C) Facultative (D) Both A and B
- 168. Which ————— animals extract particles from water and digest them?**
(A) Filter feeders (B) Puccinia
(C) Facultative (D) Predator
- 169. The animals taking in large food pieces are called:**
(A) Omnivores (B) Detritivores
(C) Herbivorous (D) Macrophagus
- 170. Snail feeds by using rasping organ called the :**
(A) Filter feeders (B) Predator
(C) Herbivorous (D) Radula
- 171. Which ————— parasites are capable of living independently of its host at times?**
(A) Filter feeders (B) Obligate
(C) Facultative (D) Both B and C
- 172. The organism living parasitically on host at all the times is said to be:**
(A) Digestion (B) Insectivorous
(C) Predator (D) Obligate parasite
- 173. Taking in of complex food is called:**
(A) Ingestion (B) Insectivorous
(C) Egestion (D) Digestion
- 174. The break down of complex organic food into diffusible molecules by the action of enzymes is called:**
(A) Detritivores (B) Ingestion
(C) Digestion (D) Both B and C

- 175. The utilization of digested food for producing energy is:**
(A) Assimilation (B) Ingestion
(C) Digestion (D) Egestion
- 176. The elimination of undigested matter from the body is:**
(A) Egestion (B) Ingestion
(C) Digestion (D) Coelenteron
- 177. The mode of digestion in amoeba is:**
(A) Intracellular (B) Assimilation
(C) Lysosomes (D) Coelenteron
- 178. In amoeba, the hydrolytic enzymes are secreted by:**
(A) Assimilation (B) Lysosomes
(C) Facultative (D) Ingestion
- 179. The gastrovascular cavity in hydra is also known as:**
(A) Coelenteron (B) Gastrodermis
(C) Assimilation (D) Nematocysts
- 180. The stinging cells embedded in tentacles are called:**
(A) Nematocysts (B) Obligate parasite
(C) Macrophagus (D) Facultative
- 181. The glandular cells in the which secrete enzymes for extracellular digestion are present in:**
(A) Intracellular (B) Egestion
(C) Obligate parasite (D) Gastrodermis
- 182. Which one engulfs the prey by protruding pharynx?**
(A) Egestion (B) Facultative
(C) Planaria (D) Radula
- 183. The digestive system of cockroach is:**
(A) Closed type (B) Egestion
(C) Sac like (D) Tubular type

- 184. The masticated, partly digested food is rolled into a small oval lump called:**
- (A) Bolus (B) Omnivores
(C) Gastrodermis (D) Digestion
- 185. What _____ assists the movement of materials through esophagus?**
- (A) Omnivores (B) Cardiac sphincter
(C) Gravity (D) Gastrin
- 186. A ring of muscles at the junction of stomach and esophagus is called:**
- (A) Gastrin (B) Gravity
(C) Gall bladder (D) Cardiac sphincter
- 187. The gastric glands secrete a hormone called:**
- (A) Gastrin (B) Gravity
(C) Gall bladder (D) Cardiac sphincter
- 188. What hydrolyzes protein to yield peptones and polypeptides?**
- (A) Gastrin (B) Pepsin
(C) Gravity (D) Lipase
- 189. Hepatic and pancreatic secretions are stimulated by a hormone called:**
- (A) Ileum (B) Gastrin
(C) Secretin (D) Urea
- 190. Fat digesting enzyme is:**
- (A) Trypsin (B) Amylopsin
(C) Planaria (D) Lipase
- 191. What is the inactive form of trypsin?**
- (A) Planaria (B) Pepsin
(C) Trypsinogen (D) Bolus
- 192. Bile is temporarily stored in the:**
- (A) Pepsin (B) Gall bladder
(C) Trypsinogen (D) Aminopeptidase

- 193. Liver converts toxic ammonia into:**
- (A) Ileum (B) Urea
(C) Aminopeptidase (D) Goblet
- 194. Polypeptides are digested into dipeptides by:**
- (A) Lipase (B) Goblet
(C) Aminopeptidase (D) Both A and C
- 195. Nearly all absorption of digested food takes place in the:**
- (A) Lipase (B) Rectum
(C) Ileum (D) Constipation
- 196. The enfolding of villi and microvilli increases the surface area for:**
- (A) Constipation (B) Absorption
(C) Gravity (D) Cardiac sphincter
- 197. What is caused by the excessive absorption of water?**
- (A) Salmonella (B) Botulism
(C) Adipose (D) Constipation
- 198. Which cells of large intestine secrete mucous?**
- (A) Food Poisoning (B) Goblet
(C) Botulism (D) Adipose
- 199. Which is an illness is caused from indigestion of food containing toxic substances?**
- (A) Bullimia nervosa (B) Salmonella
(C) Food Poisoning (D) Botulism
- 200. Which disease is caused by toxins produced by a species of Clostridium bacteria?**
- (A) Botulism (B) Absorption
(C) Salmonella (D) Constipation
- 201. The fat is stored in which tissue of the abdomen?**
- (A) Aminopeptidase (B) Absorption
(C) Adipose (D) Constipation

- 202. Slightly older girls may suffer a neurotic disorder called:**
(A) Botulism (B) Bullimia nervosa
(C) Salmonella (D) Aminopeptidase
- 203. Defrosting frozen meat releases liquid containing which bacteria?**
(A) Botulism (B) Bullimia nervosa
(C) Salmonella (D) Absorption
- 204. Heterotrophic organisms:**
(A) Incapable of manufacturing organic compounds
(B) Capable of manufacturing organic lumps
(C) Both A and B
(D) None of the Above
- 205. Nucleic Acids:**
(A) Phosphorus (B) Older leaves
(C) Suckers (D) Iron
- 206. Cytochromes:**
(A) Older leaves
(B) Incapable of manufacturing organic compounds
(C) Suckers
(D) Iron
- 207. Strong chlorosis:**
(A) Suckers (B) Phosphorus
(C) Young leaves (D) Older leaves
- 208. Parasites:**
(A) Older leaves (B) Phosphorus
(C) Suckers (D) Iron
- 209. Mutual nutrition:**
(A) Prevent the insects from climbing out
(B) Detritus feeder
(C) A row of long stiff bristles
(D) Organisms belonging to two different species

210. Algae:

- (A) Photosynthesis
- (B) A row of long stiff bristles
- (C) Detritus feeder
- (D) Prevent the insects from climbing out

211. Stiff hairs:

- (A) A row of long stiff bristles
- (B) Prevent the insects from climbing out
- (C) Organisms belonging to two different species
- (D) Detritus feeder

212. Venus flytrap:

- (A) Organisms belonging to two different species
- (B) Photosynthesis
- (C) Prevent the insects from climbing out
- (D) A row of long stiff bristles

213. Earthworm:

- (A) Prevent the insects from climbing out
- (B) Photosynthesis
- (C) A row of long stiff bristles
- (D) Detritus feeder

214. Premolars and molars in herbivores:

- (A) Occur in both aquatic and terrestrial animals
- (B) Weakened the host or upset its metabolism
- (C) Have large grinding surfaces
- (D) Delicate stylets

215. Aphids:

- (A) Weakened the host or upset its metabolism
- (B) Occur in both aquatic and terrestrial animals
- (C) Delicate stylets
- (D) Have large grinding surfaces

216. Endoparasites:

- (A) Have large grinding surfaces
- (B) Occur in both aquatic and terrestrial animals
- (C) Delicate stylets
- (D) Weakened the host or upset its metabolism

217. Parasites excretory products:

- (A) Weakened the host or upset its metabolism
- (B) Have large grinding surfaces
- (C) Delicate stylets
- (D) Occur in both aquatic and terrestrial animals

218. Nematocyst:

- (A) Weakened the host or upset its metabolism
- (B) Delicate stylets
- (C) Occur in both aquatic and terrestrial animals
- (D) Consists of a hollow thread coiled within a capsule and a tiny trigger

219. Hydra:

- (A) A flap of cartilage
- (B) Eyespot
- (C) The opening of wind pipe
- (D) Grasps prey with tentacles

220. Planarian:

- (A) A flap of cartilage
- (B) The beginning of swallowing
- (C) Eyespot
- (D) The opening of wind pipe

221. Glottis:

- (A) The opening of wind pipe
- (B) A flap of cartilage
- (C) Eyespot
- (D) Grasps prey with tentacles

222. Epiglottis:

- (A) A flap of cartilage
- (B) Grasps prey with tentacles
- (C) The beginning of swallowing
- (D) Eyespot

223. Voluntary action:

- (A) Eyespot
- (B) The beginning of swallowing
- (C) A flap of cartilage
- (D) Grasps prey with tentacles

224. Stomach:

- (A) Needs alkaline medium
- (B) Needs acidic medium
- (C) An elastic muscular bag that stores the food
- (D) Stimulates the pancreas, liver duodenal cells

225. Secretion of gastric Juice:

- (A) Stimulates the pancreas, liver duodenal cells
- (B) Regulated by smell, sight and quality of food
- (C) Needs alkaline medium
- (D) Needs alkaline medium

226. Pepsin:

- (A) An elastic muscular bag that stores the food
- (B) Needs alkaline medium
- (C) Regulated by smell, sight and quality of food
- (D) Needs acidic medium

227. Ptyalin:

- (A) Needs acidic medium
- (B) An elastic muscular bag that stores the food
- (C) Needs alkaline medium
- (D) Regulated by smell, sight and quality of food

228. Acidity of chyme:

- (A) Regulated by smell, sight and quality of food
- (B) Needs alkaline medium
- (C) An elastic muscular bag that stores the food
- (D) Stimulates the pancreas, liver duodenal cells

229. Pancreatic enzymes:

- (A) Lower three – fifth of the small intestine
- (B) Digests all principal components of food
- (C) Accumulation of bile pigments in blood
- (D) Second portion of the small intestine

230. Enterokinase:

- (A) Digests all principal components of food
- (B) Accumulation of bile pigments in blood
- (C) Second portion of the small intestine
- (D) Enzyme secreted by the lining of duodenum

231. Jaundice:

- (A) Accumulation of bile pigments in blood
- (B) Enzyme secreted by the lining of duodenum
- (C) Digests all principal components of food
- (D) Second portion of the small intestine

232. Jejunum:

- (A) Accumulation of bile pigments in blood
- (B) Lower three – fifth of the small intestine
- (C) Enzyme secreted by the lining of duodenum
- (D) Second portion of the small intestine

233. Ileum:

- (A) Enzyme secreted by the lining of duodenum
- (B) Second portion of the small intestine
- (C) Accumulation of bile pigments in blood
- (D) Lower three – fifth of the small intestine

234. Ammonia:

- (A) No upper incisors
- (B) A waste product of amino acid metabolism
- (C) Absorbed into the blood stream
- (D) Consists of duodenum, Jejunum and Ileum

235. Small intestine:

- (A) No upper incisors
- (B) A waste product of amino acid metabolism
- (C) Absorbed into the blood stream
- (D) Consists of duodenum, Jejunum and Ileum

236. Lipoproteins:

- (A) Stored in the liver or under the skin
- (B) No upper incisors
- (C) A waste product of amino acid metabolism
- (D) Consists of duodenum, Jejunum and Ileum

237. Fatty acids and Glycerol:

- (A) Absorbed into the blood stream
- (B) No upper incisors
- (C) Consists of duodenum, Jejunum and Ileum
- (D) A waste product of amino acid metabolism

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(C)	2.	(A)	3.	(D)	4.	(C)	5.	(D)
6.	(B)	7.	(C)	8.	(D)	9.	(A)	10.	(B)
11.	(C)	12.	(D)	13.	(C)	14.	(B)	15.	(A)
16.	(B)	17.	(B)	18.	(D)	19.	(B)	20.	(C)
21.	(B)	22.	(C)	23.	(D)	24.	(D)	25.	(B)
26.	(D)	27.	(A)	28.	(C)	29.	(A)	30.	(C)
31.	(C)	32.	(C)	33.	(A)	34.	(B)	35.	(B)
36.	(C)	37.	(B)	38.	(B)	39.	(A)	40.	(A)
41.	(A)	42.	(B)	43.	(C)	44.	(C)	45.	(D)
46.	(B)	47.	(A)	48.	(A)	49.	(B)	50.	(D)
51.	(C)	52.	(B)	53.	(A)	54.	(C)	55.	(B)
56.	(C)	57.	(B)	58.	(B)	59.	(C)	60.	(A)
61.	(A)	62.	(B)	63.	(B)	64.	(A)	65.	(D)
66.	(C)	67.	(B)	68.	(C)	69.	(B)	70.	(B)
71.	(B)	72.	(A)	73.	(C)	74.	(C)	75.	(C)
76.	(B)	77.	(C)	78.	(D)	79.	(A)	80.	(D)
81.	(A)	82.	(B)	83.	(C)	84.	(C)	85.	(D)
86.	(C)	87.	(C)	88.	(B)	89.	(C)	90.	(C)
91.	(B)	92.	(C)	93.	(A)	94.	(B)	95.	(B)
96.	(D)	97.	(B)	98.	(C)	99.	(C)	100.	(B)
101.	(C)	102.	(C)	103.	(B)	104.	(B)	105.	(C)
106.	(B)	107.	(B)	108.	(D)	109.	(D)	110.	(C)
111.	(B)	112.	(B)	113.	(C)	114.	(B)	115.	(C)
116.	(B)	117.	(B)	118.	(B)	119.	(C)	120.	(D)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
121.	(A)	122.	(C)	123.	(D)	124.	(D)	125.	(B)
126.	(C)	127.	(B)	128.	(A)	129.	(C)	130.	(D)
131.	(B)	132.	(A)	133.	(A)	134.	(C)	135.	(A)
136.	(D)	137.	(D)	138.	(A)	139.	(C)	140.	(D)
141.	(A)	142.	(C)	143.	(D)	144.	(B)	145.	(B)
146.	(A)	147.	(A)	148.	(A)	149.	(D)	150.	(D)
151.	(D)	152.	(D)	153.	(A)	154.	(D)	155.	(A)
156.	(D)	157.	(A)	158.	(B)	159.	(A)	160.	(C)
161.	(C)	162.	(D)	163.	(A)	164.	(D)	165.	(D)
166.	(C)	167.	(B)	168.	(A)	169.	(D)	170.	(D)
171.	(C)	172.	(D)	173.	(A)	174.	(C)	175.	(A)
176.	(A)	177.	(A)	178.	(B)	179.	(A)	180.	(A)
181.	(D)	182.	(C)	183.	(D)	184.	(A)	185.	(C)
186.	(D)	187.	(A)	188.	(B)	189.	(C)	190.	(D)
191.	(C)	192.	(B)	193.	(B)	194.	(C)	195.	(C)
196.	(B)	197.	(D)	198.	(B)	199.	(C)	200.	(A)
201.	(C)	202.	(B)	203.	(C)	204.	(A)	205.	(A)
206.	(D)	207.	(D)	208.	(C)	209.	(D)	210.	(A)
211.	(B)	212.	(D)	213.	(D)	214.	(C)	215.	(D)
216.	(B)	217.	(A)	218.	(D)	219.	(D)	220.	(C)
221.	(A)	222.	(C)	223.	(B)	224.	(C)	225.	(B)
226.	(D)	227.	(C)	228.	(D)	229.	(B)	230.	(D)
231.	(A)	232.	(D)	233.	(D)	234.	(B)	235.	(D)
236.	(A)	237.	(A)						



13

CHAPTER

GASEOUS EXCHANGE

1. Which of the following is irrelevant?
(A) Breathing (B) Ventilation
(C) Organismic respiration (D) Cellular respiration
2. In which of the following processes ATP is produced?
(A) Breathing (B) Ventilation
(C) Organismic respiration (D) Cellular respiration
3. Lenticels are present in:
(A) Leaves (B) Roots
(C) Bark (D) Stem
4. Number of stomata per square centimeter of a leaf are:
(A) 10,000 (B) 12,000
(C) 14,000 (D) 16,000
5. The respiratory activity during day time is called:
(A) Organismic respiration (B) Cellular respiration
(C) Photophosphorylation (D) None of above
6. During photophosphorylation Rubisco acts as:
(A) Carboxylase (B) Dehydrogenase
(C) Oxygenase (D) None of above
7. The percentage of rubisco in the leave is:
(A) 10% (B) 20%
(C) 30% (D) 40%

8. Which of the following compounds is not produced during photorespiration?
(A) Serine (B) Glycine
(C) Glucose (D) Glycolate
9. Number of ATP produced during photorespiration is:
(A) 36 (B) 26
(C) 16 (D) None the above
10. Which of the followings is the property of the respiratory surface of animals?
(A) Thin epithelium (B) Ventilation
(C) Capillary network (D) All the above
11. Which of the following structures is not involved for the absorption of oxygen in cockroach?
(A) Tracheae (B) Skin
(C) Spiracles (D) Tracheoles
12. Air enters into the body of cockroach through:
(A) Tracheae (B) Skin
(C) Spiracles (D) Tracheoles
13. The respiratory organs in fishes are:
(A) Lungs (B) Air sac
(C) Gills (D) Tracheae
14. Which type of respiration takes place in frogs?
(A) Cutaneous (B) Buccal
(C) Pulmonary (D) All of above
15. Which of the following special structures is present in the respiratory system of man?
(A) Bronchi (B) Parabronchi
(C) Alveoli (D) Bronchi
16. Which of the following structures is responsible for one-way flow of air in birds?
(A) Bronchi (B) Air sac
(C) Alveoli (D) Bronchi

17. Which of the following structures is also called voice box?
(A) Nose (B) Pharynx
(C) Larynx (D) Tracheae
18. The structures with a diameter less than 1mm are:
(A) Bronchioles (B) Bronchi
(C) Alveoli (D) Air sac
19. The sheet of skeletal muscles between abdominal and thoracic cavity is called:
(A) Pleura (B) Diaphragm
(C) Air sac (D) Alveoli
20. Which of the followings is unit of lungs?
(A) Bronchioles (B) Bronchi
(C) Alveoli (D) Air sac
21. The maximum capacity of 100 ml blood to absorb oxygen is:
(A) 10 ml (B) 20 ml
(C) 30 ml (D) 40 ml
22. Which of the following factors decrease the oxygen saturation of haemoglobin?
(A) CO₂ (B) Temperature
(C) pH of blood (D) All the above
23. The carbon dioxide transported in the form of carbonate ions is:
(A) 30% (B) 50%
(C) 70% (D) 90%
24. Asthma releases which of the following compounds?
(A) Epinephrine (B) Histamine
(C) Heparin (D) Antibodies
25. The break down of alveoli is called:
(A) Tuberculosis (B) Asthma
(C) Emphysema (D) Cancer
26. The amount of oxygen in exhaled air is:
(A) 12% (B) 14%
(C) 16% (D) 18%

27. **The total lung capacity is:**
(A) 3 liters (B) 5 liters
(C) 7 liters (D) 9 liters
28. **Which of the followings is not respiration?**
(A) Exchange of gases (B) Break down of glucose
(C) Formation of glucose (D) Release of energy
29. **Which step does not take place during cellular respiration?**
(A) Exchange of gases (B) Break down of glucose
(C) Formation of glucose (D) Release of energy
30. **The exchange of gases is more rapid in air than the water due to:**
(A) Presence of water in liquid form but air in gases form
(B) The rate of diffusion is high in air than the water
(C) Air block the movement of oxygen and carbon dioxide
(D) None of the above
31. **It is estimated that in number stomata peer square centimeter are is:**
(A) 10,000 (B) 12,000
(C) 15,000 (D) 20,000
32. **The lenticels are:**
(A) Special cells present in the stem (B) Special cells present in the leaves
(C) Special pores present in the stem (D) Special pores present in the leaves
33. **Photorespiration is an activity which:**
(A) Takes place in the presence of light
(B) Takes place in dark
(C) Can take place both in light and dark
(D) None of the above
34. **During photorespiration rubisco acts as:**
(A) Carboxylase (B) Oxygenase
(C) Hydrogenase (D) Dehydrogenases

35. During photosynthesis the rubisco acts as:
(A) Carboxylase (B) Oxygenase
(C) Hydrogenase (D) Dehydrogenases
36. The most abundant protein in world is:
(A) Haemoglobin (B) Rubisco
(C) Fiber (D) Egg protein
37. In which of the following, reactions of photorespiration do not take place?
(A) Chloroplast (B) Mitochondria
(C) Peroxisome (D) Cytoplasm
38. Which of the followings is true about photorespiration?
(A) It produces ATP (B) It uses ATP
(C) It neither produce nor use ATP (D) None of the above
39. The significance of the photorespiration is:
(A) It produces energy (B) It produces glucose
(C) It destroy glucose (D) It has no significance for plant
40. Which of the followings is not property of the respiratory surface of hydra:
(A) Large surface and moisture (B) Thick epithelium
(C) Gradient of gases (D) Capillary network
41. Which of the of followings is not respiratory surface of hydra:
(A) Ectodermal cells (B) Endodermal cells
(C) Mesoglea (D) All the above
42. The respiratory surface of the Cockroach is:
(A) Trachea (B) Tracheoles
(C) Spirachles (D) Fluid filled ducts
43. The gases are transported in cockroach through:
(A) Blood (B) Trachea
(C) Spiracles (D) None of above
44. The respiratory surface of the fishes is:
(A) Gill (B) Gill slits
(C) Lungs (D) None of above

45. The passage of water current in fishes is:
(A) Mouth-pharynx-gill-gill slits (B) Gill slits-gill-pharynx-mouth
(C) Pharynx-gill-mouth-gill slits (D) None of the above
46. Which type of respiration takes place through skin in frog?
(A) Cutaneous respiration (B) Buccal respiration
(C) Pulmonary respiration (D) None of the above
47. Which is not true about the respiratory system of birds?
(A) It is composed of lung (B) Lungs are composed of alveoli
(C) Lungs have air sac (D) Lungs have one way flow of gases
48. In countercurrent flow of blood and air:
(A) The direction of flow of blood and air is in the same direction
(B) The direction of flow of blood and air is in the opposite direction
(C) The direction of flow of blood and air is in the both directions
(D) None of the above
49. The respiratory system of the bird is more efficient than the mammals because:
(A) It have air sacs (B) It has one way flow of gases
(C) It does not have alveoli (D) It has countercurrent flow
50. Which of followings is not the function of nasal cavity?
(A) Moisten the air (B) Warm or cool the air
(C) Exchange of some gases (D) Removing dust particles
51. The opening of the larynx is called:
(A) Epiglottis (B) Glottis
(C) Gullet (D) Vocal sac
52. Which of the following structures is present in birds but absent in mammals?
(A) Lung (B) Trachea
(C) Bronchi (D) Parabronchi
53. The wall of chest cavity is composed of:
(A) Ribs (B) Intercostal muscles
(C) Both A and B (D) Diaphragm

- 54. The lungs are covered by a double membrane called:**
(A) Pleura (B) Diaphragm
(C) Intercostal muscles (D) None of the above
- 55. The process of inspiration takes place as:**
(A) The lungs pull air inside
(B) Passive contraction of lungs takes place
(C) Passive expansion of lungs takes place
(D) Air is pushed inside
- 56. During inspiration the diaphragm:**
(A) Contracts (B) Relaxes
(C) Contracts and relaxes (D) None of the above
- 57. Which of the following processes does not take place during expiration?**
(A) The intercostals muscles are relaxed
(B) The ribs are relaxed
(C) The muscles of the diaphragm relaxed
(D) The lungs are also relaxed
- 58. The maximum capacity of the haemoglobin to absorb oxygen is:**
(A) 19.6 ml / 100 ml blood (B) 20 ml / 100ml blood
(C) 22 ml / 100 ml of blood (D) 25 ml / 100 ml blood
- 59. The oxygen pressure in many of the cells is:**
(A) 40 mm Hg (B) 50 mm Hg
(C) 60 mm Hg (D) None of above
- 60. Which of the following factors increases the carrying capacity of blood?**
(A) High concentration of carbon dioxide
(B) High concentration of oxygen
(C) High temperature
(D) Low pH
- 61. Most of carbon dioxide is transported in the form of:**
(A) Carboxyhaemoglobin (B) With plasma proteins
(C) Bicarbonate ion (D) In dissolved form

62. **The venous blood in tissues has carbon dioxide:**
(A) 50 ml/100ml of blood (B) 54ml/100ml of blood
(C) 45ml/100ml of blood (D) 35/ml/100ml of blood
63. **Cancer is caused by metastasis which is a process where:**
(A) One cell controls the activities of the others
(B) One cell transfers its activities to the others
(C) One cell destroys the other cells
(D) One cell transfers germs to another cell
64. **Cancer is basically a malignant tumor. Which can:**
(A) Control the other cells (B) Spread in all the body
(C) Remains in specific place (D) All of the above
65. **An inflammatory substance released during the attack of asthma is:**
(A) Mycobacterium (B) Salmonella
(C) Clostridium (D) Azobactor
66. **An inflammatory substance released during the attack of asthma is:**
(A) Interferon (B) Complement proteins
(C) Histamine (D) Acetylcholine
67. **Which of the followings is a condition of emphysema?**
(A) Breakdown of the blood capillaries in lungs
(B) Breakdown of the alveoli in the lungs
(C) Breakdown of pleura of the lungs
(D) None of the above
68. **The haemoglobin can carry:**
(A) One molecule of oxygen (B) Two molecules of oxygen
(C) Three molecules of oxygen (D) Four molecule of oxygen
69. **The hemoglobin can carry:**
(A) One molecule of oxygen (B) Two molecules of oxygen
(C) Three molecules of oxygen (D) Four molecule of oxygen

70. **The residual volume of the lungs is a volume:**
- (A) Which is a maximum amount always present in the lungs
 - (B) Which is a minimum amount always present in the lung
 - (C) Which is a variable volume, keep on changing
 - (D) None of the above
71. **Which of the following characteristics is not shown by the diving mammals during act of diving?**
- (A) They have twice volume of blood
 - (B) Their rate of heart beat slow down
 - (C) The consumption of energy is increased
 - (D) Most of the blood go to heart and brain
72. **Water is denser than air:**
- (A) 8000 times
 - (B) 800 times
 - (C) 80,000 times
 - (D) 1800 times
73. **Xylem and phloem are not involved:**
- (A) In transport of liquids
 - (B) In transport of minerals
 - (C) In transport of gases
 - (D) In transport of water
74. **In the peroxisomes the glycolate is converted into:**
- (A) Serine
 - (B) CO₂
 - (C) Ethanolamine
 - (D) Glycine
75. **The main tracheal trunk in cockroach communicates with exterior by:**
- (A) 8 pairs
 - (B) 4 pairs
 - (C) 10 pairs
 - (D) 100 pairs
76. **The heart of the fish is single circuit and the blood flows in:**
- (A) One and two directions
 - (B) Two directions
 - (C) Reverse direction
 - (D) One direction
77. **Walls of the chest cavity are composed of:**
- (A) Intercostal muscle
 - (B) Ribs, intercostal muscles and diaphragm
 - (C) Ribs and intercostal muscle
 - (D) Ribs

- 78. The normal human blood is about:**
(A) 02 ml / 100 ml of blood (B) 200 ml / 100 ml of blood
(C) 20 ml / 100 ml of blood (D) 19.6 ml / 100 ml of blood
- 79. When blood leaves the capillary bed most of the carbon dioxide is in the form of:**
(A) Hydroxyl ions (B) Carbonate ions
(C) Hydrogen ions (D) Bicarbonate ions
- 80. The irritant substances of smoke generally cause:**
(A) Smokers yawning (B) Smoker's hiccough
(C) Smoker's cough (D) Smoker's sneeze
- 81. During exercise the breathing rate may rise to:**
(A) 30 times per minutes (B) 35 times per minutes.
(C) 20 times per minutes (D) 25 times per minute
- 82. What is one of the most important metabolic activities of all organism?**
(A) Respiration (B) Photorespiration
(C) Respiratory (D) Earthwarm
- 83. Exchange of gases during organismic respiration is carried out by :**
(A) Oxygen (B) Glycolate
(C) Tracheole (D) Diffusion
- 84. Oxygen content of fresh air is about :**
(A) 200 ml/lit (B) 100 ml/lit
(C) 300 ml/lit (D) 400 ml/lit
- 85. What are the main source of exchange of gases in plants?**
(A) Stomata (B) Tracheole
(C) Respiratory (D) RBC
- 86. The special pores involved in gaseous exchange:**
(A) Lenticels (B) Stomata
(C) Earthworm (D) Ventilation

87. **Respiratory activity which occurs in plants during day time is called:**
(A) Respiratory (B) Oxyhaemoglobin
(C) Photorespiration (D) Oxyhaemoglobin
88. **When RUBP reacts oxygen, two carbon compound _____ is produced.**
(A) Glycolate (B) Oxyhaemoglobin
(C) Ventilation (D) Earthworm
89. **In a hot and dry day level of which of the:**
(A) Glycolate (B) Organ
(C) Ventilation (D) Oxygen
90. **Which one is inhibited chemically, so that plant can still grow?**
(A) Photorespiration (B) Photo synthesis
(C) Oxyhemoglobin (D) Respiration
91. **What maintains a steep diffusion gradient?**
(A) Ventilation (B) Parabronchi
(C) Oxyhemoglobi (D) Organ
92. **Hydra has no specialized _____ for respiration.**
(A) Pumps (B) Parabronchi
(C) Glycolate (D) Organ
93. **Which one is much complex than hydra?**
(A) Sponge (B) Glycolate
(C) Amoeba (D) Earthworm
94. **Oxygen combines to haemoglobin with form:**
(A) Respiratory (B) Oxygen
(C) Oxyhemoglobin (D) Organ
95. **Which system of the cockroach is very specialized?**
(A) Digestive (B) Photo respiration
(C) Respiratory (D) None of the above

96. From the spiracles air enters into trachea and then:
(A) Bronchiolar (B) Tracheoles
(C) Both A and B (D) None of the above
97. In flying the pumps heart ————— the blood directly to the.
(A) RBC (B) Parabronchi
(C) Pleura (D) gills
98. The tiny thin walled ducts present in the lungs of birds are called:
(A) Oxyhemoglobin (B) Pleura
(C) Parabronchi (D) Earthworm
99. Lungs are covered with double layered thin membranous sacs called
(A) Oxyhemoglobin (B) Pleura
(C) Glycolate (D) Earthworm
100. Carbonic anhydrase is present in:
(A) RBC (B) Parabronchi
(C) Pleura (D) None of the above
101. Normally at rest we inhale and exhale how many times per minute?
(A) 16 – 22 (B) 18 – 25
(C) 15 – 20 (D) 20 – 30
102. Lung capacity in an adult human:
(A) 2 litres (B) 10
(C) 5 litres (D) 20%
103. Myoglobin is Iron containing protein pigment present in:
(A) Corcinoma (B) Sheet skeletal muscle
(C) Muscle fibre (D) Both B and C
104. Cancer is basically malignant tumor:
(A) Muscle fibre (B) 20%
(C) Sheet skeletal muscle (D) Corcinoma

- 105. What percentage of carbon dioxide is carried as carboxy haemoglobin?**
(A) 15% (B) 10%
(C) 20% (D) 12%
- 106. The floor of chest cavity called diaphragm composed of:**
(A) 5 litres (B) Corncinoma
(C) Muscle fibre (D) Sheet skeletal muscle
- 107. Diffusion of oxygen in and Carbon dioxide out occurs when:**
(A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Both A and B
(D) Difference in partial pressure of the gases
- 108. During expiration air is given out when:**
(A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Soon after its formation diffuses into mitochondria
(D) Voccal cords
- 109. In the glottis the mucous membrane is stretched across into fibrous bands:**
(A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Voccal cords
(D) Difference in partial pressure of the gases
- 110. During inspiration the air enters into the lungs:**
(A) Difference in partial pressure of the gases
(B) The muscle of the ribs are relaxed
(C) The muscles of the ribs are contracted
(D) None of the above
- 111. Glycine is the simplest amino acid:**
(A) The muscle of the ribs are relaxed
(B) Soon after its formation diffuses into mitochondria
(C) The muscles of the ribs are contracted
(D) Voccal cords

- 112. Their functional unit of the lungs:**
- (A) Bronchioles
 - (B) Lungs in the land vertebrates
 - (C) Air existing in the spaces between the soil particles
 - (D) Air sac
- 113. Number of stomata present on the leaves:**
- (A) Air existing in the spaces between the soil particles
 - (B) Lungs in the land vertebrates
 - (C) Bronchioles are obstructed as a result of inflammation
 - (D) 12000 per square centimeters of leaf in tobacco plant
- 114. The roots of the land plants get oxygen:**
- (A) Air existing in the spaces between the soil particles
 - (B) Lungs in the land vertebrates
 - (C) Air sac
 - (D) 12000 per square centimeters of leaf in tobacco plant
- 115. In respiratory properties the surface area should be large and moist:**
- (A) Bronchioles are obstructed as a result of inflammation
 - (B) Air existing in the spaces between the soil particles
 - (C) Air sac
 - (D) Lungs in the land vertebrates
- 116. Emphysema produces increased air way resistance:**
- (A) Air sac
 - (B) 12000 per square centimeters of leaf in tobacco plant
 - (C) Air existing in the spaces between the soil particles
 - (D) Bronchioles are obstructed as a result of inflammation
- 117. One polypeptide chain with iron containing ring structure is myoglobin:**
- (A) Cetaceans
 - (B) Regulator of normal alveolar
 - (C) Mycobacterium
 - (D) Stores some oxygen

118. Tuberculosis:

- | | |
|-------------------|----------------------------------|
| (A) Cetaceans | (B) Regulator of normal alveolar |
| (C) Mycobacterium | (D) Carried as bicarbonate ions |

119. 70 % carbondioxide:

- | | |
|----------------------------------|---------------------------------|
| (A) Regulator of normal alveolar | (B) Stores some oxygen |
| (C) Cetaceans | (D) Carried as bicarbonate ions |

120. Carbon dioxide:

- | | |
|------------------------|----------------------------------|
| (A) Cetaceans | (B) Regulator of normal alveolar |
| (C) Stores some oxygen | (D) Mycobacterium |

121. Aquatic mammals:

- | | |
|---------------------------------|----------------------------------|
| (A) Carried as bicarbonate ions | (B) Cetaceans |
| (C) Mycobacterium | (D) Regulator of normal alveolar |

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(D)	3.	(C)	4.	(B)	5.	(C)
6.	(C)	7.	(B)	8.	(C)	9.	(D)	10.	(D)
11.	(B)	12.	(C)	13.	(C)	14.	(D)	15.	(B)
16.	(B)	17.	(C)	18.	(A)	19.	(B)	20.	(D)
21.	(B)	22.	(D)	23.	(C)	24.	(B)	25.	(C)
26.	(C)	27.	(B)	28.	(C)	29.	(A)	30.	(B)
31.	(B)	32.	(C)	33.	(A)	34.	(B)	35.	(A)
36.	(B)	37.	(D)	38.	(B)	39.	(D)	40.	(B)
41.	(C)	42.	(D)	43.	(B)	44.	(A)	45.	(A)
46.	(A)	47.	(B)	48.	(B)	49.	(B)	50.	(A)
51.	(B)	52.	(D)	53.	(C)	54.	(A)	55.	(C)
56.	(A)	57.	(D)	58.	(B)	59.	(C)	60.	(B)
61.	(C)	62.	(B)	63.	(B)	64.	(B)	65.	(A)
66.	(C)	67.	(B)	68.	(D)	69.	(A)	70.	(B)
71.	(C)	72.	(A)	73.	(C)	74.	(D)	75.	(C)
76.	(D)	77.	(C)	78.	(C)	79.	(D)	80.	(C)
81.	(A)	82.	(A)	83.	(D)	84.	(A)	85.	(A)
86.	(A)	87.	(C)	88.	(A)	89.	(A)	90.	(B)
91.	(A)	92.	(D)	93.	(D)	94.	(C)	95.	(C)
96.	(B)	97.	(D)	98.	(C)	99.	(B)	100.	(A)
101.	(D)	102.	(C)	103.	(C)	104.	(D)	105.	(C)
106.	(D)	107.	(B)	108.	(D)	109.	(C)	110.	(A)
111.	(B)	112.	(D)	113.	(D)	114.	(A)	115.	(C)
116.	(D)	117.	(D)	118.	(C)	119.	(D)	120.	(B)
121.	(B)								



14

CHAPTER

TRANSPORT

1. Which of the following processes does need energy?
(A) Diffusion (B) Facilitated diffusion
(C) Osmosis (D) Active transport
2. The movement of minerals or water through plasomdesmata is called:
(A) Symplast (B) Apoplast
(C) Vascular (D) None the above
3. The movement of minerals or water through extracellular pathway is called:
(A) Symplast (B) Apoplast
(C) Vascular (D) None the above
4. The membrane of vacuole is called:
(A) Plasma membrane (B) Tonoplast
(C) Epidermis (D) None of the above
5. Casparian strips are present in:
(A) Epidermis (B) Endodermis
(C) Cortex (D) Vascular bundle
6. The total kinetic energy of the water molecules is called:
(A) Water potential (B) Pressure potential
(C) Osmotic potential (D) None of the above
7. The pressure exerted by protoplast against the cell wall of the plant cells is called:
(A) Water potential (B) Pressure potential
(C) Osmotic potential (D) None of the above

8. The upward movement of sap through the xylem is:
(A) Ascent of sap (B) Plasmolysis
(C) Deplasmolysis (D) Guttation
9. Which of the followings is mismatched for ascent of sap?
(A) Cohesion tension (B) Water potential
(C) Root pressure (D) Imbibition
10. The attraction between the water molecules and cell wall of xylem is called:
(A) Cohesion (B) Tension
(C) Adhesion (D) None of above
11. The attraction among the water molecules is:
(A) Cohesion (B) Tension
(C) Adhesion (D) None of above
12. The evaporation of water from the aerial parts of the plants is called:
(A) Ascent of sap (B) Plasmolysis
(C) Deplasmolysis (D) Plasmolysis
13. The loss of liquid through the hydathodes is called:
(A) Ascent of sap (B) Plasmolysis
(C) Deplasmolysis (D) Guttation
14. The absorption of water by a compound without dissolving in it is called:
(A) Ascent of sap (B) Plasmolysis
(C) Imbibition (D) Guttation
15. The flow of sap from cut plants is:
(A) Bleeding (B) Plasmolysis
(C) Imbibition (D) Guttation
16. Which of the following transpirations is 90% of the total transpiration?
(A) Cuticular (B) Lenticular
(C) Stomatal (D) None of above
17. Starch sugar hypothesis was proposed by:
(A) Dixon (B) Mohi
(C) Sanger (D) Drebs

18. Which of the following elements has role in the opening and closing of stomata:
- (A) K (B) Mg
(C) Cu (D) Fe
19. The hormone which is involved in the opening and closing of stomata is:
- (A) Citric acid (B) Oxaloacetic acid
(C) Abscissic acid (D) None of above
20. The stomata are closed at temperature (in centigrade):
- (A) 35 (B) 45
(C) 25 (D) 15
21. Which of the following cells is absent in the phloem?
- (A) Companion cell (B) Sieve tube members
(C) Vessels (D) Parenchyma
22. Which of the followings cannot become sink during translocation?
- (A) Root (B) Fruits
(C) Stem (D) Leaves
23. Pressure flow theory was proposed by:
- (A) Dixon (B) Mohl
(C) Sanger (D) Munch
24. Intestinal coeca are present in:
- (A) Hydra (B) Planarian
(C) Cockroach (D) None the above
25. Which of the followings is irrelevant for the circulatory system of cockroach?
- (A) Heart (B) Ventral Blood vessel
(C) Aorta (D) Dorsal blood vessel
26. Number of hearts in earthworm are:
- (A) 5 (B) 6
(C) 7 (D) 8

27. Which of the following arteries supply blood to heart muscles?
(A) Pulmonary (B) Coronary
(C) Systemic (D) None the above
28. The proximal swollen part of the heart of fish is:
(A) Sinus venous (B) Atrium
(C) Ventricle (D) Conus arteriosus
29. Which of the followings is irrelevant for the heart of amphibians?
(A) Right auricle (B) Truncus arteriosus
(C) Right ventricle (D) Sinus venosus
30. The vein which brings back blood from all the body is:
(A) Pulmonary (B) Systemic
(C) Precavel / Postcavel (D) None the above
31. The percentage of plasma in the blood is:
(A) 45 (B) 50
(C) 55 (D) 65
32. The pH of blood is:
(A) 6.4 (B) 7
(C) 7.4 (D) 8.4
33. Which of the following proteins acts as catalyst in the process of protein synthesis?
(A) Antibodies (B) Prothrombin
(C) Fibrinogen (D) None the above
34. Which of the following is mismatched in the followings about RBC?
(A) Haemoglobin (B) Bone marrow
(C) Transport of oxygen (D) Fibrinogen
35. Which of the followings is not granulocyte?
(A) Neutrophils (B) Eosinophils
(C) Basophils (D) Monocytes
36. Which of the following RBCs destroy the small particles by phagocytosis?
(A) Neutrophils (B) Eosinophil
(C) Basophil (D) Monocyte

37. Which of the following compounds destroy the nucleic acid of the invading organism?
- (A) Fibrinogen (B) Interferon
(C) Heparin (D) Histamine
38. Match platelets with one of the followings:
- (A) Fibrinogen (B) Interferon
(C) Heparin (D) Histamine
39. Maintaining of the internal condition constant is:
- (A) Buffer (B) Homeostasis
(C) Osmoregulation (D) None the above
40. Match leucaemia with one of the followings:
- (A) RBC (B) WBC
(C) Platelets (D) Interferon
41. The chemical which maintain the acid base concentration is:
- (A) Buffer (B) Homeostasis
(C) Osmoregulation (D) None the above
42. Match thalassaemia with one of the followings:
- (A) RBC (B) WBC
(C) Platelets (D) Interferon
43. Match microcytes with one of the followings:
- (A) RBC (B) WBC
(C) Platelets (D) Interferon
44. The presence of excessive fluid in the tissue is:
- (A) Thalasseamia (B) Oedma
(C) Splleenomegaly (D) Leuceamia
45. The cardiac muscles are:
- (A) Epicardium (B) Myocardium
(C) Endocardium (D) None the above
46. The fibrous chords in the heart are:
- (A) Papillary muscle (B) Tricusopid valve
(C) Choradae tendinae (D) Bicuspid valve

47. Match semi lunar valve with one of the following:
- (A) Right auricle (B) Right ventricle
(C) Pulmonary trunk (D) Left auricle
48. The muscles present inside the ventricle are:
- (A) Cardiac muscle (B) Smooth muscles
(C) Papillary muscles (D) Skeletal muscles
49. Which of the followings is the largest artery?
- (A) Coronary (B) Aorta
(C) Iliac (D) Vena cava
50. The artery which supplies blood to leg is:
- (A) Coronary (B) Aorta
(C) Iliac (D) Femoral
51. Which of the followings supply blood to liver?
- (A) Renal vein (B) Hepatic portal
(C) Hepatic vein (D) Hepatic artery
52. Interrelated discs are present in:
- (A) Vein (B) Artery
(C) Heart (D) Kidney
53. Which of the followings brings blood form liver?
- (A) Renal vein (B) Hepatic portal
(C) Hepatic vein (D) Hepatic artery
54. Match cynosis with one of the followings:
- (A) ECG (B) Artificial pace
(C) Blue baby (D) SA node
55. The recording of electrical potential is:
- (A) ECG (B) Artificial pace
(C) Blue baby (D) SA node
56. Which of the followings is not present in the wall of artery?
- (A) Artery (B) Vein
(C) Capillary (D) Heart

57. Select one of the followings for atherosclerosis:
- (A) Artery (B) Vein
(C) Capillary (D) Heart
58. The exchange of material takes place through:
- (A) Artery (B) Vein
(C) Capillary (D) Heart
59. Pulse is felt in:
- (A) Artery (B) Vein
(C) Capillary (D) Heart
60. The condition of high blood pressure is called:
- (A) Stroke (B) Oedma
(C) Hypertension (D) Myocardial infraction
61. Match heart attack with one of the followings:
- (A) Stroke (B) Oedma
(C) Hypertension (D) Myocardial infraction
62. A plug of blood is called:
- (A) Clot (B) Bolus
(C) Embolus (D) Hypertension
63. Bolus on new location is called:
- (A) Clot (B) Bolus
(C) Embolus (D) Hypertension
64. Match stroke with one of the followings:
- (A) Stroke (B) Cerebral infraction
(C) Hypertension (D) Myocardial infraction
65. Lacteal is a:
- (A) Lymph capillary (B) Lymph vessel
(C) Lymph trunk (D) Lymph node
66. The discharge of blood from blood vessels is called:
- (A) Stroke (B) Oedma
(C) Hypertension (D) Haemorrhage

67. **Lymphocytes are present at:**
(A) Lymph capillary (B) Lymph vessel
(C) Lymph trunk (D) Lymph node
68. **Match plasma cells with one of the following:**
(A) T lymphocyte (B) B lymphocyte
(C) Basophils (D) Neutrophils
69. **Which of the followings is used in active immunity?**
(A) Antibody (B) Vaccine
(C) Antisera (D) Antigen
70. **Which of the followings is used in passive immunity?**
(A) Antibody (B) Vaccine
(C) Antisera (D) Antigen
71. **Which of the followings is not transport in organisms?**
(A) The movement of material within the body
(B) The movement of material from inside to out the body
(C) The movement of material outside the body
(D) The movement of material from outside to inside
72. **Which of the following processes is not involved in transport of material within the body of plants:**
(A) Respiration (B) Transportation
(C) Photosynthesis (D) Reproduction
73. **Which of the following nutrient a plant does not need?**
(A) Carbon dioxide (B) Water
(C) Oxygen (D) Minerals
74. **Symplest pathway is the pathway in which material:**
(A) Move through the plasmodesmata
(B) Move through the space between the cells
(C) Move through the tonoplast of the vacuole
(D) All of the above

75. **Apoplast pathway is the pathway in which martial:**
- (A) Move through the plasmodesmata
 - (B) Move through the spaced between the cells
 - (C) Move through the tonoplast of the vacuole
 - (D) All of the above
76. **The casparian strips are special structures which are present in the endodermis. These are used to:**
- (A) Make the movement materials fast through the endodermis
 - (B) Make the movement of materials slow through the endodermis
 - (C) Block the movement of materials through the endodermis
 - (D) None of the above
77. **Which of the following processes does not take place during active transport?**
- (A) The movement of materials form higher to lower concentration
 - (B) The movement of materials form lower to higher concentration
 - (C) The use of ATP during movement of materials
 - (D) All of the above
78. **Which of the followings is the process of osmosis?**
- (A) The movement of materials from higher to lower concentration
 - (B) The movement of materials from higher water potential to lower potential
 - (C) The movement of material through semi permeable membrane
 - (D) All of the above
79. **The cytoplasmic strands which extend through the pores in adjacent cells are:**
- (A) Cell wall
 - (B) Plasmodesmata
 - (C) Endoplasmic reticulum
 - (D) Cell skeleton
80. **Which of the followings is water potential?**
- (A) The change of water potential of a system due to presence of solute molecules
 - (B) The pressure exerted by the protoplast against the cell wall of the plant cell
 - (C) The total kinetic energy of the water molecules
 - (D) None of the above

81. Which of the followings is osmotic potential?
- (A) The change of water potential of a system due to presence of solute molecules
 - (B) The pressure exerted by the protoplast against the cell wall of the plant cell
 - (C) The total kinetic energy of the water molecules
 - (D) None of the above
82. Which of the followings is pressure potential?
- (A) The change of water potential of a system due to presence of solute molecules
 - (B) The pressure exerted by the protoplast against the cell wall of the plant cell
 - (C) The total kinetic energy of the water molecules
 - (D) None of the above
83. There are two cells A and B
A cell has water potential = -200 kPa
B cell has water potential = -300 kPa, then find:
- (A) Water will move from A to B
 - (B) Water will move from B to A
 - (C) Water will not move in any direction
 - (D) None of the above
84. The solute potential of a cell = -1000 kPa, its pressure potential = 800 kPa, then its water potential will be:
- (A) 1800 kPa
 - (B) -200 kPa
 - (C) -1800 kPa
 - (D) 200 kPa
85. The solute potential of a cell = -2000 , its pressure potential = 1300 , then its water potential will be:
- (A) -3300
 - (B) -700
 - (C) 700
 - (D) 3300
86. The incipient plasmolysis is a point at which:
- (A) Plasmolysis starts
 - (B) Plasmolysis stops
 - (C) Plasmolysis is fast
 - (D) Plasmolysis is slow
87. Maximum pressure potential is achieved when a cell is placed in:
- (A) Distilled water
 - (B) Water with low osmotic pressure
 - (C) Salty water
 - (D) None of the above

88. **Osmoregulation is a mechanism to:**
(A) Increase the osmotic pressure
(B) Decrease the osmotic pressure
(C) Make the osmotic pressure constant
(D) All the above
89. **The forces of attraction between the water molecule and tracheid water are:**
(A) Adhesive forces (B) Cohesive forces
(C) Tensile forces (D) Electrostatic forces
90. **The pulling of one molecule by the other molecule is:**
(A) Adhesive forces (B) Cohesive forces
(C) Tensile forces (D) Electrostatic forces
91. **Which of the followings is not relevant to cohesion tension theory?**
(A) Transpiration (B) Adhesion
(C) Diffusion (D) Tension
92. **Hydrostatic pressure in xylem is increased when:**
(A) Root pressure is increased (B) Root pressure is decreased
(C) Root pressure is static (D) All of the above
93. **Guttation is a process in which:**
(A) Water is lost from the stomata
(B) Water is lost from the lenticels
(C) Water is lost from secreting glands
(D) Water is lost from root
94. **The cause of Guttation is:**
(A) Transpiration (B) Ascent of sap
(C) Root pressure (D) All of the above
95. **Which of the following is relevant to Imbibition?**
(A) It is a process in which a substance absorbs water
(B) It is a process in which a substance swells
(C) It is a process in which a substance does not dissolve
(D) All of the above

96. Which of the followings is not an importance of imbibition?
- (A) It helps in the germination of seed
 - (B) It helps in the osmosis of water
 - (C) It helps in the ascent of sap
 - (D) It helps in the absorption of water by seed
97. Which of the pressures is responsible for the process of bleeding?
- (A) Osmotic pressure
 - (B) Solute pressure
 - (C) Hydrostatic pressure
 - (D) Tensile pressure
98. Which of the following transpirations is most abundant in plants?
- (A) Cuticular transpiration
 - (B) Lenticular transpiration
 - (C) Stomatal transpiration
 - (D) None of the above
99. The guard cells have special characteristics which help greatly in the opening and closing of stomata. This characteristic is:
- (A) It has thick wall
 - (B) It has large size
 - (C) It has chloroplast
 - (D) It has large vacuole
100. Which of the followings is not true about the opening and closing of stomata?
- (A) Light helps in the opening and closing of stomata
 - (B) K ion are responsible for the opening and closing of stomata
 - (C) The osmosis of water is responsible for the opening and closing of stomata
 - (D) All of the above
101. The rate of transpiration is increased when:
- (A) Low light
 - (B) Temperature decrease
 - (C) Humidity increased
 - (D) CO₂ is lowered
102. The hormone abscisic acid is responsible for:
- (A) Opening of stomata
 - (B) Closing of stomata
 - (C) Both A and B
 - (D) It never affect it
103. Which of the following is not the importance of transpiration?
- (A) Ascent of sap
 - (B) Transport of minerals
 - (C) Exchange of gases
 - (D) Cooling of plants

- 104. Which of the following cells is not present in phloem cells?**
(A) Companion cells (B) Sieve tube cells
(C) Parenchyma cells (D) Sclerenchymatous cells
- 105. Which of the following cells of phloem are dead?**
(A) Companion cells (B) Sieve tube cells
(C) Parenchyma cells (D) None of the above
- 106. Which of the following is area of supply of what?**
(A) Leaf (B) Steam
(C) Root (D) Fruit
- 107. Which of the following is area of sink of what?**
(A) Leaf (B) Steam
(C) Root (D) Fruit
- 108. The average of the sugar movement in the phloem is:**
(A) 1 meter per hour (B) 2 meter per hour
(C) 3 meter per hour (D) 4 meter per hour
- 109. Which of the following is not relevant to pressure flow theory?**
(A) Formation of starch from glucose
(B) Consumption of glucose by respiration
(C) Increase of hydrostatic pressure in the phloem cells
(D) Movement of water in to cells
- 110. A planarian does not need a separate system for transportation because:**
(A) It has flat body (B) It is acoelomate
(C) It has intestinal coeca (D) All of the above
- 111. Which of the following animals has open circulatory system?**
(A) Hydra (B) Man
(C) House fly (D) Earthworm
- 112. Which of the following animals has close circulatory system?**
(A) Hydra (B) Snail
(C) House fly (D) Earthworm

- 113. The blood of the insects is called haemolymph because:**
(A) It has hemoglobin (B) It is colorless
(C) It has lymph (D) It moves openly
- 114. Which of the followings is not part of haemocoel in cockroach?**
(A) Perivisceral sinus (B) Perineural sinus
(C) Pericardial sinus (D) None of the above
- 115. Which of the following functions is not performed by blood vascular system of the cockroach?**
(A) Transport of nutrients (B) Transport of gases
(C) Transport of waster material (D) Transport of water
- 116. The close circulatory system is more efficient than the open circulatory system because it shows:**
(A) Rapid movement in body (B) Rapid exchange of material
(C) It does not come in contact (D) Economy of blood
- 117. The difference between the heart of earthworm and cockroach is that:**
(A) The heart of earthworm is more efficient than the cockroach
(B) The earth worm has more hearts while cockroach has one heart
(C) The heart of earthworm is closed while of cockroach is open
(D) None of the above
- 118. The heart of which of the following animals functions as single circuit heart?**
(A) Fish (B) Amphibian
(C) Reptiles (D) Mammals
- 119. The number of chambers in the heart of the fishes is:**
(A) Two (B) Three
(C) Four (D) Five
- 120. The number of chambers in the heart of Amphibians is:**
(A) Two (B) Three
(C) Four (D) Five
- 121. The number of chambers in the heart of the Mammals is:**
(A) Two (B) Three
(C) Four (D) Five

- 122. The number of chambers in the heart of the birds is:**
- (A) Two (B) Three
(C) Four (D) Five
- 123. Which of the following arteries supply blood to heart muscles?**
- (A) Aorta (B) Pulmonary artery
(C) Coronary artery (D) Renal artery
- 124. Which of the following chambers of the heart of fish has oxygenated blood?**
- (A) Sinus venosus (B) Atrium
(C) Ventricle (D) None of the above
- 125. Which of the following chambers of the heart of Amphibians has oxygenated blood?**
- (A) Right atrium (B) Left atrium
(C) Ventricle (D) Sinus venosus
- 126. In which animals of the following mixing of oxygenated and deoxygenated blood does not take place in ventricle?**
- (A) Frog (B) Lizards
(C) Crocodile (D) None of the above
- 127. The ventricle of the crocodiles are completely partitioned in but still there is mixing of oxygenated and deoxygenated blood in it, because:**
- (A) The membrane between the ventricles is very thin
(B) The ventral aorta is undivided
(C) The dorsal aorta is undivided
(D) None of the above
- 128. There is separation of oxygenated and deoxygenated bloods in birds and mammals because:**
- (A) The ventricles are completely divided
(B) The ventral aorta is divided into aortic and pulmonary trunk
(C) The aortic arch is divided into two systemic arches
(D) None of the above

129. Which of the following blood vessels has oxygenated blood:
- (A) Pulmonary artery (B) Pulmonary vein
(C) Per-caval (D) Post-caval
130. The amount of plasma in blood is:
- (A) 35% (B) 45%
(C) 55% (D) 65%
131. The percentage of inorganic salts and ions in the plasma is:
- (A) 0.6 (B) 0.7
(C) 0.8 (D) 0.9
132. The normal pH of the human blood is:
- (A) 6.4 (B) 7.4
(C) 8.4 (D) 9.4
133. The percentage of the plasma protein in the blood is:
- (A) 4-5 (B) 5-6
(C) 7-8 (D) 7-9
134. Which of the following proteins is not present in the plasma of the blood?
- (A) Immunoglobulin or antibodies (B) Prothrombin
(C) Haemoglobin (D) Fibrinogen
135. Steroid hormones are synthesized from:
- (A) Nucleic acid (B) Cholesterol
(C) Amino acids (D) Carbohydrates
136. Which of the following substances is not present in the plasma of blood?
- (A) CO₂ (B) Oxygen
(C) Urea (D) Proteins
137. Which of the following cells is most abundant in the blood?
- (A) Red blood cells (B) White blood cells
(C) Platelets (D) None of the above
138. A cubic millimeter blood of male contains RBC:
- (A) 5-5^{1/2} million (B) 4-4^{1/2} million
(C) 3-4 million (D) None of the above

- 139. Which of the following not a Granulocyte?**
(A) Neutrophils (B) Eosinophils
(C) Monocytes (D) Basophils
- 140. Pus is formed from which of the following dead white blood cells?**
(A) Lymphocytes (B) Eosinophils
(C) Monocytes (D) Basophils
- 141. Which of the following substances inhibit the clotting of blood?**
(A) Histamine (B) Heparin
(C) Interferon (D) None of the above
- 142. Which of the following structures is not cells?**
(A) Lymphocytes (B) Eosinophils
(C) Monocytes (D) Platelets
- 143. Buffer is a substance which maintains the:**
(A) Concentration of proteins in blood
(B) pH of the blood
(C) Amount of gases in the blood
(D) Amount of water in the blood
- 144. Which of the following processes is a homeostasis?**
(A) To maintain the amount of water constant in the blood
(B) To maintain the functioning of the body
(C) To maintain the process of respiration
(D) To maintain the muscular activity
- 145. Which of the followings is not the function of blood?**
(A) It transports gases in the body (B) It transports reproductive cells in the body
(C) It transports food within the body (D) It transports waste material in body
- 146. Which of the followings is Leucaemia?**
(A) Uncontrolled production of RBC
(B) Uncontrolled production of WBC
(C) Uncontrolled production of Platelets
(D) All of the above

- 147. Thalassaemia is an abnormality of:**
(A) RBC (B) WBC
(C) Platelets (D) None of the above
- 148. Thalassaemia is indicated by:**
(A) Presence of leucocytes (B) Presence of microcytes
(C) Presence of Lymphocytes (D) Presence of Monocytes
- 149. Which of the following is characteristic of the oedema?**
(A) Release of fluid from the body
(B) Presence of excessive fluid in the tissues
(C) Presence of excessive proteins in the body
(D) All of the above
- 150. Which of the followings is not the reason of the extracellular oedema?**
(A) Abnormal leakage of fluid from the blood capillaries
(B) Abnormal movement of fluid from the outside of body
(C) Thy lymphatic system fails to bring back fluid form the intestinal fluid
(D) The renal(kidney) retention of slats and water
- 151. Which of the followings is not the effect of oedema?**
(A) It disturbs the exchange and concentration of minerals in the blood and body cells
(B) It affects the blood pressure
(C) It increases the heart load
(D) It destroy the cells
- 152. Which of the following layers of heart has intercalated discs?**
(A) Epicardium (B) Myocardium
(C) Endocardium (D) None of the above
- 153. The valve present between right atrium and right ventricle is called:**
(A) Tricuspid valve (B) Bicuspid valve
(C) Semilunar valve (D) None of the above
- 154. The valve present between left atrium and left ventricle is called:**
(A) Tricuspid valve (B) Bicuspid valve
(C) Semilunar valve (D) None of the above

- 155. The valve present at the base of aorta is called:**
- (A) Tricuspid valve (B) Bicuspid valve
(C) Semilunar valve (D) None of the above
- 156. Which of the following arteries supply blood to legs?**
- (A) Femoral artery (B) Renal artery
(C) Coronary artery (D) Pulmonary artery
- 157. Which of the following veins collect blood from the digestive system and supply blood to liver?**
- (A) Hepatic vein (B) Hepatic portal vein
(C) Renal veins (D) None of the above
- 158. The voice of lubb is produced during the contraction of heart when:**
- (A) Tricuspid valve is closed
(B) Bicuspid valve is closed
(C) Both tricuspid and bicuspid are closed
(D) Semilunar valves are closed
- 159. The voice of dub is produced during the contraction of heart when:**
- (A) Tricuspid valve is closed
(B) Bicuspid valve is closed
(C) Both tricuspid and bicuspid are closed
(D) Semilunar valves are closed
- 160. The heart of man contracts during his life for:**
- (A) 1.5 million (B) 2.5 million
(C) 3.5 million (D) 4.5 million
- 161. The impulse of heart starts from:**
- (A) Sino-atrial node (B) Atrioventricular node
(C) Bundle muscles (D) None of the above
- 162. Cyanosis is a condition in which:**
- (A) Oxygen supply to skin is stopped (B) The skin becomes blue
(C) Blood supply to skin is stopped (D) None of the above

- 163. Which of the following layers is present in the arteries?**
(A) Connective tissues (B) Smooth and circular muscles
(C) Connective tissues (D) All of the above
- 164. Which of the followings is Atherosclerosis?**
(A) The breaking of the wall of the artery
(B) The narrowness of the wall of the artery
(C) The deposition of fats in the wall of the artery
(D) None of the above
- 165. Which of the followings is the characteristic of capillaries?**
(A) It has three layers of endothelium
(B) It has one layer of endothelium
(C) It has one layer of connective tissues
(D) It has one layer of elastic tissues
- 166. Which of the followings is the main function of capillaries?**
(A) Supply blood to tissues (B) Exchange of materials
(C) Bring blood from tissues (D) Transport of materials
- 167. Interstitial is present:**
(A) With in the blood (B) With in capillaries
(C) Among the cells (D) With in the cell
- 168. Which of the following layers is thin in veins?**
(A) Connective tissues and elastic fibers
(B) Smooth and circular muscles
(C) Connective tissues
(D) All of the above
- 169. The movement of blood in veins takes place by the:**
(A) Contraction and relaxation of the wall of the vein
(B) Contraction and relaxation of the skeletal muscles
(C) Pressure of the blood in the vein
(D) None of the above

- 170. Which of the following veins has oxygenated blood?**
(A) Renal vein (B) Hepatic vein
(C) Pulmonary vein (D) Coronary vein
- 171. Which of the following materials is not present in the interstitial fluid?**
(A) Water (B) Salts
(C) Fats (D) Blood cells
- 172. In which of the following blood vessels valves are present?**
(A) Artery (B) Vein
(C) Capillary (D) None the above
- 173. Which of the following blood vessels has high blood pressure?**
(A) Artery (B) Vein
(C) Capillary (D) None the above
- 174. In which of the following blood vessels, pulse is felt?**
(A) Artery (B) Vein
(C) Capillary (D) None the above
- 175. Which of the following blood vessels is responsible for exchange of material?**
(A) Artery (B) Vein
(C) Capillary (D) None of the above
- 176. The systolic pressure of the heart is:**
(A) 80 mm Hg (B) 100 mm Hg
(C) 110 mmHg (D) 120 mmHg
- 177. The diastolic pressure of the heart is:**
(A) 80 mm Hg (B) 100 mm Hg
(C) 110 mmHg (D) 120 mmHg
- 178. In which blood vessels of the following the systolic and diastolic pressure is same?**
(A) Artery (B) Aorta
(C) Arterioles (D) Capillary
- 179. Which of the following blood vessels has greater cross sectional area?**
(A) Artery (B) Vein
(C) Capillary (D) Aorta

- 180. Which of the followings is hypertension?**
(A) Low blood pressure (B) High blood pressure
(C) Cholesterol (D) All of the above
- 181. Which of the followings is thrombus?**
(A) A blockage of blood vessel (B) A clot in the vessel
(C) A moving clot in vessel (D) None of the above
- 182. Which of the followings is embolus?**
(A) A blockage of blood vessel (B) A clot in the vessel
(C) A moving clot in vessel (D) None of the above
- 183. Which of the following conditions is helpful in the prevention of heart attack?**
(A) Avoid too much fatty food rich in cholesterol
(B) Maintain normal body weight
(C) Control the blood pressure by regular walk and exercises
(D) All of the above
- 184. Stroke is a condition in which:**
(A) Heart does not receive proper blood
(B) Liver does not received proper blood
(C) Brain does not receive proper blood
(D) None of the above
- 185. Which of the followings is the characteristic of the lymphatic system?**
(A) The system which transports material between two blood vessels
(B) The system which transports material between the tissues
(C) The system which transports material between the tissues and blood
(D) None of the above
- 186. Which of the followings is common between lymph vessels and veins?**
(A) Both have small bore (B) Both have valves
(C) Both have low blood pressure (D) Both are communicated
- 187. The lymph vessels transfer the lymph into the blood through:**
(A) Subclavian artery (B) Subclavian vein
(C) Iliac artery (D) Iliac vein

- 188. Which of the following organs filter the lymph?**
(A) Heart (B) Liver
(C) Spleen (D) Pancreas
- 189. Which of the followings is involved in humoral immune response?**
(A) T-lymphocytes (B) Helper T-lymphocytes
(C) B-lymphocytes (D) None of the above
- 190. Which of the followings is involved in cell mediated response?**
(A) T-lymphocytes (B) Helper T-lymphocytes
(C) B-lymphocytes (D) None of the above
- 191. The T lymphocytes become mature in:**
(A) Thymus gland (B) Bursa of fabricius
(C) Bone marrow (D) Lymph node
- 192. The B-lymphocytes become mature in:**
(A) Thymus gland (B) Bursa of fabricius
(C) Bone marrow (D) Lymph node
- 193. Which of the followings is active immunity?**
(A) Injection of antibiotics (B) Injection of antigen
(C) Injection of antibody (D) None of the above
- 194. Which of the followings is passive immunity?**
(A) Injection of antibiotics (B) Injection of antigen
(C) Injection of antibody (D) None of the above
- 195. If a snake bites a person, which of the following things is injected into the affected person?**
(A) Antibody (B) Antigen
(C) Antisera (D) None the above
- 196. The main processes involved for getting the material into and out of cells are:**
(A) Endocytosis and exocytosis (B) Active and passive transport
(C) Diffusion and osmosis. (D) All above
- 197. Most of the uptake of water and minerals from soil takes place through:**
(A) Roots (B) Epidermal layers
(C) Root cap (D) Root hair

- 198. The membrane of vacuole is named as:**
- (A) Tonoplast (B) Apoplast
(C) Symplast (D) None of the above
- 199. Mycorrhizal fungi are present in how many families of flowering plants?**
- (A) 10% (B) 80%
(C) 100% (D) 90%
- 200. The loss of liquid water through hydathodes in plants is called:**
- (A) Imbibition (B) Transpiration
(C) Guttation (D) Bleeding
- 201. In which leaves the stomata are confined to only the lower epidermis?**
- (A) Isobilateral (B) Dorsiventral
(C) Both A and B (D) None
- 202. The closing and opening of stomata is directly controlled by:**
- (A) Temperature (B) Wind
(C) Light (D) Water
- 203. The pressure flow theory is the most acceptable theory for the transport in the phloem of:**
- (A) Gymnosperm (B) Bryophytes
(C) Angiosperms (D) Pteridophyte
- 204. In Hydra ectodermal cells get food from endodermal cells by:**
- (A) Exocytosis (B) Diffusion
(C) Endocytosis (D) Both A and B
- 205. The sites where exchange of materials between blood and body tissues takes place are:**
- (A) Arteries (B) Capillaries
(C) Lymph vessels (D) Veins
- 206. The heart of which of these functions as a single circuit heart?**
- (A) Fishes (B) Reptiles
(C) Mammals (D) Birds

- 207. The normal pH of human blood is:**
(A) 4 (B) 7.4
(C) 7 (D) 4.7
- 208. The average life span of RBC is about:**
(A) 06 months (B) 04 months
(C) One year (D) 08 months
- 209. A white substance called pus is produced at infection sites due to killing of:**
(A) Monocytes (B) Erythrocytes
(C) Leucocytes (D) Platelets
- 210. The protective membrane of human heart is called:**
(A) Endocardium (B) Epicardium
(C) Myocardium (D) Pericardium
- 211. Antiserum is a serum containing:**
(A) Haemoglobin (B) Antibodies
(C) Lymph (D) Antigens
- 212. In humans the heart beat lasts for:**
(A) 18 seconds (B) 0.8 seconds
(C) 1.8 seconds (D) 8 seconds
- 213. In the liver, every cell is in direct contact with:**
(A) None (B) Capillary
(C) Artery (D) Vein
- 214. Heart beat involves how many distinct stages.**
(A) One (B) Four
(C) Three (D) Two
- 215. The renal vein brings the impure blood from:**
(A) Liver (B) Kidney
(C) Lungs (D) Brain
- 216. The roots of a plant not only ————— the plant in soil, but also absorb minerals and water from the soil.**
(A) Acoelomate (B) Active
(C) ATP (D) Anchor

217. The root hair are extensions of _____ cells of roots.
- (A) Acoelomate (B) Exosmosis
(C) Epidermal (D) Isobilateral
218. The passive uptake of minerals in plants involves which process?
- (A) Exosmosis (B) Imbibition
(C) Isobilateral (D) Diffusion
219. The passive and active uptake of minerals by root cells involve the use of energy in the form of:
- (A) ATP (B) Active
(C) Anchor (D) Solute
220. Most of ions are taken up by the roots by the process of:
- (A) Active transport (B) Epidermal
(C) Anchor (D) ATP
221. Active transport is selective and is dependent on:
- (A) Exosmosis (B) Isobilateral
(C) Respiration (D) Cuticular
222. The movement of water out of the cell by osmosis is called:
- (A) Endosmosis (B) Leucaemia
(C) Exosmosis (D) Isobilateral
223. Pure _____ has maximum water potential.
- (A) Leucaemia (B) Water
(C) Wind (D) Acoelomate
224. The total water potential is sum of pressure potential and:
- (A) Xylem (B) Solute potential
(C) Dixon (D) One
225. Cohesion tension theory was proposed by:
- (A) Palms (B) Diffusion
(C) One (D) Dixon

- 226. The lignin and cellulose provide strength to cell wall of:**
(A) Splenn (B) Dixon
(C) Xylem vessels (D) Diffusion
- 227. About what % of total water pulled up in the leaves is used by the plants in various activities including photosynthesis?**
(A) One (B) Three
(C) Two (D) Four
- 228. The volume of dry seed may increase up to 200 times by:**
(A) Imbibition (B) Palms
(C) Osmosis (D) Splenn
- 229. The sap in some _____ contains sugar and water in addition to organic and inorganic substances.**
(A) Dixon (B) Acoelomate
(C) Splenn (D) Palms
- 230. At night when the stomata are almost closed, through what transpiration takes place in plants?**
(A) Cuticular (B) Respiration
(C) Water (D) Solute
- 231. In which leaves the stomata are present both in upper and lower epidermis?**
(A) Isobilateral (B) Imbibition
(C) Epidermal (D) Solute
- 232. The air in motion is called:**
(A) Water (B) Solute
(C) Wind (D) Wilting
- 233. Excess loss of water from the plant can lead to:**
(A) Wind (B) Wilting
(C) Water (D) Solute
- 234. Organic solutes are transported by:**
(A) Isobilateral (B) Imbibition
(C) Phloem tissue (D) Water

- 235. There is no body cavity in planaria hence, called as:**
(A) Pseudocoelomate (B) Cuticular
(C) Acoelomate (D) Isobilateral
- 236. Most of the plasma proteins are synthesized in the:**
(A) Liver (B) Diffusion
(C) Leucaemia (D) Systole
- 237. In the embryonic life RBC are formed in liver and:**
(A) Imbibition (B) Leucaemia
(C) Spleen (D) Diffusion
- 238. What is caused as a result of uncontrolled production of white blood cells?**
(A) Blood clotting (B) Leucaemia
(C) Imbibition (D) Isobilateral
- 239. One complete heartbeat consists of one diastole and one:**
(A) Cuticular (B) Systole
(C) Nervous (D) Splenn
- 240. The diameter of capillary can be changed by:**
(A) Splenn (B) Leucaemia
(C) Nervous stimulation (D) Phloem
- 241. Prothrombin:**
(A) Body defence (B) Blood clotting
(C) Catalyst (D) Pace maker
- 242. Fibrinogen:**
(A) Blood clotting (B) Catalyst
(C) Blueness of skin (D) Body defence
- 243. Immunoglobulin:**
(A) Body defence (B) Blood clotting
(C) Blueness of skin (D) Catalyst

244. Cholesterol:

- (A) Blood clotting
- (B) Steroid hormones
- (C) Body defence
- (D) Blueness of skin

245. Cyanosis:

- (A) Blood clotting
- (B) Blueness of skin
- (C) Pace maker
- (D) Body defence

246. Leucaemia:

- (A) High blood pressure
- (B) Cooley's anaemia
- (C) Heart attack
- (D) Blood cancer

247. Thalassaemia:

- (A) Excess of fluid in the body tissue
- (B) Cooley's anaemia
- (C) Low blood pressure
- (D) Blood cancer

248. Myocardial Infarction:

- (A) Low blood pressure
- (B) Heart attack
- (C) Cooley's anaemia
- (D) High blood pressure

249. Hypertension:

- (A) High blood pressure
- (B) Blood cancer
- (C) Cooley's anaemia
- (D) Low blood pressure

250. Oedema:

- (A) Blood cancer
- (B) Low blood pressure
- (C) Cooley's anaemia
- (D) Excess of fluid in the body tissue

251. Cohesion tension theory:

- (A) Thomas B. Cooley
- (B) Sacks
- (C) H. Van Mohl
- (D) Dixon

252. Imbibition process:

- (A) Dixon
- (B) H. Van Mohl
- (C) Sacks
- (D) Thomas B. Cooley

253. Starch sugar Hypothesis:

- | | |
|-----------------|-----------------|
| (A) H. Van Mohl | (B) Ernst munch |
| (C) Dixon | (D) Sacks |

254. Pressure flow theory:

- | | |
|-----------------|------------|
| (A) Ernst munch | (B) Sacks |
| (C) H. Van Mohl | (D) Mandel |

255. Spleenomegaly:

- | | |
|----------------------|-----------------|
| (A) Thomas B. Cooley | (B) Dixon |
| (C) Ernst munch | (D) H. Van Mohl |

256. Myelogenous cells:

- | | |
|-----------------------------|---------------------------|
| (A) Inactivate inflammation | (B) Antibodies production |
| (C) Blood formation | (D) Bone marrow |

257. Microcytes:

- | | |
|-----------------------|---------------------------|
| (A) Bone marrow | (B) Enlargement of spleen |
| (C) Transports oxygen | (D) Blood formation |

258. Lymphocytes:

- | | |
|---------------------------|---------------------------|
| (A) Enlargement of spleen | (B) Antibodies production |
| (C) Blood formation | (D) Bone marrow |

259. Eosinophil:

- | | |
|-----------------------------|---------------------------|
| (A) Inactivate inflammation | (B) Transports oxygen |
| (C) Bone marrow | (D) Enlargement of spleen |

260. Erythrocyte:

- | | |
|---------------------|-----------------------------|
| (A) Bone marrow | (B) Transports oxygen |
| (C) Blood formation | (D) Inactivate inflammation |

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(D)	2.	(A)	3.	(B)	4.	(B)	5.	(B)
6.	(B)	7.	(A)	8.	(B)	9.	(A)	10.	(B)
11.	(C)	12.	(A)	13.	(D)	14.	(D)	15.	(C)
16.	(A)	17.	(C)	18.	(B)	19.	(A)	20.	(C)
21.	(A)	22.	(C)	23.	(D)	24.	(D)	25.	(B)
26.	(C)	27.	(A)	28.	(B)	29.	(A)	30.	(C)
31.	(C)	32.	(C)	33.	(C)	34.	(B)	35.	(D)
36.	(D)	37.	(A)	38.	(B)	39.	(A)	40.	(B)
41.	(B)	42.	(A)	43.	(A)	44.	(A)	45.	(B)
46.	(B)	47.	(C)	48.	(C)	49.	(C)	50.	(B)
51.	(D)	52.	(D)	53.	(C)	54.	(D)	55.	(C)
56.	(A)	57.	(D)	58.	(A)	59.	(C)	60.	(A)
61.	(C)	62.	(D)	63.	(B)	64.	(C)	65.	(B)
66.	(A)	67.	(D)	68.	(D)	69.	(B)	70.	(B)
71.	(C)	72.	(D)	73.	(C)	74.	(A)	75.	(B)
76.	(C)	77.	(A)	78.	(D)	79.	(B)	80.	(C)
81.	(A)	82.	(A)	83.	(A)	84.	(B)	85.	(A)
86.	(A)	87.	(A)	88.	(C)	89.	(B)	90.	(B)
91.	(D)	92.	(A)	93.	(C)	94.	(C)	95.	(D)
96.	(B)	97.	(C)	98.	(C)	99.	(B)	100.	(D)
101.	(D)	102.	(B)	103.	(B)	104.	(D)	105.	(B)
106.	(A)	107.	(D)	108.	(A)	109.	(B)	110.	(D)
111.	(C)	112.	(D)	113.	(B)	114.	(D)	115.	(B)
116.	(D)	117.	(B)	118.	(A)	119.	(A)	120.	(A)
121.	(C)	122.	(C)	123.	(C)	124.	(D)	125.	(B)
126.	(D)	127.	(B)	128.	(B)	129.	(B)	130.	(C)

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
131.	(D)	132.	(B)	133.	(D)	134.	(C)	135.	(D)
136.	(B)	137.	(A)	138.	(A)	139.	(C)	140.	(C)
141.	(B)	142.	(D)	143.	(B)	144.	(A)	145.	(B)
146.	(B)	147.	(A)	148.	(B)	149.	(B)	150.	(B)
151.	(D)	152.	(B)	153.	(A)	154.	(B)	155.	(C)
156.	(A)	157.	(B)	158.	(C)	159.	(D)	160.	(B)
161.	(A)	162.	(B)	163.	(D)	164.	(B)	165.	(B)
166.	(B)	167.	(C)	168.	(B)	169.	(B)	170.	(C)
171.	(D)	172.	(B)	173.	(A)	174.	(A)	175.	(C)
176.	(D)	177.	(A)	178.	(D)	179.	(C)	180.	(B)
181.	(B)	182.	(C)	183.	(D)	184.	(C)	185.	(C)
186.	(B)	187.	(B)	188.	(C)	189.	(B)	190.	(A)
191.	(A)	192.	(D)	193.	(B)	194.	(C)	195.	(C)
196.	(C)	197.	(D)	198.	(A)	199.	(D)	200.	(C)
201.	(B)	202.	(C)	203.	(C)	204.	(B)	205.	(B)
206.	(A)	207.	(B)	208.	(B)	209.	(C)	210.	(D)
211.	(D)	212.	(B)	213.	(C)	214.	(B)	215.	(D)
216.	(D)	217.	(C)	218.	(D)	219.	(A)	220.	(A)
221.	(C)	222.	(C)	223.	(B)	224.	(B)	225.	(D)
226.	(C)	227.	(A)	228.	(A)	229.	(D)	230.	(A)
231.	(A)	232.	(C)	233.	(B)	234.	(C)	235.	(C)
236.	(A)	237.	(C)	238.	(B)	239.	(B)	240.	(C)
241.	(C)	242.	(A)	243.	(A)	244.	(B)	245.	(B)
246.	(D)	247.	(B)	248.	(A)	249.	(D)	250.	(D)
251.	(C)	252.	(A)	253.	(A)	254.	(A)	255.	(A)
256.	(D)	257.	(B)	258.	(B)	259.	(A)	260.	(B)