Chapter 01

Choose the most appropriate answer.

1. They are the remains or impressions of living organisms preserved in rocks:

   a. Tissues
   b. Fossils
   c. Calcium
   d. Statutes

   Correct Ans. b

2. It is the study of fossils and their relationship to the evolution of life on earth:

   a. embryology
   b. taxonomy
   c. physiology
   d. None of these

   Correct Ans. d

3. Man has been able to produce food in greater quantities due to advancement in:

   a. Mathematics
   b. Space science
   c. Physics
   d. Biology

   Correct Ans. d

4. Taxonomy is the study of:

   a. Functions of different parts of organisms
   b. Naming and classification of organisms
   c. Hereditary characters
   d. Structure and functions of cells

   Correct Ans. b

5. Anatomy deals with the study of:
   a. Relationship between organisms and their environment
   b. Development of an organism from a fertilized egg or zygote
   c. Structure and function of molecular components of the cell
   d. Internal organs of organisms

   Correct Ans. D

6. Pollution of our surroundings in the recent past has resulted because of:

   a. Biological Research
   b. Rapid industrialization
   c. Information Technology
   d. Forestation

   Correct Ans. b

7. The statement made by a scientist, which may be the possible answer to the problem.

   a. Deduction
   b. Theory
   c. Hypothesis
   d. Law

   Correct Ans. c

8. Which of the following is involved in the spread of malaria ?

   a. Bacterium
   b. Bad Air
   c. Virus
   d. Mosquito

   Correct Ans. d

9. People who slept outside in open spaces suffered from malaria more frequently than those who slept indoors, indicates that:

   a. Bad air is involved in the spread of Malaria
   b. Bacteria are involved in the spread of Malaria
   c. Mosquitoes are involved in the spread of Malaria
   d. Birds are involved in the spread of Malaria

   Correct Ans. c

10. The entry of *Plasmodium* into the blood of Man was discovered by:
   a. A. F. A. King
   b. Laveran

c. Ronald Ross
d. Grassi

Correct Ans. b

11. In case of typical attack, malarial patient feels:

a. Very cold and chilly
b. Very Warm
c. Sleepy
d. Normal

Correct Ans. a

12. Sexual reproduction of the malaria parasite occurs in :

a. Man
b. Mosquito
c. Red blood cells
d. Both a and b

Correct Ans. b

13. Inside human body *Plasmodium* attacks:

a. Nerve cells
b. Red blood cells
c. White blood cells
d. Kidney cells

Correct Ans. b

14. In the life cycle of *Plasmodium* fusion of gametes and formation of gametes and formation of zygote
take place in:

a. Body of Man
b. Body of Mosquito
c. Air
d. Water

Correct Ans. b

15. The part of Cinchona plant found suitable for the treatment of Malaria was:

a. Seeds
b. Fruits
c. Leaves
d. Bark

Correct Ans. (d)

16. When sporozoites of *Plasmodium* pass from the blood to liver cells, they multiply for:

a. 8 days
b. 10 days
c. 12 days
d. 14 days

Correct Ans. (c)

17. Man can now be saved from fatal diseases by using:

a. Vaccine
b. Bacteria
c. Antibiotics
d. Plasmodium

Correct Ans. (a)

18. The word malaria has been derived from the combination of two words which are:

a. Latin
b. Italian
c. Greek
d. Arabic

Correct Ans. (b)

19. Which one of the following best describes the scientific method?

a. Doing experiments in laboratories
b. Collecting all known facts on a subject
c. Developing and testing hypothesis
d. Using sensitive electronic measuring instruments

Correct Ans. (c)

20. Which of the following stages of *Plasmodium* is diploid?

a. Merozoite
b. Sporozoite

c. Zygote (ookinete)
d. Gametocyte

Correct Ans. (c)

21. Which of the following stages of *Plasmodium* is spindle shaped?

a. sporozoite
b. Merzoite
c. Gametocyte
d. Ookinete

Correct Ans. (a)

22. Which of the following forms of *Plasmodium* is present in the saliva of mosquito?

a. Merozoites
b. Sporozoites
c. Gametocytes
d. Zygote

Correct Ans. (b)

23. Which of these attack red blood cells?

a. ookinetes
b. Gametocytes
c. Sporozoites
d. Merozoites

Correct Ans. (d)

24. Which of the following is not true of malaria patient?

a. feels cold and chilly
b. feels headache
c. feels appetite
d. temperature rises up to 106 ^{o}F

Correct Ans. (c)

Chapter 2

1. Nucleus in plant cells was discovered by:

    a. Dutrochet
    b. Robert Brown
    c. Robert Hooke
    d. Schleiden

    Correct Ans. (c)

2. The pushing out of materials by the cell against the concentration gradient is:

    a. Low transport
    b. Passive transport
    c. Active transport
    d. Moderate transport

    Correct Ans. (c)

3. Robert Hooke examined thin slices of cork made up of the bark of:

    a. Pine
    b. Sheesham
    c. Oak
    d. Mulberry

    Correct Ans. (c)

4. In thin slices of cork Robert Hooke noticed.

    a. Tiny creatures
    b. Small holes
    c. Small chambers
    d. Bacteria

    Correct Ans. (c)

5. Henri Dutrochet confirmed.

    a. Robert Brown observations on Nucleus
    b. Robert Hooke's observations on Cells
    c. Schwann observations of cells
    d. Schleiden observations on cells

    Correct Ans. (b)

6. They provide support to the plant body:

    a. Phloem cells
    b. Parenchyma cells
    c. Sclerenchyma cells
    d. Chlorechyma cells

    Correct Ans. (c)

7. Parenchyma cells are concerned with:

    a. Secretion
    b. Support
    c. Carry Oxygen
    d. Storage of surplus food

    Correct Ans. (d)

8. Substances cross the cell membrane more easily when they are:

    a. Water soluble
    b. Protein soluble
    c. Alcohol soluble
    d. Lipid soluble

    Correct Ans. (d)

9. Many substances that are not needed constantly enter the cell by:

    a. Passive transport
    b. Active transport
    c. Negative transport
    d. Fast transport

    Correct Ans. (b)

10. It is a true cell wall in a newly growing cell:

    a. Middle lamella
    b. Secondary wall
    c. Primary wall
    d. Plasma membrane

    Correct Ans. (c)

11. It is the first to be formed:

a. Primary wall
b. Secondary wall
c. Tertiary wall
d. Middle lamella

Correct Ans. (a)

12. It is a site of certain metabolic pathways:

a. Cell wall
b. Plasma membrane
c. Cytoplasm
d. A & B

Correct Ans. (c)

13. The water percentage of cytosol in the cytoplasm is:

a. 50
b. 60
c. 70
d. 90

Correct Ans. (d)

14. New Ribosomes are assembled in the :

a. Nucleolus
b. Mitochondria
c. Endoplasmic Reticulum
d. Golgi Apparatus

Correct Ans. (a)

15. Smooth Endoplasmic Reticulum helps to:

a. Synthesize proteins
b. Detoxify the harmful drugs
c. Prepare food
d. Decompose proteins

Correct Ans. (b)

16. Morphologically Endoplasmic Reticulum exists in:

a. Four forms
b. Three forms
c. Two forms
d. One form

Correct Ans. (b)

17. The 60S and 40S subunits on attachment with each other form:

a. 100S particle
b. 90S particle
c. 80S particle
d. 70S particle

Correct Ans. (c)

18. Proteins are synthesized in the:

a. Ribosomes
b. Mitochondria
c. Nucleus
d. Nucleolus

Correct Ans. (a)

19. They are absent in higher plants:

a. Plastids
b. Golgi Apparatus
c. Cell Membranes
d. Centrioles

Correct Ans. D

20. Amino acids (proteins) are present in the cell walls of:

a. Gymnosperms
b. Bacteria
c. Mosses
d. Angiosperms

Correct Ans. B

21. Which of the following organelles is present in both prokaryotic and eukaryotic cells?

a. Chloroplast
b. Ribosomes
c. Mitochondria
d. Golgi Complex

Correct Ans. B

22. Which of the following features is not shared by prokaryotic and eukaryotic cells?

a. Ribosome
b. Cytoplasm
c. Cell membrane
d. Nuclear membrane

Correct Ans. D

23. Which of the following cell organelles is present in both plant and animal cells?

a. Chlorophyll
b. Plasma membrane
c. Plastids
d. Cell wall

Correct Ans. B

24. Which of the following pair is incorrect?

a. Ribosome _____
Protein synthesis
b. Chloroplast _____
Photosynthesis
c. Mitochondria _____
Fermentation
d. Plasma membrane_____
Osmosis
Correct Ans. C

25. Which of the structures is not found in a prokaryotic cell?

a. Plasma membrane
b. Nuclear envelope
c. Ribosome
d. Cell wall

Correct Ans. B

26. How may membranes comprise the nuclear envelop?

a. None
b. One
c. Two
d. Three

Correct Ans. C

27. Which of the following molecules move regularly from the nucleus to the cytoplasm?

a. Glycogen
b. DNA
c. RNA
d. Cholesterol

Correct Ans. C

28. Which of the following cellular organelles extracts energy from glucose and forms ATP molecules:

a. Lysosome
b. Chloroplast
c. Mitochondrion
d. Chromoplast

Correct Ans. C

29. Lysosomes contain enzymes capable of:

a. Aerobic cellular respiration
b. Digesting part of the cell
c. Synthesizing protein
d. Synthesizing lipids

Correct Ans. B

30. Mitochondria are found:

a. in all cells
b. only in plant cells
c. only in animal cells
d. in all eukaryotic cells

Correct Ans. D

31. Green pigments capable of capturing the energy of sunlight are located within the:

a. Golgi complex
b. Endoplasmic complex
c. Chloroplast
d. Cell wall

Correct Ans. C

32. The two types of cellular organelles that transform energy are:

a. Chromoplasts and leucoplast
b. Mitochondria and chloroplast
c. Mitochondria and Chromoplasts
d. Chloroplasts and leucoplasts

Correct Ans. B

33. The plastids that give fruits and flowers their orange and yellow colours are the:

a. leucoplasts
b. chloroplasts
c. Chromoplasts
d. Proplasts

Correct Ans. C

34. The main function of the plasma membrane is to:

a. synthesize ribosomes
b. Control what goes into and out of the cell
c. Allow all kinds of substances to enter the cell
d. Move the cell from place to place

Correct ans. B

35. Plant cells are connected by channels through their walls called:

a. Plasmodesmata
b. desmosomes
c. middle lamella
d. non of these

Correct ans. A

36. In the fluid mosaic membrane model the lipid bilayer:

a. is sandwiched between two protein layers
b. has protein embedded in it
c. lies on top of a single protein layer
d. is covered by a single protein layer

correct ans. B

37. An input of energy is required for which one of the following?

a. diffusion
b. osmosis
c. passive transport
d. active transport

Correct ans. D

38. Which of the following cytoplamic organelles is not bounded by membrane:

a. Mitochodrion
b. Lysosome
c. Ribosome
d. Plastids

Correct Ans. C

39. Which of the following bodies is not bounded by a double membrane structure?

a. mitochondrion
b. chloroplast
c. Lysosome
d. Nucleus

Correct Ans. C

40. Which of the following cell organelles cause a decrease in the concentration of organic material in the cell?

a. Golgi bodies
b. Chloroplast
c. Ribosome
d. Mitochondrion

Correct Ans. D

41. Which of the following cell organelles is not involved in the sequence of events from synthesis of an enzyme to its excretion?

a. Ribosome
b. Lysosome
c. Golgi apparatus
d. Endoplasmic reticulum

Correct Ans. B

42. A lipid molecule in the plasma membrane has a head and two tails. The tails are found:

a. At the surfaces of the membrane
b. In the interior of the membrane
c. Both at the surfaces and interior of the membrane
d. None of these

Correct Ans. B

43. Which of the following organelles and their contents are incorrectly paired:

a. Ribosome – RNA
b. Mitochondrion – Chlorophyll
c. Lysosome – digestive enzymes
d. Nucleus – DNA

Correct Ans. B

44. Which of the following properties is incorrect for both mitochondria and chloroplast:

a. Both have an electron transport system
b. ATP synthesis
c. Both are present in all cells
d. Both are double membrane structures

Correct Ans. C

45. Which of the following cell organelles release oxygen:

a. ribosome
b. Golgi complex
c. Mitochondria
d. Chloroplast

Correct Ans. D

46. Active transport:

a. requires a protein carrier
b. moves a molecule against its concentration gradient
c. requires a supply of energy
d. all of these

Correct Ans. d

47. The nucleolus is largely composed of rRNA and

a. lipid
b. Glucose
c. Wax
d. Protein

Correct Ans. D

CHAPTER 3

Choose the most appropriate answer:

1. It is the most abundant carbohydrate in nature:

a. Sucrose
b. Maltose
c. Starch
d. Cellulose

Correct Ans. D

2. The most common monomer of carbohydrates is a molecule of :

a. sucrose
b. lactose
c. maltose
d. glucose

Correct Ans. D

3. Which of the following is polysaccharide:

a. Glucose
b. Glycogen
c. Maltose
d. Lactose

Correct Ans. B

4. On hydrolysis triglyceride yields

a. a glycerol and three fatty acids
b. a fatty acid and three glycerol
c. a glucose and three fatty acids
d. a maltose and two fatty acids

Correct Ans. A

5. Cholesterol is:

a. diglyceride
b. saturated fatty acids
c. unsaturated fatty acids
d. steroid

correct Ans. D

6. Silk is chemically:

a. Lipid
b. Wax
c. Protein
d. Carbohydrate

Correct Ans. C

7. Protoplasm of plant cell is:

a. Less viscous than animal cell
b. More viscous than animal cell
c. Equal in viscosity to the animal cell
d. None of these

Correct Ans. A

8. In living cell, protein is:

a. The most abundant compound
b. The least abundant compound
c. The second most abundant compound
d. The third most abundant compound

Correct Ans. C

9. They catalyze biological reactions in the form of enzymes:

a. Glucose
b. Sucrose
c. Proteins
d. Terpenoids

Correct Ans. C

10. Amino Acids in Insulin molecules are arranged in:

a. One polypeptide chain
b. Two Polypeptide chains
c. Three polypeptide chains
d. Four polypeptide chains

Correct Ans. B

11. Four polypeptide chains take part in the formation of:

a. Cellulose
b. Silk
c. Hemoglobin
d. DNA

Correct Ans. C

12. Each beta chain of Hemoglobin contains:

a. 126 Amino Acids
b. 156 Amino Acids
c. 136 Amino Acids
d. 146 Amino acids

Correct Ans. D

13. Amino Acids are linked together by:

a. Hydrogen Bonds
b. Ionic Bonds
c. Peptide bonds
d. None of these

Correct Ans. C

14. The manner in which different peptide chains are connected determines the:

a. Size of protein molecule
b. Shape of protein molecule
c. Color of protein molecule
d. Both A & B

Correct Ans. B

15. Glyceraldehyde is one of the:

a. Hexoses
b. Trioses
c. Pentoses
d. Tetroses

Correct Ans. B

16. Sucrose is formed of:

a. Glucose and Galactose
b. Glucose and Maltose
c. Clucose and Fructose
d. Fructose and Galactose

Correct Ans. C

17. They are stored in plant and animal cells:

a. Starch and Glycogen
b. Glucose and sucrose
c. Starch and cellulose
d. Fructose and glucose

Correct Ans. A

18. It is the most abundant carbohydrate in nature:

a. Glucose
b. Fructose
c. Cellulose
d. Starch

Correct Ans. C

19. Cotton fibers are made up of:

a. Glucose
b. Galactose
c. Starch
d. Cellulose

Correct Ans. D

20. Which of the following is true of acylglycerols

a. composed of glycerol and fatty acids
b. easily soluble in water
c. act as enzymes
d. are hydrolyzed into glucose and fructose

Correct Ans. A

21. Terpenoides are:

a. Sucrose
b. Glucose
c. Waxes
d. Fructose

Correct Ans. C

22. Nucleic acids are formed of units called:

a. Amino acids
b. Nucleotides
c. Citric acids
d. Isoprenoid units

Correct Ans. B

23. Typically a nucleotide is composed of:

a. three components
b. four components
c. five components
d. two components

Correct Ans. A

24. As compared to somatic cells the amount of DNA in germ line cells (sperms and ova) is almost:

a. Equal
b. Double
c. One third
d. Half

Correct Ans. D

25. The function of tRNA is:

a. To carry genetic information's from DNA to ribosomes
b. To synthesize protein
c. Pick up amino acids and transfer them to ribosomes
d. Constitute ribosomes

Correct Ans. C

26. In protoplasm dry matter consists about:

a. 90% organic and 10% inorganic compounds
b. 70% organic and 30% inorganic compounds
c. 60% organic and 40% inorganic compounds
d. 50% organic and 50% inorganic compounds

Correct Ans. A

27. Which of the following groups from the nucleotides:

a. Sugar _____ Nitrogenous Base _____ Vitamin
b. Sugar _____ Vitamin _____ Phosphoric acid
c. Sugar _____ Nitrogenous base _____ Phosphoric acid
d. Phosphoric acid _____ Nitrogenous base _____ vitamin

Correct Ans. C

28. Which of the following is hydrolyzed into simple unit:

a. ribose
b. glucose
c. cellulose
d. fructose

Correct ans. C

29. Glucose + Fructose _____ Sucrose + H_2O

a. hydrolysis
b. condensation (dehydration)
c. denaturation
d. incorporation synthesis

Correct Ans. B

30. The unique properties of each amino acid are determined by its particular

a. R group
b. Amino group
c. Kinds of peptide bonds
d. Number of bonds to other amino acids

Correct Ans. A

31. DNA is unique among the organic molecules of protoplasm in that it can:

a. form multipolymer complexes
b. come apart and re-form
c. withstand very high temperature
d. replicate itself

Correct Ans. D

32. Nucleotides of DNA molecule varies due to their:

a. glycerol attachments
b. nitrogenous bases
c. sugars
d. phosphates

correct ans. B

33. Adenine is a:

a. single ring compound
b. double ring compound
c. Triple ring compound
d. Multi-ring compound

Correct ans. B

34. The function of an enzyme is to:

a. cause chemical reactions that would not otherwise take place
b. change the rate of chemical reactions.
c. Control the equilibrium point of reaction
d. Change the direction of reaction

Correct ans. B

35. The enzyme sucrase act on:

a. sucrose only
b. sucrose and starch
c. any disaccharide
d. glycogen

Correct Ans. A

36. Which of the following forms part of coenzyme:

a. Diastase
b. Lipase
c. Vitamin
d. Lysine

Correct Ans. C

37. An enzyme promotes a chemical reaction by:

a. Lowering the energy of activation
b. Causing the release of heat
c. Increasing molecular motion
d. Both A & B

Correct Ans. A

38. Which of the following releases greatest amount of energy:

a. Carbohydrates
b. Lipid
c. Water
d. Nucleic acid

Correct ans. B

39. Which of the following is an example of carbohydrate:

a. enzymes
b. waxes
c. ribose
d. insulin

Correct ans. C

40. DNA molecule:

a. has a sugar-phosphate backbone
b. is single stranded
c. has a certain sequence of amino acids
d. has a uracil base in its nucleotide

Correct ans. A

41. The functional group COOH is:

a. Acidic
b. Basic
c. Never ionized
d. All of these

Correct Ans. (A)

42. Which of these is nondigestible by man:

a. cellulose
b. maltose
c. starch
d. glycogen

Correct Ans. (a)

43. A fatty acid is unsaturated if it:

a. contains hydrogen
b. contains double bonds between carbon atoms
c. contains an acidic group
d. contains no double bonds

Correct ans. (b)

44. Glucose in solution forms a ring called:

a. glucofuranose
b. ribofuranose
c. glucopyranose
d. ribopyranose

Correct Ans. (c)

45. Which of the following is not soluble in water:

a. Sucrose
b. Ribose
c. Glycerol
d. Glycogen

Correct Ans. (d)

46. Which of the following is absent in the nucleotides of RNA:

a. Thymine
b. Cytosine
c. Adenine
d. Uracil

Correct Ans. (a)

47. The linkages between two monosaccharides is called:

a. Ester
b. Glucoside
c. Peptide
d. Nucleotide

Correct Ans. (b)

48. Distance between twist of DNA molecule is:

a. 14 A
b. 24 A
c. 34 A
d. 44 A

Correct Ans. (c)

49. Which of the following is a complete monomeric unit of DNA:

a. pentose sugar
b. phosphoric acid
c. nucleotide
d. adenine

Correct Ans. (c)

50. The formula of glyceraldehydes is:

a. $C_3 H_5 O_3$
b. $C_3 H_6 O_3$
c. $C_3 H_4 O_3$
d. $C_3 H_6 O_4$

Correct Ans. (b)

51. The number of Carbon in oleic acid is:

a. 16
b. 18
c. 20
d. 22

Correct Ans. (b)

52. Vitamin A is a:

a. protein
b. wax
c. terpenoid
d. carbohydrate

Correct Ans. (c)

53. Which of the following is not true of palmatic acid:

a. saturated
b. unsaturated
c. unbranched
d. 16 carbons

Correct ans. (b)

54. Which of these makes cellulose nondigestable:

a. a polymer of glucose subunits
b. a fibrous protein
c. the linkage between the glucose molecules
d. the peptide linkage

Correct Ans. (c)

55. Which of these is not a lipid:

a. steroid
b. wax
c. polysaccharide
d. terpenoids

Correct Ans. (c)

56. Which of the following is variable in an amino acid?

a. Amino group
b. Carboxyl group
c. R-group
d. Hydrogen

Correct Ans. (c)

57. Which of the following is resistant to degradation ?

a. wax
b. sucrose
c. starch
d. triglyceride

Correct Ans. (a)

58. Beta Carotene is:

a. phospholipids
b. terpenoid
c. polysaccharide
d. wax

Correct Ans. (b)

59. Which of the following is a richer source of chemical energy?

a. glucose
b. glycogen
c. lipids
d. proteins

Correct Ans. (c)

60. Cholesterol is:

a. Diglyceride
b. Saturated fat
c. Unsaturated fat
d. Steroid

Correct Ans. (d)

61. The structure of a protein can be denatured by:

a. the polar bond of water molecule

b. heat
c. the presence of oxygen gas
d. the presence of carbon dioxide gas

Correct Ans. (b)

CHAPTER 4

Choose the most appropriate answer:

1. Which of these established that the units of inheritance are located on the chromosome?

a. Sutton
b. Waldeyer
c. Watson and Crick
d. Strickberger

Correct Ans. (a)

2. Which of the following determines the shape of the chromosomes?

a. chromatids
b. chromatin material
c. shape of the centromeres
d. position of the centromere

Correct ans. (d)

3. The morphology of the chromosome is best studied during

a. interphase
b. prophase
c. telophase
d. metaphase

Correct ans. (d)

4. Telocentric chromosomes have centromere located at

a. one end
b. both ends
c. center
d. one side

Correct Ans. (a)

5. Which of these chromosomes have centromere located at one end?

a. acrocentric
b. Telocentric
c. Metacentric
d. Submetacentric

Correct ans. (b)

6. Which of these chromosomes have a very short arm?

a. Telocentric
b. Metacentric
c. Acrocentric
d. Submetacentric

Correct Ans. (c)

7. Which of the following chromosomes have arms of unequal length?

a. Telocentric
b. Metacentric
c. Acrocentric
d. Submetacentric

Correct Ans. (d)

8. Which of the following types of chromosomes have arms of equal length?

a. Metacentric
b. Submetacentric
c. Acrocentric
d. Telocentric

Correct Ans. (a)

9. The total chromosome complement of a cell is called

a. Karyosome
b. Karyokinesis
c. Karyogamy
d. Karyotype

Correct Ans. (d)

10. DNA and histones together form a structure called

a. Centromeres
b. Nucleosome
c. Nucleoplasm
d. Centriole

Correct Ans. (b)

11. Which of the following number of molecules of various types of histones form Nucleosome?

a. 8
b. 10
c. 16
d. 20

Correct Ans. (a)

12. Which of these studied mitosis in plant cells?

a. Strassburger
b. Flemming
c. Sutton
d. Waldeyer

Correct Ans. (a)

13. Which of these studied mitosis in animal cells?

a. Strassburger
b. Flemming
c. Sutton
d. Waldeyer

Correct Ans. (b)

14. During mitosis the process of cytoplasmic division is called

a. Cytomeiosis
b. Cytoplasmosis
c. Cytokinesis
d. Cytomitosis

Correct Ans. (c)

15. DNA replication occurs in which phase of the cell cycle?

a. prophase
b. interphase
c. metaphase
d. Telophase

Correct Ans. (b)

16. Which of the following is part of mitosis in cells of seed plants?

a. Centrioles
b. Asters
c. Spindles
d. Cleavage furrows

Correct Ans. (c)

17. In plants, meiosis occurs during the formation of:

a. gametes
b. seeds
c. spores
d. zygote

Correct Ans. (c)

18. The prophase I of Meiosis completes in

a. Two stages
b. Three stages
c. Four stages
d. Five stages

Correct Ans. (d)

19. The number of chromosomes in a fertilized egg is:

a. half as many as in unfertilized egg
b. the same as in sperm
c. twice the number as in a sperm
d. twice the number as in somatic cell

Correct Ans. (d)

20. All the somatic cells of a diploid organism originate from a single cell called

a. gamete
b. autosome
c. spore
d. zygote

Correct Ans. (d)

21. If at the end of meiosis, each of the four daughter cells has four chromosomes, how many chromosomes were in the mother cell?

a. 2
b. 4
c. 8
d. 16

Correct ans. (c)

22. At what phase of meiosis are homologous chromosomes separated?

a. Prophase I
b. Anaphase I
c. Prophase II
d. Anaphase II

Correct Ans. (b)

23. The process by which homologous chromosomes being to pair with each other is called.

a. chiasma
b. interkinesis
c. crossing over
d. synapsis

Correct Ans. (d)

24. The points at which crossing over has taken place between homologous chromosomes are called

a. Chiasmata
b. Centromeres
c. Synapsis
d. Centrosomes

Correct Ans. (a)

25. Crossing over occurs during

a. leptotene
b. zygotene
c. pachytene
d. diplotene

Correct Ans. (c)

26. During what phase of meiosis tetrads are form?

a. prophase I
b. prophase II
c. metaphase I
d. metaphase II

Correct Ans. (a)

27. During what phase of meiosis the nuclear envelop breaks down?

a. prophase I
b. metaphase
c. anaphase I
d. telophase I

Correct Ans. (b)

CHAPTER 5

Choose the most appropriate answer:

1. Which of the following is caused by bacteria?

a. Tetanus
b. Measles
c. Malaria
d. Ringworm

Correct Ans. (a)

2. Food can be preserved when pH of the medium is:

a. acidic
b. basic
c. neutral
d. none of these

Correct Ans. (a)

3. They play a role in the making of dairy products:

a. Viruses
b. Bacteria
c. Algae
d. *Plasmodium*

Correct ans. (b)

4. Viruses belong to the group:

a. Prokaryotes
b. Eukaryotes
c. Monera
d. None of these

Correct Ans. (d)

5. Common cold is caused by:

a. Bacteria
b. Viruses
c. Fungi
d. *Plasmodium* Correct Ans. (b)

6. They fix atmospheric Nitrogen:

a. Virus
b. Fungi
c. Bacteria
d. Both A & B

Correct Ans. (c)

7. In lytic life cycle bacterial cell:

a. Continues its normal life processes
b. Bursts and dies
c. Starts division
d. Forms endospore

Correct Ans. (b)

8. Amino acids are present in the cell wall of:

a. Bryophytes
b. Fungi
c. Bacteria
d. Gymnosperms

Correct ans. (c)

9. Inside photosynthetic bacteria, Chlorophyll is:

a. Localized in Chloroplast
b. Present inside Mitochondria
c. Dispersed in the cytoplasm
d. Absent

Correct Ans. (c)

10. In blue-green algae nitrogen fixation occurs in specialized cells called:

a. Harmogonia
b. Akinetes
c. Heterocysts
d. Zygospores

Correct Ans. (c)

11. Under ideal condition a bacterial cell divides about every 20 minutes. It takes 200 minutes to fill a culture tube. How much time will it take to fill a test tube of double size.

a. 400 minutes
b. 220 minutes
c. 240 minutes
d. 300 minutes

Correct Ans. (b)

12. A virus that can reproduce without killing its host is called:

a. lytic virus
b. retroactive virus
c. temprate virus
d. virion

Correct Ans. (c)

13. When a bacteriophage, in its lytic phase carries some of the bacterium's partially digested chromosome with it to another host cell, the process is called:

a. transformation
b. transduction
c. transportation
d. conjugation

Correct Ans. (b)

14. Which of the following is not true of organisms in the kingdom Monera ?

a. they reproduce by mitosis
b. no cellulose cell wall
c. no nuclear envelop
d. have prokaryotic cellular organization

Correct Ans. (a)

15. Slimy capsule of bacteria is made by:

a. lipid
b. protein
c. polysaccharide
d. sucrose

Correct ans. (c)

16. Avery and his colleagues confirmed that the transforming material is that:

a. RNA
b. DNA
c. Protein
d. Lipid

Correct Ans. (b)

17. Which of these is found in viruses:

a. cell membrane
b. ribosome
c. nucleic acid
d. tail and head

Correct Ans. (c)

18. Which of the following is a true statement:

a. viruses carry with them their own ribosome
b. new viral ribosomes form after viral DNA enters the cell
c. viruses use the host ribosomes for protein synthesis
d. none of these

Correct Ans. (c)

19. Which of the following is an example of a viral disease:

a. Tuberculosis
b. AIDS
c. Anthrax
d. Tetanus

Correct Ans. (b)

20. The elimination of bacteria from a medium is called:

a. inoculation
b. sterilization
c. staining

d. fermentation

Correct Ans. (b)

21. Bacteria survive unfavourable condition by:

a. endospore
b. fission
c. conjugation
d. moving

Correct Ans. (a)

22. Which of the following is nonliving character of virus?

a. genetic recombination
b. mutation
c. reproduction
d. crystallization

Correct Ans. (d)

23. Which of the following is not a viral disease?

a. small pox
b. tetanus
c. mumps
d. measles

Correct Ans. (b)

24. Polio virus is:

a. rod-shaped
b. tadpole shaped
c. spiral
d. spherical

Correct Ans. (d)

25. Which of the following is a viral disease?

a. Malaria
b. Crown gall
c. Mumps
d. Pneumonia

Correct Ans. (c)

26. Which of the following character of living things is found in vrisues?

a. respiration
b. genetic recombination
c. photosynthesis
d. all of these

Correct Ans. (b)

27. Which of the following is present in the cytoplasm of prokaryotes?

a. Mitochondria
b. Ribosome
c. Endoplasmic reticulum
d. All of these

Correct Ans. (b)

28. Bacterial are haploid organisms because the number of chromosomes in their cells is:

a. 2
b. 4
c. 8
d. None of these

Correct Ans. (d)

29. Which of the following is present in the cytoplasm of bacterial cell?

a. Glycogen
b. Protein
c. Fats
d. Starch

Correct Ans. (d)

30. Cell membrane of bacterial cell invaginates producing structure called:

a. Polysome
b. Endosome
c. Mesosome
d. Centrosome

Correct Ans. (c)

31. The chlorophyll of photosynthetic bacterial is localized in:

a. nucleus
b. chloroplast
c. mitochondria
d. none of these

Correct Ans. (d)

32. For the preparation of food, chemosynthetic bacteria use:

a. solar energy
b. chemical energy
c. nuclear energy
d. thermal energy

Correct Ans. (b)

33. Curing of tobacco involves:

a. Fungi
b. Algae
c. Cyanobacteria
d. Bacteria

Correct Ans. (d)

34. The conversion of atmospheric nitrogen into nitrates by bacteria is called:

a. Nitrification
b. Nitrogen fixation
c. Denitrification
d. Bacteria

Correct Ans. (b)

35. In the retting of flax and hempcellulose fibers are freed by bacteria which decompose:

a. cellulose
b. pectin
c. starch
d. glycogen

Correct Ans. (b)

36. In blue-green algae photosynthesis takes place in:

a. Chloroplast
b. Chromoplast
c. Extensive system of membranes located at the router edge
d. Mitochondria

Correct Ans. (c)

37. Which of the following diseases of plants is caused by bacterial?

a. Rust
b. Crowngall
c. Smut
d. Powdery mildew

Correct Ans. (b)

38. Which of the following is cultivated in rice fields for the increase of soil fertility?

a. *Anabaena*
b. *Chlamydomonas*
c. *Rhizobium*
d. *Rhizopus*

Correct Ans. (a)

39. Unicellular blue-green algae reproduce by:

a. fragmentation
b. conjugation
c. cell division
d. hormogonia

Correct Ans. (c)

40. Which of the following is enlarged resting cell with thickened walls, large food reserve and DNA?

a. trichome
b. hormogonium
c. ovum
d. akinete

Correct Ans. (d)

41. Which of the following is not true of *Nostoc*?

a. Autotroph
b. Filamentous
c. Unicellular
d. Heterocyst

Correct Ans. (c)

42. Nutrients are returned to the environment by:

a. producers
b. decomposers
c. herbivores
d. carnovores

Correct Ans. (b)

43. Which of the following is caused by bacteria?

a. chicken pox
b. leprosy
c. ring worm
d. AIDS

Correct Ans. (b)

CHAPTER 6

Choose the most appropriate answer:

1. In majority of the Fungi the chief component of the cell wall is:

a. Cellulose
b. Lignin
c. Protein
d. Chitin

Correct Ans. (d)

2. Cellulose is absent in the cell wall of most:

a. Fungi
b. Algae
c. Pteredophytes
d. Bryophytes

Correct Ans. (a)

3. The hyphae of *Rhizopus* are :

a. Non-septate
b. Septate
c. Uninucleate
d. Non of these

Correct Ans. (a)

4. *Rhizopus* is:

a. Parasite
b. Sporophyte
c. Tracheophyte
d. Saprophyte

Correct Ans. (d)

5. The spores of *Rhizopus* are:

a. Motile
b. Non-motile
c. Flagellate
d. Naked Correct Ans. (b)

6. Which of the following is used in cheese production:

a. *Amanita*
b. *Rhizopus*
c. *Penecillium*
d. *Neurospora*

Correct Ans. (c)

7. Smut is caused by:

a. Bacteria
b. Virus
c. Plasmodium
d. Fungi

Correct Ans. (d)

8. Which of the following is a human disease caused by Fungi?

a. Powdery mildew
b. Ring worm
c. Rusts
d. Downy mildew

Correct Ans. (b)

9. *Ulva* is:

a. Unicellular
b. Filamentous
c. Tubular
d. None of these

Correct Ans. (a)

10. Sexual reproduction in which small male gamete is motile while the large female gamete is immotile is called:

a. Isogamy
b. Anisogamy
c. Oogamy
d. Karyogamy

Correct Ans. (d)

11. Mycorrhiza is association of:
a. Root-fungus
b. Stem-fungus
c. Alga-fungus
d. Bacteria-fungus
Correct Ans. (a)

12. Mycorrhizal association is:

a. Parasitic
b. Symbiotic
c. Saprophytic
d. Chlorophytic

Correct Ans. (b)

13. Sporophyte generation produces:

a. Gametes
b. Zygote
c. Embryo
d. Spores

Correct Ans. (d)

14. The chromosome number in the gametes of *Ulva* is:

a. Diploid
b. Triploid
c. Teraploid
d. Monoploid

Correct ans. (d)

15. The number of chromosomes in the cells of the Sporophyte plant body of *Ulva* is:

a. Diploid

b. Triploid
c. Teraploid
d. Monoploid

Correct Ans. (a)

16. *Euglena* is an animal because it lacks:

a. Nucleus
b. Chloroplast
c. Cell wall
d. Cell membrane

Correct Ans. (c)

17. Mycelium is a term used for:

a. Mass of spores
b. Mass of sporangia
c. Mass of hyphae
d. Zoospores

Correct Ans. (c)

18. Root-like hyphae of *Rhizopus* are called:

a. Stolon
b. Sporangiophore
c. Rhizoids
d. Rhizophores

Correct Ans. (c)

19. Pyrenoid is involved in:

a. conversion of sugar into starch
b. Conversion of starch into sugar
c. Synthesis of protein
d. Photosynthesis

Correct Ans. (a)

20. *Stigeoclonium* is:

a. Fresh water unicellular green alga
b. Fresh water multi cellular blue-green alga
c. Fresh water multi cellular green alga
d. Marine multi cellular green alga

Correct Ans. (c)

21. Morels and truffles are:

a. Poisonous
b. Non-edible
c. Delicious
d. None of these

Correct Ans. (c)

22. In *Rhizopus* food is stored in the form of:

a. starch
b. glucose
c. lipid
d. glycogen

Correct Ans. (d)

23. *Amanita* is:

a. Useful
b. Edible
c. Poisonous
d. None of these

Correct Ans. (c)

24. In which of the following reproductive organs are not surrounded by sterile cells?

a. Thallophytes
b. Bryophytes
c. Pteriodophytes
d. Spermatophytes

Correct Ans. (a)

25. Which of the following lack chlorophyll?

a. algae
b. mosses
c. liverworts
d. fungi

Correct Ans. (d)

26. The saprophytes

a. live on living organic matter
b. prepare their own food
c. live on non-living organic matter
d. do not need food

Correct Ans. (c)

27. Which of the following is not the asexual method of reproduction in fungi?

a. fragmentation
b. budding
c. spore formation
d. conjugation

Correct Ans. (d)

28. Which of the following is common method of asexual reproduction in yeasts?

a. budding
b. binary fission
c. multiple fission
d. spore formation

correct Ans. (a)

29. Which of the following is included in sexual reproduction?

a. meiosis
b. fusion of haploid nuclei
c. formation of zygote
d. all of these

Correct Ans. (d)

30. The hyphae of *Rhizopus* are:

a. without nuclei
b. Uninucleate
c. Binucleate
d. Multinucleate

Correct Ans. (d)

31. Which of the following constitute the body of *Rhizopus?*

a. Stolon
b. Sporangiophores
c. Rhizoids
d. All of these

Correct Ans. (d)

32. Which of the following anchor the *Rhizopus* and absorb nutrients?

a. Stolon
b. Rhizoids
c. Sporangiophores
d. None of these

Correct Ans. (b)

33. Which of the following form a network over the surface of the food?

a. stolon
b. rhizoids
c. Sporangiophores
d. All of these

Correct Ans. (a)

34. The dome shaped structure formed in the sporangium of *Rhizopus* is called:

a. crown
b. corona
c. columella
d. calyptra

Correct Ans. (c)

35. Each gametangium in *Rhizopus* contains:

a. One nucleus
b. Two nuclei
c. Many nuclei
d. No nucleus

Correct Ans. (c)

36. Which of the following is adaptation of fungi for terrestrial mode of life?

a. production of zoospores
b. heterotrophic mode of nutrition
c. presence of cell wall
d. absence of flagellated spores

Correct Ans. (d)

37. Which of the following is not true of zygospore of *Rhizopus*?

a. without a wall
b. has diploid nuclei
c. has a thick wall

d. resistant to unfavourable condition

Correct Ans. (a)

38. Which of the following has been used extensively in understanding the principles of inheritance?

a. *Rhizopus*
b. *Agaricus*
c. *Neurospora*
d. *Penecillium*

Correct Ans. (c)

39. Which of the following is edible?

a. *Amanita*
b. Morels
c. *Rhizopus*
d. All of these

Correct Ans. (b)

40. Which of the following causes rusts in cereals?

a. *Rhizopus*
b. *Penecillium*
c. *Puccinia*
d. *Neurospora*

Correct Ans. (c)

41. Which of the following causes smut in wheat?

a. *Phytophthora*
b. *Ustilago*
c. *Agaricus*
d. *Aspergillus*

Correct Ans. (b)

42. Which of the following diseases is not caused by fungi?

a. potato blight
b. fire-blight
c. powdery mildew
d. downy mildew

Correct ans. (b)

43. Athletes foot disease in man caused by:

a. *Epidermophyton*
b. *Penecillium*
c. *Rhizopus*
d. *Agaricus*

Correct Ans. (a)

44. Which of the following is useful activity of fungi?

a. decomposition of food
b. causing diseases
c. recycling nutrient by decomposing organic compounds
d. destroying of timbers

Correct Ans. (c)

45. Which of the following is not present in *Chlamydomonas*?

a. cup-shaped chloroplast
b. eye spot
c. nucleus
d. central vacuole

Correct Ans. (d)

46. Which of the following is the method of asexual reproduction in *Chlamydomonas?*

a. budding
b. fragmentation
c. Akinetes formation
d. Zoospore formation

Correct Ans. (d)

47. Meiosis in *Stigeoclonium* occurs:

a. before gamete formation
b. after gamete formation
c. in the zygote
d. during zoospore formation

Correct Ans. (c)

48. Which of the following genera exhibits an alternation of generations, with haploid and diploid multicellular phase?

a. *Chlamydomonas*
b. *Stigeoclonium*
c. *Ulva*
d. *Euglena*

Correct Ans. (c)

49. In which of the following multicellular haploid phase alternates with unicellular diploid phase?

a. *Chlamydomonas*
b. *Stigeoclonium*
c. *Ulva*
d. *Euglena* Correct Ans. (c)

50. Which of the following statement is true of Fungi Imperfecti?

a. produce gametes
b. reproduce sexually
c. have sexual phase
d. lack sexual phase

Correct Ans. (d)

51. Zygotes of species in the group Thallophyta

a. do not develop into embryo with in the parent plant
b. are flagellated
c. have triploid nuclei
d. form from the union of diploid cells

Correct Ans. (a)

52. Where there is alternation of generation, the diploid multicellular plant is called:

a. gametophyte
b. saprophyte
c. Sporophyte
d. Parasite

Correct Ans. (c)

53. Which of the following is mismatched?

a. *Rhizopus*_____ *heterotrophic*
b. Pink bread mold _____ Penecillium
c. *Stigeoclonium* _____ heterotrichous
d. *Ulva* _____ marine

Correct Ans. (b)

54. Which of the following is the characteristic of all fungi?

a. autotrophic
b. parasitic
c. saprophytic
d. heterotrophic

Correct Ans. (d)

55. The fusion of two motile dissimilar gametes is called:

a. Isogamy
b. Anisogamy
c. Oogamy
d. somatogamy

Correct Ans. (b)

56. Zygospores are generally absent in a culture of *Rhizopus* hyphae developed from a single spore due to:

a. deficiency of nutrients
b. excess of nutrients
c. presence of plus and minus strains
d. absence of plus and minus strains

Correct Ans. (d)

CHAPTER 7

Choose the most appropriate answer:

1. They retain zygote after fertilization in the female reproductive organ which develops into an embryo:

   a. Algae
   b. Fungi
   c. Cyanobacteria
   d. Bryophytes

   Correct Ans. (d)

2. It is much more uniform habitat and better supplied with nutrients:

   a. Land
   b. Air
   c. Water
   d. Ice

   Correct Ans. (c)

3. The reproductive organs of moss plants are located on the:

   a. Side of stem
   b. Base of stem
   c. Tip of stem
   d. Axil of leaves

   Correct Ans. (c)

4. The dominant generation in Bryophytes is:

   a. Sporophyte
   b. Gametophyte
   c. Saprophyte
   d. Tracheophyte

   Correct Ans. (b)

5. Antheridium produces:

   a. Eggs
   b. Sperms
   c. Spores
   d. Zygotes

   Correct Ans. (b)

6. The sex organs of moss plant are:

   a. Unicellular
   b. Bicellular
   c. Tricellular
   d. Multicellular

   Correct Ans. (d)

7. The large nonmotile egg formed in heterogamy is full of:

   a. stored food
   b. water
   c. air
   d. waste matter

   Correct Ans. (a)

8. Embryos are present in all:

   a. Bryophytes
   b. Vascular plants
   c. Algae
   d. Both A & B

   Correct Ans. (d)

9. The zygote in moss plant divides and produces:

   a. Sperms
   b. Eggs
   c. Embryo
   d. Spores

   Correct ans. (c)

10. In moss plant, spore on germination develops into:

   a. Sporophyte
   b. Gametophyte
   c. Liverworts
   d. Pteredophytes

   Correct Ans. (b)

11. In Moss plant:

a. Gametophyte is dependent on Sporophyte
b. Sporophyte is dependent on gametophyte
c. Both are independent from each other
d. Both are dependent on each other for food

Correct Ans. (b)

12. Alternation of generation:

a. Increases the chances of survival
b. Decreases the chances of survival
c. Does not affect survival
d. None of these

Correct Ans. (a)

13. Meiosis (reduction division) in moss plant occurs:

a. Before gametes formation
b. Before spore formation
c. After spore formation
d. After gametes formation

Correct ans. (b)

14. Which of the following have unicellular reproductive organs?

a. mosses
b. algae
c. liverworts
d. Pteredophytes

Correct Ans. (b)

15. Which of the following characteristics are adopted by organisms for life on land?

a. multicellular plant body
b. heterogamy
c. formation of embryos
d. all of these

Correct ans. (d)

16. Which of the following is an example of liverworts?

a. *Funaria*
b. *Marchantia*
c. *Ulva*
d. *Penecillium*

Correct Ans. (b)

17. The diffusion of oxygen and carbon dioxide in bryophytes take place through the:

a. epidermal cells
b. stomata
c. pores in the epidermis
d. cuticle

Correct Ans. (c)

18. The female sex organs in moss plant are called:

a. archegonia
b. antheridia
c. sporangia
d. oogonia

Correct Ans. (a)

19. Which of the following are produced in archegonia?

a. sperms
b. eggs
c. ovules
d. spores

Correct Ans. (b)

20. Which of the following produces embryo with in the parent plant?

a. *Rhizopus*
b. *Ulva*
c. *Funaria*
d. *Stigeoclonium*

Correct Ans. (c)

21. The alternation of generation in moss plant is:

a. isomorphic
b. heterosporic
c. isogamic
d. heteromorphic

Correct Ans. (d)

22. The gametophyte of a moss plant is:

a. Monoploid
b. Diploid
c. Triploid
d. Polyploidy

Correct Ans. (a)

23. Which of the following is mismatched in bryophytes?

a. archegonia _____ eggs
b. Antheridia _____ spores
c. Bryophytes ___ non __vascular plants
d. Gametophyte ____ dominant

Correct Ans. (b)

24. A moss sperm moves by means of:

a. pseudopodia
b. one flagellum
c. two flagella
d. none of these

Correct Ans. (c)

25. The bryophyte sperm attracted to the egg by:

a. moving currents of water
b. chemical secretions
c. opposite electric charges
d. none of these

Correct Ans. (b)

26. Embryonic development of the bryophyte zygote takes places in the:

a. protonema
b. sporogonium
c. Antheridium
d. archegonium

Correct Ans. (d)

CHAPTER 8

Choose the most appropriate answer:

1. They are non-vascular plants:

a. Hosrsetails
b. Conifers
c. Club mosses
d. Liverworts

Correct Ans. (d)

2. They are water conducting cells of xylem tissue:

a. parenchyma
b. sclera chyma
c. trachieds
d. sieve tubes

Correct Ans. (c)

3. It is dominant generation in tracheophytes:

a. Gametophyte
b. Saprophyte
c. Sporophyte
d. Thallophyte

Correct Ans. (c)

4. It is the oldest vascular plants:

a. *Psilotum*
b. *Selaginella*
c. *Lycopodium*
d. *Equisetum*

Correct Ans. (a)

5. It is a fossil vascular plant:

a. *Rhynia*
b. *Psilotum*
c. *Pinus*
d. *Lycopodium*

Correct Ans. (a)

6. The branches of primitive vascular plants are:

a. U-shaped
b. V-shaped
c. Y-shaped
d. W-shaped

Correct Ans. (c)

7. Xylem in the stem of primitive vascular plants is:

a. absent
b. external to phloem
c. none of these

Correct Ans. (C)

8. The number of veins in Megaphyllous leaf is:

a. One
b. Two
c. Three
d. Many

Correct Ans. (d)

9. The first step in the evolution of Megaphyllous leaf is called:

a. Webbing
b. Formation of out growth
c. Planation
d. Plantation

Correct Ans. (c)

10. In *Selaginella*, roots are produced from leafless branches called:

a. Rhizoids
b. Rhizomorph
c. Rhizophores
d. Sporophore

Correct Ans. (c)

11. The stem of *Selaginella* does not contain:

a. xylem
b. Phloem
c. Cambium
d. Epidermis

Correct Ans. (c)

12. Male gametophyte develops from:

a. Archegonium
b. Antheridium
c. Megaspore
d. Microspore

Correct Ans. (d)

13. The embryo of *Selaginella* develops into:

a. Gametophyte
b. Thallophyte
c. Saprophyte
d. Sporophyte

Correct Ans. (d)

14. Production of two types of spores is called:

a. Microspory
b. Megaspory
c. Homospory
d. Heterospory

Correct Ans. (d)

15. All seed plants are:

a. Homosporous
b. Isogamous
c. Heterosporous
d. None of these

Correct Ans. (c)

16. Megaspore develops into:

a. Male gametophyte
b. Female gametophyte
c. Male Sporophyte
d. Female Sporophyte

Correct Ans. (b)

17. Pollen tube is required for the production of:

a. Embryo
b. Spore
c. Zygote
d. Seed

Correct Ans. (d)

18. Integumented mega sporangium in which megaspore is retained is called:

a. Ovule
b. Seed
c. Embryo
d. Pollen tube

Correct Ans. (a)

19. In *Selaginella* the embryo develops into:

a. Root, stem, leaves and cotyledons
b. Root, stem, leaves and flowers
c. Root, stem, leaves and seeds
d. Root, stem, leaves and fruits

Correct Ans. (a)

20. Primitive vascular paints had sporangia at:

a. Axils of leaves
b. Bases of branches
c. Tips of branches
d. Both A & B

Correct Ans. (c)

21. Which one of the following is necessary for the development of seed?

a. introduction of Heterospory
b. retention of the megaspore within mega sporangium
c. development of pollen tube
d. all of these

Correct Ans. (d)

22. Which of the following are non-vascular plants?

a. club mosses
b. ferns
c. mosses
d. conifers

Correct Ans. (c)

23. In tracheophyte the Sporophyte generation is

a. dependent
b. dominant
c. without leaves
d. without roots

Correct Ans. (b)

24. Which of the following is not the character of gametophyts in tracheophyte?

a. large
b. reduced
c. short lived
d. small

Correct Ans. (a)

25. Which of the following do not produce seeds?

a. ferns
b. club mosses
c. horse tails
d. all of these

Correct Ans. (d)

26. The Pteredophytes are also called lower vascular plants because they:

a. contain cambium
b. do not produce seeds
c. produce flowers
d. non of these

Correct Ans. (b)

27. Which of the following do not have true leaves?

a. *Psilotum*
b. *Selaginella*
c. *Equisetum*
d. *Lycopodium*

Correct Ans. (d)

28. The oldest known vascular plants were widespread about

a. 300 million year ago
b. 400 million years ago
c. 500 million year ago
d. 600 million year ago

Correct Ans. (a)

29. In which of the following only the stem performs the function of photosynthesis?

a. *Psilotum*
b. *Selaginella*
c. *Lycopodium*
d. *Equisetum*

Correct Ans. (a)

30. Which of the following number of rows of leaves are present on the stem of *Selaginella?*

a. two
b. four
c. five
d. six

correct Ans. (b)

31. Which of the following is not the part of *Selaginella* plant?

a. Stem
b. Root
c. Seed
d. Leaves

Correct Ans. (c)

32. Reproductive leaves produced at the ends of upright branches in *Selaginella* are called:

a. sporophylls
b. sporangia
c. sporocarps
d. spermatia

Correct Ans. (a)

33. In *Selaginella,* sporangia are produced:

a. at the lower margins of leaves
b. on the lower surface of leaves
c. in the axils of sporophyll
d. on the upper surface of sporophylls

Correct Ans. (c)

34. Megaspores are produced inside

a. microsporangia
b. megasporangia
c. archegonia
d. antheridia

Correct Ans. (b)

35. Meiosis in *Selaginella* occurs

a. before zygote germination
b. before gametes formation
c. before spores formation
d. after spore formation

correct Ans. (c)

36. In *Selaginella* sperms are transported to the egg through

a. insects
b. water
c. pollen tube
d. air

correct Ans. (b)

37. Which of the following are trends towards seed habit exhibited by *Selaginella?*

a. Heterospory
b. Presence of pollen tube
c. Non-flagellated sperms
d. Dependency on water for fertilization

Correct Ans. (a)

38. In which of the following sporangium is enveloped in a leaf?

a. *Equisetum*
b. *Psilotum*
c. *Selaginella*
d. *Lycopodium*

Correct Ans. (d)

39. The sporangia of horsetail (*Equisetum)* cones are produced

a. in the axils of leaves
b. on the tip of branches
c. on little branches
d. enveloped in leaf

Correct Ans. (c)

40. In which of the following sporangia are not properly protected?

a. *Pines*
b. *Psilotum*
c. *Selaginella*
d. *Lycopodium*

Correct Ans. (b)

41. Which of the following is not the character of seed plants?

a. Heterospory
b. Presence of pollen tube
c. Dependency on water for fertilization
d. Development of seed

Correct Ans. (c)

42. Which of the following are the characteristics of the ovule?

a. presence of integument
b. retention of megaspore
c. maturation into seed
d. all of these

Correct Ans. (d)

43. Which of the following helped the seed plants to adapt to a wide variety of environments?

a. Heterospory
b. Presence of roots
c. No dependency on external water for fertilization
d. Production of leaves

Correct Ans. (c)

44. Sperms are transported to the egg in seed plants through?

a. water
b. pollen tube
c. insects
d. air

Correct Ans. (b)

45. A plant in the division Tracheophyta has a Sporophyte with

a. isogametes
b. flagellated and motile eggs
c. vessels that transport fluids
d. no independent life

correct Ans. (c)

46. In *Selaginella*, of the two cells formed by the first division of zygote, only one develops into an embryo while the other grows into an elongated structure called.

a. rhizophore
b. radical
c. suspensor
d. prothallus

Correct Ans. (c)

CHAPTER 9

Choose the most appropriate answer:

1. Which of the following belongs to Gymnosperm group:

a. *Cedrus*
b. Wheat
c. Sugar cane
d. Tobacco

Correct Ans. (a)

2. The leaves produced by the *Pinus* plant are:

a. One type
b. Two types
c. Three types
d. Four types

Correct Ans. (b)

3. *Pinus* produces:

a. Cones
b. Fruits
c. Flowers
d. None of these

Correct Ans. (a)

4. The numb of microsporangia in each sporophyll of male cone of *Pinus* is:

a. One
b. Two
c. Three
d. Four

Correct Ans. (b)

5. Megaspore divides by mitosis and forms:

a. Male gametophyte
b. Male Sporophyte
c. Female gametophyte
d. Female Sporophyte

Correct Ans. (c)

6. The seed of *Pinus* germinates and forms new:

a. Sporophyte
b. Micro gametophyte
c. Thallophyte
d. Mega gametophyte

Correct Ans. (a)

7. The endosperm in Angiosperm is:

a. Monoploid
b. Triploid
c. Diploid
d. Teraploid

Correct Ans. (b)

8. The Endosperm in Gymnosperms is:

a. Triploid
b. Diploid
c. Monoploid
d. Tetraploid

Correct Ans. (c)

9. Antheridia are produced by:

a. Pine
b. Pea
c. Mustard
d. None of these

Correct Ans. (d)

10. They lack secondary growth:

a. Gymnosperms
b. Angiosperms
c. Pteredophytes
d. Both A & B

Correct Ans. (c)

11. Which of the following produce flowers?

a. Bryophytes
b. Pterdophytes
c. Gymnosperms
d. Angiosperms

Correct Ans. (d)

12. When calyx and corolla are not distinguishable, they are collectively called:

a. Panicle
b. Pedicel
c. Protoplast
d. Perianth

Correct Ans. (d)

13. It is a racemose inflorescence in which the main axis is elongated and the flowers are sessile:

a. Corymb
b. Umbel
c. Capitulum
d. Spike

Correct Ans. (d)

14. In *Cassia fistula* the inflorescence is:

a. Typical raceme
b. Typical cyme
c. Umbel
d. Catkin

Correct Ans. (a)

15. A branched raceme is called:

a. Panicle
b. Capitulum
c. Umbel
d. Corymb

Correct Ans. (a)

16. In which of the following, flowers are sessile and crowded together on a short axis?

a. Umbel
b. Corymb
c. Panicle
d. Capitulum

Correct Ans. (d)

17. *Iberis* (Candytuft) is an example of:

a. Spike
b. Catkin
c. Corymb
d. Cyme

Correct Ans. (c)

18. In *Euphorbia*, the inflorescence is:

a. Uniparous
b. Biparous
c. Multiparous
d. None of these

Correct Ans. (c)

19. In wind pollinated flowers the petals are:

a. Large
b. Coloured
c. Scented
d. Small and dry

Correct Ans. (d)

20. *Triticum aestivum* belongs to the family:

a. Solanaceae
b. Poaceae (Graminae)
c. Brassicaceae
d. Leguminosae

Correct Ans. (b)

21. Female gametophyte of an angiosperm consists of:

a. 3 cells
b. 5 cells
c. 7 cells
d. 9 cells

Correct Ans. (c)

22. The male gametophyte of an angiosperm consists of:

a. one cell
b. 2 cells
c. 3 cells
d. 4 cells

Correct Ans. (c)

23. Endosperm mother cell is:

a. Monoploid
b. Diploid
c. Triploid
d. Tetraploid

Correct Ans. (b)

24. Their cotyledons absorb the endosperm tissue and are greatly enlarged:

a. Castor oil
b. Rice
c. Corn
d. Bean

Correct Ans. (d)

25. The protective covering (integument) of the ovule is transformed into:

a. Embryo
b. Cotyledon
c. Hypocotyl
d. Seed coat (testa)

Correct Ans. (d)

26. Which of the following produces winged fruits ?

a. Guavas
b. *Cocklebur*
c. *Dodonaea*
d. Coconut

Correct Ans. (c)

27. It is an underground stem that is short, thickened, and fleshy containing food material:

a. Rhizome
b. Tuber
c. Corm
d. Bulb

Correct Ans. (c)

29. Which of the following type of stem is found in iris:

a. Rhizome
b. Tuber
c. Corm
d. Bulb

Correct Ans. (a)

30. Potato is an example of

a. Rhizome
b. Tuber
c. Corm
d. Bulb

Correct Ans. (b)

31. Organisms in this kingdom are made of prokaryotic cells:

a. Protista
b. Plantae
c. Fungi
d. Monera

Correct Ans. (d)

32. Ovary is oblique in:

a. Brassicaceae (Cruciferae)
b. Solanaceae
c. Leguminosae
d. Graminae

Correct Ans. (b)

33. *Raphanus sativus* is the botanical name of:

a. Turnip
b. Tomato
c. Radich
d. Mustard

Correct Ans. (c)

34. Their roots contain nitrogen fixing bacteria:

a. Tomato
b. Potato
c. Legumes
d. Maize

Correct Ans. (c)

35. The sporangia of conifers are located on the

a. tips of needles
b. scales of the cones
c. bases of the needles
d. axils of the branches

Correct Ans. (b)

36. The microspore of conifers divides by mitosis to produce a

a. multicellular embryo
b. male Sporophyte
c. male gametophyte
d. female gametophyte

Correct Ans. (c)

37. The plant body of a *Pinus* is

a. gametophyte

b. saprophyte
c. Sporophyte
d. Parasite

Correct Ans. (c)

38. In *Pinus* plant megaspore

a. is released from the asporangium before germination
b. is never released from the mega sporangium
c. is released from the mega sporangium after germination
d. develops into male gametophyte

Correct Ans. (b)

39. In how much time the process of seed formation is completed in Pinus?

a. one year
b. two years
c. three years
d. four years

Correct Ans. (c)

40. Which of the following is not shared by both the Pteridophytes and Gymnosperms?

a. presence of vascular tissues
b. presence of archegonia
c. presence of antheridia
d. dominant Sporophyte generation

Correct Ans. (c)

41. Which of the following characters are shared by both the Gymnosperms and Angiosperms?

a. Heterospory
b. Seed production
c. Pollen tube formation
d. All of these

Correct Ans. (d)

42. Which of the following characters is not shared by both the Gymnosperms and Angiosperms?

a. presence of vessels
b. pollen tube
c. seed production
d. Heterospory

Correct Ans. (a)

43. Which of these is not the characteristic of an Angiosperm?

a. enclosed seed
b. presence of archegonia
c. double fertilization
d. triploid endosperm

Correct Ans. (b)

44. Which of the following is an example of spike?

a. *Brassica*
b. *Achyranthus*
c. *Iberis*
d. *Cassia*

Correct Ans. (b)

45. Which of the following is an example of Biparous cyme?

a. *Silene*
b. *Tradescantia*
c. *Begonia*
d. *Euphorbia*

Correct Ans. (a)

46. In which of the following endosperm is involved in the process of fertilization?

a. Gymnosperms
b. Pteredophytes
c. Angiosperms
d. Algae

Correct Ans. (c)

47. Which of the following is part of an embryo?

a. hypocotyls
b. radical
c. epicotyl
d. all of these

Correct Ans. (d)

48. Which of the following is not part of an embryo?

a. cotyledon
b. endosperm
c. plumule
d. epicotyl

Correct Ans. (b)

49. In which of the following the endosperm tissue continues to grows as the ovule matures into a seed?

a. corn
b. bean
c. pea
d. gram

Correct Ans. (a)

50. Which of the following is not the feature of flowers pollinated by wind?

a. small petals
b. abundance of pollen grains
c. production of nectar
d. large feathery structure of the tip of pistils

Correct Ans. (c)

51. Which of the following is the character of insect pollinated flowers?

a. large petals
b. coloured petals
c. production of nectar
d. all of these

Correct Ans. (d)

52. In the life cycle of angiosperms meiosis occurs

a. during seed formation
b. before seed formation
c. after spore formation
d. during gametes formation

Correct Ans. (b)

53. Which of the following is not the part of Sporophyte of an angiosperm?

a. sperm
b. roots
c. leaves
d. stem

Correct Ans. (a)

54. The corn grain is a/an

a. seed
b. embryo
c. spore
d. fruit with a single seed

Correct Ans. (d)

55. The number of cotyledons present in bean seed is:

a. one
b. two
c. three
d. four

Correct Ans. (b)

56. Which of the following is the number of cotyledons in corn seed?

a. one
b. two
c. three

d. four

Correct Ans. (a)

57. The fruits of which of the following are provided with hooks?

a. *Dodonaea*
b. Cocklebur
c. Coconut
d. Grapes

Correct Ans. (b)

58. Which of the following generally possesses only primary wood?

a. Monocotyledons
b. Gymnosperms
c. Dicotyledons
d. All of these

Correct Ans. (a)

59. Which of the following fruits are parthenocarpic?

a. apples
b. oranges
c. mangoes
d. bananas

Correct Ans. (d)

60. In which of the following the thalamus forms the edible part of the fruit?

a. pea
b. apple
c. grapes
d. mango

Correct Ans. (b)

61. The chief characteristic of the succulents is that the bulk of the plant body is composed of

a. food storage cells
b. water storage cells
c. reproductive cells
d. dead cells

Correct Ans. (b)

62. Which of the following is reduced if the leaves are succulents in the succulent plants?

a. stem
b. roots
c. flowers
d. fruits

Correct Ans. (a)

63. Which of the following is not the characteristic of the succulents?

a. well developed cuticle
b. low rate of transpiration
c. volume of the shoot is less in proportion to the surface exposed
d. volume of the shoot is great in proportion to the surface exposed

Correct Ans. (d)

64. Which of the following has stored food in the form of sugars?

a. stem tuber
b. bulb
c. corm
d. rhizome

Correct Ans. (b)

65. Which of the following established rules for binomial nomenclature?

a. H.C. Gram
b. C. Linnaeus
c. R. Whittaker
d. Stanley

Correct Ans. (b)

66. Which of the following established five kingdom system of the living organisms?

a. Stanley

b. C. Linnaeus
c. Lederberg
d. R. Whittaker

Correct Ans. (d)

67. Which of the following is not the characteristic of Gymnosperm?

a. stem
b. root
c. flower
d. leaf

Correct Ans. (c)

68. Which of these is an example of uniparous cyme?

a. *Euphorbia*
b. *Tradescantia*
c. *Ipomoea*
d. *Achyranthes*

Correct Ans. (b)

69. Which of the following is the approximate number of species in the family Brassicaceae (Cruciferae)?

a. 2000
b. 3000
c. 4000
d. 5000

Correct Ans. (b)

70. *Sisymbrium irio* belongs to the family

a. Solanaceae
b. Fabaceae
c. Brassicaceae (Cruciferae)
d. Poaceae

Correct Ans. (c)

71. Which of the following belongs to the family Solanaceae?

a. *Cicer arietinum*
b. *Iberis amara*
c. *Zea mays*
d. *Capsicum annum*

Correct Ans. (d)

72. In which of the following families Gynoecium consists of only one pistil?

a. Leguminosae (Fabaceae)
b. Solanaceae
c. Brassicaceae
d. None of these

Correct Ans. (a)

73. Which of the following are adapted to survival under conditions of a limit supply of water?

a. Bryophytes
b. Hydrophytes
c. Xerophytes
d. Mesophytes

Correct Ans. (c)

74. Which of the following has hollow stem between the nodes?

a. Poaceae (Graminae)
b. Solanaceae
c. Leguminosae
d. All of these

Correct Ans. (a)

75. In which of the following flowers are produced in dense spikes?

a. Solanaceae
b. Leguminosae
c. Brassicaceae
d. Graminae

Correct Ans. (d)

76. Which of these is mismatched?

a. pollen grain _____ male gametophyte
b. sunflower _____ umbel
c. Gymnosperm _____ cones
d. Potato _____ stem tuber

Correct Ans. (b)

77. Which of these is found in seed plants?

a. complex vascular system
b. pollen grain to replace swimming sperm
c. retention of the megaspore with in the mega sporangium
d. all of these

Correct Ans. (d)

78. Which of these is mismatched?

a. anthers _____ produces microsporangia
b. pistil _____ produces pollen
c. ovule _____ becomes seed
d. ovary _____ becomes fruit

Correct Ans. (b)

79. Which of the following is monocot family?

a. Cruciferae
b. Solanaceae
c. Leguminosae
d. Graminae

Correct Ans. (d)

80. Which of the following are seedless vascular plants?

a. mosses
b. horsetails
c. liverworts
d. legumes

Correct Ans. (b)

81. All embryophytes have life cycle with

a. seeds
b. flowers
c. fruits
d. alternation of generation

Correct Ans. (d)

82. Which of the following contains stored food for the germination of embryo?

a. stigma
b. endosperm
c. pollen grain
d. root

Correct Ans. (b)

83. In which of the following food is not stored in the endosperm of the seed?

a. corn
b. castor oil
c. bean
d. wheat

Correct Ans. (c)

84. Which of the following stores food in the cotyledon of the seed?

a. corn
b. wheat
c. castor oil
d. bean

Correct Ans. (d)

85. Which of these does not develop from the zygote of an angiosperm?

a. endosperm
b. cotyledon

c. radical
d. plumule

Correct Ans. (a)

86. Which of these remain underground during hypogeal mode of germination?

a. plumule
b. cotyledon
c. epicotyl
d. none of these

Correct Ans. (b)

87. Phylogeny describes a species

a. reproductive compatibilities with other species
b. evolutionary history
c. morphological similarities with other species
d. geographic distribution

Correct Ans. (d)

88. Of all the taxa, the only one that exists in nature as a biologically cohesive unit is the:

a. species
b. genus
c. order
d. kingdom

Correct Ans. (a)

89. The part of the embryo between the point of attachment of cotyledons and the radicle is called the:

a. hypocotyls
b. epicotyl
c. suspensor
d. plumule

Correct Ans. (a)

90. The part of the axis of embryo above the attachment of cotyledon is called the

a. plumule
b. epicotyl
c. radicle
d. hypocotyl

Correct Ans. (b)

91. In the seeds of leguminous plants, food is stored in the

a. endosperm
b. testa
c. taegmen
d. cotyledons

Correct Ans. (d)

CHAPTER 10
Choose the most appropriate answer:

1. Which of the following is the asexual method of reproduction in Protozoa?

a. Isogamy
b. An-isogamy
c. Oogamy
d. Budding

Correct Ans. (d)

2. Which of the following sexual method of reproduction is absent in Protozoa?

a. Oogamy
b. Isogamy
c. Anisogamy
d. Conjugation

Correct Ans. (a)

3. Which of these is shelled protozoan?

a. *Plasmodium*
b. *Paramecium*
c. *difflugia*
d. *Amoeba*

Correct Ans. (c)

4. Which of these is not the characteristic of Proifera?

a. aquatic habitat
b. pores
c. Multicellular
d. Presence of organs

Correct Ans. (d)

5. Members of the porifera reproduce sexually by

a. Oogamy
b. Isogamy
c. As-isogamy
d. Somatogamy

Correct Ans. (a)

6. Which of these is a fresh water sponge?

a. *Sycon*
b. *Leucosolenia*
c. *Spongilla*
d. *Euplectella*

Correct Ans. (c)

7. Coelenterates are:

a. predominantly freshwater
b. predominantly marine
c. predominantly terrestrial
d. terrestrial and freshwater

Correct Ans. (b)

8. Which of these is not the character of Coelenterates?

a. primitive plan of organization
b. no left and right sides of the body
c. radical symmetry
d. bilaterial symmetry

Correct Ans. (d)

9. The sac-like internal digestive cavity of coelenterates is called:

a. enteron
b. nematocytes
c. exeron
d. stomach

Correct Ans. (a)

10. Which of these is the characteristic of coelenterates?

a. digestive cavity with a single aperture
b. presence of nematocytes
c. presence of tentacles
d. all of these

Correct Ans. (d)

11. The units of the colonies of coelenterates is called:

a. zoospores
b. zooids
c. cysts
d. akinetes

Correct Ans. (b)

12. Which of the following is polymorphism in coelenterates?

a. production of one type of zooids
b. production of two types of zooids
c. production of may types of zooids
d. all of these

Correct Ans. (c)

13. Which of these are sexually reproductive zooids?

a. medusae
b. hydroids
c. nematocytes
d. none of these

Correct Ans. (a)

14. Which of the following produce hard exoskeletion?

a. jelly fish
b. Hydra
c. Obelia
d. Corals

Correct Ans. (d)

15. Which of these develops from the endoderm?

a. nervous system
b. lining of the gut
c. reproductive system
d. skeleton

Correct Ans. (b)

16. Which of these develops from the mesoderm?

a. circulatory system
b. integumentary system
c. nervous system
d. digestive system

Correct Ans. (a)

17. Organisms possessing true body cavity are called:

a. acoelomata
b. coelomata
c. monoblastic
d. diplobalstic

Correct Ans. (b)

18. Which of these are acoelomatic triploblastic animals?

a. corals
b. porifera
c. platyhelminthes
d. protozoans

Correct Ans. (c)

19. Which of the following character is exhibited by platyhelminthes?

a. eggs without yolk
b. simple reproductive system
c. all are parasites
d. none of these

Correct Ans. (d)

20. Which of these belong to platyhelminthes?

a. Ascaris
b. Fasciola
c. Trichinella
d. Hydra

Correct Ans. (b)

Correct Ans. (c)

21. Trichinella belongs to:

a. protozoa
b. platyhelminthes
c. nematode
d. coelenterate

Correct Ans. (c)

22. Which of the following has a body cavity called pseudocoelom?

a. platyhelminthes
b. coelenterate
c. protozoa
d. nematode

Correct Ans. (d)

23. Which of the following is parasite in the intestine man?

a. Fasciola
b. Plasmodium
c. Taenia
d. Planaria

Correct Ans. (c)

24. Which of these belong to the phylum nematoda?

a. planaria
b. dracunculus
c. corals
d. planaria

Correct Ans. (b)

25. Which of the following causes sleeping sickness?

a. vorticella
b. Ascaris
c. Trypanosome
d. Taenia

Correct Ans. (c)

26. Which of the following has segmented body?

a. coelenterate
b. protozoa
c. platyhelminthes
d. annelida

Correct Ans. (d)

27. Which of these is not true of Annelida?

a. Presence of cuticle around the body
b. Segmented body
c. Lack of blood vascular system
d. Presence of true body cavity

Correct Ans. (c)

28. Which of these possesses true body cavity (coelom)?

a. Annelia
b. Nematoda
c. Platyhelminthes
d. Coelenterata

Correct Ans. (a)

29. Which of these is an example of Annelida?

a. Ascaris
b. Chaetopteris
c. Trichinella
d. Taenia

Correct Ans. (c)

30. Of all the animal species in the animal kingdom the number of arthropod species constitutes almost:

a. 75%
b. 50%
c. 25%

d. 10%

Correct Ans. (a)

31. The number of pairs of legs in insects are:

a. one
b. two
c. three
d. four

Correct Ans. (c)

32. Mollusks are:

a. presence of envelop around the body
b. highly organized body with complex systems
c. segmented body
d. bilaterally symmetrical body

Correct Ans. (c)

33. Which of these is the habitat of mollusca?

a. freshwater
b. marine
c. mountains
d. all of these

Correct Ans. (d)

34. Coiled shell is present in

a. bivalves
b. gastropods
c. cephalopods
d. all of these

Correct Ans. (b)

35. Which of the following are exclusively marine?

a. Mollusca
b. Annelida
c. Nematoda
d. Echinodermata

Correct Ans. (d)

36. Which of these is not true of Echinodermata?

a. coelomata
b. bilaterally symmetrical
c. absence of brain
d. absence of head

Correct Ans. (b)

37. Which of the following protozoans lives in the gust termites and helps them digest cellulose?

a. Plasmodium
b. Amoeba
c. Trichonympha
d. Trypanosome

Correct Ans. (c)

38. Most sponges are

a. bilaterally symmetrical
b. radially symmetrical
c. vertically symmetrical
d. asymmetrical

Correct Ans. (d)

39. Water exits from a sponge through the

a. spicule
b. osculum
c. choanocyte
d. choanocyte

Correct Ans. (b)

40. Which of the following is a radially symmetrical animal?

a. Planaria
b. Rotifer
c. Fluke
d. Sea anemone

Correct Ans. (d)

41. The body cavity of roundworms is called

a. acoelom
b. pseudo-acoelom
c. pseudo coelom
d. coelom

Correct Ans. (c)

CHAPTER 11
Choose the most appropriate answer:

1. The characters of vertebrates are:

   a. presence of vertebral column
   b. internal living skiliton
   c. three main body parts
   d. all of these

   Correct Ans. (d)

2. Vertebrates are:

   a. bilaterally symmetrical
   b. radially symmetrical
   c. vertically symmetrical
   d. asymmetrical

   Correct Ans. (a)

3. Which of these is not true of Pisces?

   a. presence of gills for breathing
   b. tail as organ of locomotion
   c. undeveloped skull
   d. absence of middle ear

   Correct Ans. (c)

4. Which of these are regarded as the first of the vertebrates?

   a. bony fishes
   b. jawless fishes
   c. cartilaginous fishes
   d. all of these

   Correct Ans. (b)

5. Sharks belong to

   a. cartilaginous fishes
   b. bony fishes
   c. jawless fishes
   d. none of these

   Correct Ans. (a)

6. Jellyfish fish belongs to
   a. bony fishes
   b. cartilaginous fishes
   c. jawless fishes
   d. none of these

   Correct Ans. (d)

7. Which of the following are without jaws?

   a. dogfish
   b. trout
   c. pike
   d. none of these

   Correct Ans. (d)

8. Which of these has cartilaginous skeleton?

   a. sharks
   b. eel
   c. pike
   d. rohu

   Correct Ans. (a)

9. Which of the following is the character of amphibians?

   a. living both in water and on land
   b. cold blooded
   c. least numerous of the terrestrial vertebrates
   d. all of these

   Correct Ans. (d)

10. Which of these is not true of amphibians?

    a. breathing by gills in the larval stage
    b. breathing by lunge in the adult stage
    c. mostly internal fertilization
    d. cold blooded

    Correct Ans. (c)

11. Salamander is an example of

    a. bony fishes
    b. jawless fishes
    c. amphibians
    d. cartilaginous fishes

    Correct Ans. (c)

Correct Ans. (b)

12. Which of the following is not the character of amphibians?

a. cold blooded
b. do not depend on water for reproduction
c. hibernate in winter
d. breath by gills in the larval stage

Correct Ans. (b)

13. Reptiles are

a. warm blooded
b. cold blooded
c. with internal fertilization
d. with a scaly skin

Correct Ans. (b)

14. Which of these is not true of reptiles?

a. internal fertilization
b. predominantly terrestrial
c. tetrapods
d. dependent on water for reproduction

Correct Ans. (d)

15. Which of these is not the character of reptiles?

a. fertilization is internal
b. eggs are large shelled
c. lay eggs in water
d. cold blooded

Correct Ans. (c)

16. Which of the following is the character of reptiles?

a. dipods
b. tetrapods
c. pentapods
d. polypods

Correct Ans. (b)

17. The heart of reptiles is

a. imperfectly two chambered
b. imperfectly three chambered
c. imperfectly four chambered
d. eight chambered

Correct Ans. (c)

18. Which of the following is true of reptiles?

a. do not lay eggs
b. lay eggs in water
c. lay eggs on land
d. eggs are without yolk

Correct Ans. (c)

19. In reptiles amnion and allantois are extra membranes of:

a. egg
b. sperm
c. zygote
d. embryo

Correct Ans. (d)

20. Which of these is an example of amphibian?

a. sea horse
b. rohu
c. newt
d. snake

Correct Ans. (c)

21. Which of these is extinct reptile?

a. Turtles
b. Brontosaurus
c. Snake
d. Alligator

Correct Ans. (b)

22. Which of these do the Reptiles and Aves not share?

a. Similar embryonic development
b. Presence of forelimbs
c. Shelled eggs
d. Scales on hind limbs

Correct Ans. (b)

23. Which of these is not true of birds?

a. cold blooded
b. heavy bones
c. weak pectoral muscles
d. all of these

Correct Ans. (d)

24. Which of the following birds cannot fly?

a. Rhea
b. Cassowary
c. Penguin
d. All of these

Correct Ans. (d)

25. In mammals fertilization is

a. absent
b. internal
c. external
d. both internal and external

Correct Ans. (b)

26. The ear of mammals is divided into

a. three parts
b. four parts
c. five parts
d. six parts

Correct Ans. (a)

27. The skin of mammals is provided with sweat glands for

a. respiration
b. temperature regulation
c. oily secretion
d. blood movement regulation

Correct Ans. (b)

28. Which of these is not the mammalian character?

a. presence of hairs
b. right aortic arch
c. diaphragm
d. well developed large brain

Correct Ans. (b)

29. Which of these is not true of the egg laying mammals?

a. feeding young with milk
b. presence of hairs
c. diaphragm
d. right aortic arch

Correct Ans. (d)

30. Which of these are the placental mammals?

a. prototherians
b. metatherians
c. eutherians
d. all of these

Correct Ans. (c)

31. Metatherians

a. lay eggs
b. have to teeth in the adult
c. do not have true placenta
d. have spiny skin

Correct Ans. (c)

32. Flying mammals are included

a. Rodentia
b. Chiroptera
c. Primates
d. Cetacean

Correct Ans. (b)

33. Elephants are included in

a. carnivore
b. perissodactyla

c. artiodactyla
d. proboscidia

Correct Ans. (d)

34. Artiodactyla include

a. moles
b. cattle
c. horses
d. wolves

Correct Ans. (b)

35. In Which of the following young are born in rudimentary conditions?

a. kangaroos
b. zebras
c. elephants
d. bats

Correct Ans. (a)

36. The vertebrates are

a. all unisexual
b. all hermaphrodite
c. some unisexual and some hermaphrodite
d. all neuter (without sex)

Correct Ans. (a)

CHAPTER 12

DIVERSITY IN FUNCTION PLANTS WATER RELATIONS: PHOTOSYNTHESIS

Choose the most appropriate answer:

1. The water of guttation is forced out of the leaves by:

a. Diffusion
b. Root Pressure
c. Imbibition
d. Active transport

Correct Ans. (b)

2. The movement of solvent molecules through a semi-permeable membrane from a region of low solute concentration to a region of high solute concentration is:

a. Diffusion
b. Plasmolysis
c. Osmosis
d. Active transport

Correct Ans. (c)

3. The osmotic pressure of a solution

a. increases with increase in concentration of solute
b. decrease with increase in concentration of solute

c. remains unchanged with increase in concentration of sol
d. none of these

Correct Ans. (a)

4. The transport of substances from a region of its lower concentration to its higher concentration is called:

a. Osmosis
b. Imbibition
c. Active transport
d. Passive transport

Correct Ans. (c)

5. The taking up of a liquid by a substance with the resultant swelling in volume is called:

a. Plasmolysis
b. Imbibitions
c. Diffusion
d. Active transport

Correct Ans. (b)

6. Germination of seed involves the rupturing of seed coat because of:

a. Osmosis
b. Imbibitions
c. Diffusion
d. Active transport

Correct Ans. (b)

7. The shrinkage of protoplasm due to ex-osmosis of water from the cell is called:

a. Osmosis
b. Deplasmolysis
c. Plasmolysis
d. Imbibition

Correct Ans. (c)

8. The process where by water moves through the plants is known as :

a. Transpiration
b. Translocation
c. Guttation
d. Osmosis

Correct Ans. (b)

9. Which of the following conducts water inside plant body?

a. phloem
b. xylem
c. cortex
d. pith

Correct Ans. (b)

10. The exudation of water drops from the leaves of intact plants is:

a. guttation
b. transpiration
c. evaporation
d. transportation

Correct Ans. (a)

11. In which of the following assimilates move along the concentration gradient?

a. sieve tubes
b. xylem vessels
c. trachieds
d. fibers

Correct Ans. (a)

12. Which of the following percentage of transpiration usually occurs through the stomata?

a. 30%
b. 50%
c. 60%
d. 90%

Correct Ans. (d)

13. The combined area of total stomatal pores as compared to the total leaf area is almost:

a. 1-2%
b. 3-4%
c. 5-6%
d. 7-8%

Correct Ans. (a)

14. The number of stomata per square centimeter of leaf surface of tobacco leaf is almost:

a. 1200
b. 2100
c. 12000
d. 21000

Correct Ans. (c)

15. The processes involved in stomatal transpiration are:

a. 2
b. 4
c. 8
d. 6

Correct Ans. (a)

16. When leaf cells are fully turgid, the transpiration rate is:

a. high
b. medium
c. low
d. not affected

Correct Ans. (a)

17. The rate of water evaporation doubles for every temperature rise of:

a. 10 ^{o}C
b. 20 ^{o}C
c. 5 ^{o}C
d. 25 ^{o}C

Correct Ans. (a)

18. Oxygen gas released during photosynthesis is comes from:

a. Water
b. CO_2
c. Glucose
d. None of these

Correct Ans. (a)

19. Chlorophylls c, d and e are present in:

a. Angiosperms
b. Gymnosperms
c. Bacteria
d. Algae

Correct Ans. (d)

20. Chlorophyll is a large molecule with a central core of:

a. Iron
b. Sulphur
c. Nitrogen
d. Magnesium

Correct Ans. (d)

21. Chlorophyll mainly absorbs red light and:

a. Green light
b. Yellow light
c. Blue light
d. Orange light

Correct Ans. (c)

22. In the photo system II, high energy electrons of chlorophyll molecule are accepted by:

a. PC
b. PQ
c. NAD
d. ATP

Correct Ans. (B)

23. During light reaction of photosynthesis, ATP formation occurs when electrons are transported between cytochrome:

a. a and b
b. b and c
c. b and f
d. c and f

Correct Ans. (c)

24. High energy electrons in photo system I are transferred from FRS to:

a. ATP
b. PC
c. NADP
d. PQ

Correct Ans. (C)

25. As a first identifiable product of the dark reaction is:

a. PGA
b. PGAL
c. Glucose
d. RuBP

Correct Ans. (c)

26. Light reaction of photosynthesis occurs in:

a. Granum
b. Stroma
c. Mitochondria
d. Leucoplast

Correct Ans. (a)

27. The break down of water molecule (photolysis) in photosynthesis occurs during:

a. light reaction
b. dark reaction
c. Glycolysis
d. Krebs cycle

Correct Ans. (a)

28. The wave lengths of red light are in the range of:

a. 400-500 nm
b. 500-550 nm
c. 600-650 nm
d. 700-750 nm

Correct Ans. (d)

29. Which of the following are the principal photoreceptors in the chloroplast of green plants?

a. Chlorophyll b and c
b. Chlorophyll a and b
c. Chlorophyll and d
d. Chlorophyll d and c

Correct Ans. (b)

30. The sequence of electron acceptors in the light reaction is

a. PQ---cyf f---cyt b----PC
b. PQ---PC---Cytb----Cyt f
c. PQ---PC---Cyt f----Cytb
d. PQ---Cyt b---Cyt f----PC

Correct Ans. (d)

31. Which of the following is the source of hydrogen in the glucose molecule formed during photosynthesis?

a. Water
b. CO_2
c. ATP
d. NADP

Correct Ans. (a)

32. Which of the following are products of light reaction?

a. $NADPH_2$ and Water

b. $NADPH_2$ and ATP
c. ADP and ATP
d. $NADPH_2$ and Glucose

Correct Ans. (b)

33. In the dark reaction, ATP and $NADPH_2$ react with:

a. RuBP
b. PGA
c. PGAL
d. Glucose

Correct Ans. (c)

34. Chlorophyll "a" occurs in all Photosynthetic plants except:

a. Green algae
b. Blue green algae
c. Angiosperms
d. Pigment containing bacteria

Correct Ans. (d)

35. When the fluid outside a cell has a greater concentration of a given molecule than the fluid inside the cell, the external fluid is

a. isotonic
b. hypertonic
c. hypotonic
d. ultratonic

Correct Ans. (b)

36. The osmotic pressure of pure water is:

a. 0
b. 1
c. 10
d. 100

Correct Ans. (a)

37. The water potential of all solutions as compared to pure water is always:

a. higher
b. lower
c. equal
d. none of these

Correct Ans. (b)

38. The wavelengths of visible light are longer than the wavelengths of

a. infrared
b. ultraviolet
c. microwaves
d. radio waves

Correct Ans. (b)

39. The wavelengths of visible light are shorter than the wavelengths of

a. infrared
b. ultraviolet
c. x-rays
d. gamma rays

Correct Ans. (a)

40. Which of the following colours of light work best for photosynthesis?

a. Red
b. Yellow
c. Blue
d. Both a and c

Correct Ans. (d)

41. Which of the following is the worlds most common protein?

a. cellulose
b. ribulose biphosphate carboxylase
c. insulin
d. diastase

Correct Ans. (b)

42. Photophosphorrylation in a chloroplast is mot similar to which of the following mitochondrial reaction?

a. substrate-level phosphorylation
b. oxidative phosphorylation
c. oxidative decarboxylation
d. hydrolysis

Correct Ans. (b)

43. A photosystem is an assemblage of pigment molecules together ranging from

a. 10 – 100
b. 100 – 200
c. 200 – 400
d. 400 – 500

Correct Ans. (c)

44. The final acceptor of electrons during the light reaction of photosynthesis is:

a. Cyt. F
b. Cyt. B
c. ATP
d. NADP

Correct Ans. (d)

45. Which of the following is obtained from phosphoglyceraldehyde in the dark reaction of photosynthesis?

a. phosphoglyceric acid
b. glucose
c. carbon dioxide
d. plastoquinone

Correct Ans. (b)

46. Which of the following conditions in a plant cell would increase the uptake of water?

a. osmotic pressure is higher than the turgor pressure
b. osmotic pressure is equal to turgor pressure
c. osmotic pressure is less than the turgor pressure
d. both a and c

Correct Ans. (a)

47. Which of the following would occur when a plant cell is packed in a fluid with high osmotic concentration than the cell sap?

a. imbibition
b. Plasmolysis
c. Deplasmolysis
d. Diffusion

Correct Ans. (b)

48. With the increase of ions in the xylem its water potential becomes

a. more positive
b. more negative
c. zero
d. neutral

Correct Ans. (b)

49. Water potential of a liquid increases when solute concentration

a. Increases
b. Decreases
c. Remains unchanged
d. None of these

Correct Ans. (b)

50. Which of the following is not true of the exudation of water?

a. water drops come out through stomata
b. water drops come out through hydathodes
c. water is forced out of the leaves by root pressu
d. water drops are not formed by dew

Correct Ans. (a)

51. Water in the xylem vessel will ascend up until

a. its cohesive and adhesive strength is more than the gravitational pull
b. gravitational pull is higher then the cohesive and adhesive strength of water
c. sufficient water is available in the soil
d. it is used in the photosynthesis

Correct Ans. (a)

52. Plants do not store carbohydrates as glucose because it

a. dissolves in water, thereby altering the osmotic bala
b. attracts insects herbivores
c. is an unstable molecule
d. would replace ribose in DNA synthesis

Correct Ans. (a)

53. Which of the following processes is responsible for the entry of water into root hair?

a. wall pressure
b. osmotic pressure
c. turgor pressure
d. atmospheric pressure

Correct Ans. (b)

54. Which of the following forces are responsible for the ascent of water in plant body?

a. atmospheric pressure
b. root pressure
c. transpiration pull
d. both b and c

Correct Ans. (d)

55. Of the total sunlight reaching the earth, the percentage used in the photosynthesis is:

a. 2%
b. 20%
c. 30%
d. 50%

Correct Ans. (a)

56. Which of the following products of light reaction of photosynthesis is not used in the dark reaction?

a. ATP
b. $NADPH_2$
c. Oxygen
d. None of these

Correct Ans. (c)

57. The empirical formula of chlorophyll a is:

a. $C_{55}\ H_{72}\ O_5\ N_4\ Mg$
b. $C_{55}\ H_{70}\ O_5\ N_3\ Mg$
c. $C_{56}\ H_{72}\ O6_6\ N_4\ Mg$
d. $C_{55}\ H_{74}\ O_5\ N_5\ Mg$

Correct Ans. (a)

58. Which of the following is true of chlorophyll?

a. absorbs all types of waves of sunlight
b. containing iron atom in the center
c. containing magnesium atom in the center
d. present in all cells of green plants

Correct Ans. (c)

59. The most effective light absorbed by the chlorophyll is:

a. yellow
b. orange
c. green
d. none of these

Correct Ans. (d)

60. Photosystem I has an absorption spectrum of wavelengths of around

a. 600 nm
b. 650 nm
c. 680 nm
d. 700 nm

Correct Ans. (d)

61. Which of the following is not necessary for photosynthesis?

a. CO_2
b. Chlorophyll
c. H_2O
d. Oxygen

Correct Ans. (d)

62. In photosystem II, the electrons lost by reaction center are replaced by electrons from

a. H_2O
b. $C_2\,O$
c. Photosystem I
d. ATP

Correct Ans. (a)

CHAPTER 13

Choose the most appropriate answer:

1. In animals the product of anaerobic respiration is:

a. Butyric acid
b. Alcohol
c. Glucose
d. Lactic acid

Correct Ans. (d)

2. The process of Glycolysis takes place in:

a. Mitochondria
b. Cytoplasm
c. Stroma
d. Granum

Correct Ans. (b)

3. In electron transport chain, one pair of electrons passing from $NAD_{reduced}$ to oxygen produces

a. 4 ATP
b. 3 ATP
c. 2 ATP
d. 1 ATP

Correct Ans. (B)

4. From which of the following plants gain weight?

a. Respiration
b. Transpiration
c. Photosynthesis
d. Fermentation

Correct Ans. (c)

5. Cambium is responsible for increase in:

a. Length
b. Photosynthesis
c. Diameter
d. Transpiration

Correct Ans. (c)

6. In which of the following cells elongate parallel to the long axis of the stem or root?

a. Pith
b. Trachieds
c. Cortex
d. Parenchyma

Correct Ans. (b)

7. Spiral thickenings of the walls of cells occur in:

a. Parenchyma
b. Chlorenchyma
c. Xylem vessels
d. Cortex

Correct Ans. (c)

8. The molecule which actually enters the Krebs cycle is:

a. Pyruvic acid
b. Acetyl-CoA
c. Oxao acetic acid
d. Fumaric acid

Correct Ans. (b)

9. In the Krebs cycle oxaloacetic acid reacts with:

a. Pyruvic acid
b. Citric acid
c. Acetyl-CoA
d. Succinic acid

Correct Ans. (c)

10. One ATP molecule is generated during the Krebs cycle in the step:

a. citric acid ---------- Alpha Ketoglutatic acid
b. Alpha Ketoglutatic acid ------- Succinic acid
c. Succinic acid ---------- Fumaric acid
d. Fumaric acid---------- Malic acid

Correct Ans. (b)

11. It involves the liberation of Oxygen and absorbtion of CO_2

a. Aerobic respiration
b. Anaerobic respiration
c. Photosynthesis
d. Both A & B

Correct Ans. (c)

12. At the end of the electron transport chain during respiration, electrons are accepted by:

a. NAD
b. FAD
c. Oxygen
d. Hydrogen

Correct Ans. (c)

13. During growth fibers elongate greatly:

a. At right angle to the long axis
b. Parallel to the long axis
c. Obliquely to the long axis
d. In all directions

Correct Ans. (b)

14. Which of these is the naturally occurring auxins?

a. Indole acetic acid
b. 2, 4-D
c. Abscisic acid
d. Butyric acid

Correct Ans. (a)

15. The application of Auxin in small amount:

a. Stimulate the growth of leaves
b. Retard the growth of leaves
c. Suppress the growth of leaves
d. Does not affect the growth of laves

Correct Ans. (d)

16. Which of these increases the growth rate of isolated cells in a test tube?

a. Auxins
b. Cytokinins
c. Gibberellins
d. None of these

Correct Ans. (b)

17. Chrysanthemum indicum is a:

a. Short day plant
b. Long day plant
c. Day neutral plant
d. Both A & B

Correct Ans. (a)

18. Thigmotropism is a growth movement in response to:

a. sunlight
b. gravity
c. water
d. touch

Correct Ans. (d)

19. Which one of the following properties are shared by photosynthesis and aerobic respiration?

a. CO_2 consumption
b. ATP synthesis
c. O_2 release
d. Glucose synthesis

Correct Ans. (b)

20. The function of cellular respiration is to

a. make ATP
b. make NADPH
c. get rid of glucose
d. get rid of carbon dioxide

Correct Ans. (a)

21. Each chemical reaction in cellular respiration requires

a. a molecule of ATP
b. a molecule of FAD
c. a molecule of NAD
d. a specific enzyme

Correct Ans. (d)

22. The term anaerobic means

a. with glucose
b. with oxygen
c. without glucose
d. without oxygen

Correct Ans. (d)

23. Which of the following processes makes direct use of oxygen?

a. Glycolysis
b. Fermentation
c. Electron transport chain
d. Krebs cycle

Correct Ans. (c)

24. How many ATP molecules are formed during one turn of Kreb's cycle?

a. zero
b. 1
c. 2
d. 3

Correct Ans. (b)

25. Glycolysis is a process found in

a. only eukaryotic cells
b. only prokaryotic cells
c. only most muscle cells
d. virtually all cells

Correct Ans. (d)

26. How many molecules of oxygen gas are used during the Glycolysis of one glucose molecule?

a. non
b. 1
c. 6
d. 38

Correct Ans. (a)

27. Phosphoglyceraldehyde is oxidized during Glycolysis. What happens to the hydrogen atoms that are removed during this oxidation?

a. They oxidize NAD
b. They reduce NAD
c. They are transferred to Pyruvic acid
d. They are eliminated in the form of methane

Correct Ans. (b)

28. During the first step of Glycolysis, glucose is converted to glucose phosphate. The phosphate group comes from

a. inorganic phosphate
b. phospholipids of the membrane
c. ADP
d. ATP

Correct Ans. (d)

29. Which of the following is not true of Glycolysis?

a. substrate level phosphorylation takes place
b. the end products are carbon dioxide and water
c. ATP is formed
d. ATP is used

Correct Ans. (b)

30. Which of the following is not formed during alcohol fermentation?

a. acetyl coenzyme A
b. Pyruvic acid
c. Ethanol
d. Carbon dioxide

Correct Ans. (a)

31. Which of the following is the end product of anaerobic respiration in animals?

a. ethyl alcohol
b. lactic acid
c. carbon dioxide
d. water

Correct Ans. (b)

32. In the conversion of Pyruvic acid to acetyl coenzyme A, Pyruvic acid is:

a. oxidized
b. reduced
c. broken into one carbon fragment
d. isomerized

Correct Ans. (a)

33. At the end of the Krebs cycle, most of the energy removed from the glucose molecule has been transferred to:

a. $NADH_2$ and $FADH_2$
b. ATP
c. Oxaloacetic acid
d. Citric acid

Correct Ans. (a)

34. In the electron transport system, the final acceptor electrons is

a. cytochrome c
b. cytochrome a
c. oxygen
d. FAD

Correct Ans. (c)

35. In aerobic respiration, most of the ATP is synthesized during

a. Glycolysis
b. Oxidation of Pyruvic acid
c. The Krebs cycle
d. Electron transport

Correct Ans. (d)

36. How may ATP molecules are formed inside mitochondria from the breakdown of one glucose molecule?

a. 32 ATP
b. 36 ATP
c. 38 ATP
d. 40 ATP

Correct Ans. (b)

37. During electron transport, each molecule of $FADH_2$ produces a maximum of

a. 2 ATP
b. 3 ATP
c. 6 ATP
d. 8 ATP

Correct Ans. (A)

38. Fatty acids enter cellular respiration as:

a. one carbon fragment
b. two carbon fragments
c. three carbon fragments
d. long chain carbon

Correct Ans. (b)

39. In a eukaryotic cell, the Krebs cycle and electron transport chain take place

a. on the rough endoplasmic reticulum
b. in the cytoplasm
c. with in the nucleus
d. within the mitochondria

Correct Ans. (d)

40. The main advantage of aerobic respiration over anaerobic respiration is that:

a. less carbon dioxide is released
b. more energy is released from each glucose molecule
c. fats and proteins are not used
d. more carbon dioxide is released

Correct Ans. (b)

41. A molecule of ADP differs form a molecule of ATP in that it has

a. diamine instead of thymine
b. fever phosphate groups
c. more phosphate groups
d. more energy

Correct Ans. (b)

42. Shoot apical meristem cells are distinct from other stem cells because of their

a. small size
b. enlarged water vacuole
c. thick cell wall
d. triploid nuclei

Correct Ans. (a)

43. New leaves are formed from the

a. shoot apical meristem
b. vascular cambium
c. lateral buds
d. pericycle

Correct Ans. (a)

44. Most of a plant's auxin is produced in its

a. leaves
b. lateral buds
c. shoot apex
d. root apical meristem

Correct Ans. (c)

45. The main effect of auxin is to stimulate

a. division
b. enlargement
c. differentiation
d. turgor

Correct Ans. (b)

46. Cytokinins stimulate cell

a. division
b. enlargemen
c. wall thickening
d. turgor

Correct Ans. (a)

47. When its terminal bud is moved, plant grows more

a. tall
b. bushy
c. slowly
d. rapidly

Correct Ans. (b)

48. Which of the following delays the normal process of aging in leaves?

a. auxins
b. gibberellins
c. insulin
d. Cytokinins

Correct Ans. (d)

49. Ethylene is an unusual hormone in that it is

a. a gas
b. solid
c. transported by the xylem
d. transported by the phloem

Correct Ans. (a)

50. An important effect of ethylene is to cause maturation of

a. leaf primordial
b. flower
c. fruit
d. stem

Correct Ans. (c)

51. If a short day plant is grown under conditions of long nights and short days and the dark period is interrupted in the middle by a brief exposure to red light, the plant will

a. wilt
b. flower
c. fail to flower
d. die

Correct Ans. (c)

52. If a long day plant is grown under conditions of long nights and short days and the dark period is interrupted in the middle by a brief exposure to red light, the plant will

a. die
b. flower
c. fail to flower
d. wilt

Correct Ans. (b)

53. Which of these is not true of fermentation (anaerobic respiration)?

a. net gain of only 2 ATP
b. occurs in the cytoplasm
c. NADH donates electrons to the electron transport system
d. Beings with glucose

Correct Ans. (c)

54. The transfer of high energy phosphate bonds to ADP by the substrate is called:

a. oxidative phosphorylation
b. substrate level phosphorylation
c. photophosphorylation
d. carboxylation

Correct Ans. (b)

55. Which of the above properties are shared by fermentation, aerobic respiration and photosynthesis?

a. I-II
b. I-IV
c. I-III
d. III-IV

Correct Ans. (c)

56. The asexual production of seeds is called

a. fragmentation
b. fertilization
c. parthenocarpy
d. apomixes (parthenogenesis)

Correct Ans. (d)

57. A hormone that controls closure of stomata in response to water stress is

a. gibberellins
b. Abscisic acid
c. Auxins
d. Cytokinins

Correct Ans. (b)

58. Which of the following cellular organelles extracts energy from carbohydrates and forms ATP molecules?

a. Lysosome
b. Chloroplast
c. Mitochondrion
d. Chromoplast

Correct Ans. (c)

59. The value of respiratory quotient of amino acids is

a. 0
b. 1
c. more than 1
d. less than 1

Correct Ans. (c)

60. The primary plant body is covered with a layer of cells called

a. cuticle
b. epidermis

c. periderm
d. ground tissue

Correct Ans. (b)

61. Root hairs are formed from extension of the

a. ground tissue
b. periderm
c. epidermis
d. cuticle

Correct Ans. (c)

62. Secondary growth involves activity of the

a. root tips
b. shoot tip
c. apical meristem
d. lateral meristem

Correct Ans. (d)

63. The function of root cap is to

a. produce embryonic cells
b. protect the root apical meristem from damage
c. absorb water
d. absorb minerals

Correct Ans. (b)