

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 °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. Chlorenchyma 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:

- 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 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 many membranes comprise the nuclear envelope?

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 energy of sunlight are located within:

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. Proplastids

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 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 cytoplasmic organelles is not bounded by membrane:

- a. Mitochondrion
- 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
- b. More viscous than animal
- c. Equal in viscosity to the 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

Correct Ans. C

9. They catalyze biological reaction form of enzymes:

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

Correct Ans. C

10. Amino Acids in Insulin molecule 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. Glucose and Fructose
- d. Fructose and Galactose

Correct Ans. C

17. They are stored in plant and animal

- 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 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 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 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 great amount of energy:

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

Correct ans. B

39. Which of the following is an example 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

Correct Ans. A

- c. has a certain sequence
acids
d. has a uracil base in its

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 is:

- a. 14 Å
b. 24 Å
c. 34 Å
d. 44 Å

Correct Ans. (c)

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

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

Correct Ans. (c)

50. The formula of glyceraldehyde

- a. $C_3H_5O_3$
b. $C_3H_6O_3$
c. $C_3H_4O_3$
d. $C_3H_6O_4$

Correct Ans. (b)

51. The number of Carbon in oleic

- 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 palmitic acid:

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

Correct ans. (b)

54. Which of these makes cellulose nondigestible:

- 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 molecules

- 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 short arm?

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

Correct Ans. (c)

7. Which of the following chromosome 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

- 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
- b. the same as in sperm
- c. twice the number as in a sperm
- d. twice the number as in somatic

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 form?

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

Correct Ans. (a)

27. During what phase of meiosis the nuclear envelope 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 pro
- b. Bursts and dies
- c. Starts division
- d. Forms endospore

Correct Ans. (b)

8. Amino acids are present in the cell v

- 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
(c)

Corre

16. Avery and his colleagues confirmed 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 state

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

Correct Ans. (c)

19. Which of the following is an exampl
viral disease:

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

Correct Ans. (b)

20. The elimination of bacteria from a m
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 things is found in viruses?

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

Correct Ans. (b)

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

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

Correct Ans. (b)

28. Bacteria are haploid organisms because the number of chromosomes in them is:

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

Correct Ans. (d)

29. Which of the following is present in 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 hemp cellulose 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 membrane located at the outer edge
- d. Mitochondria

Correct Ans. (c)

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

- a. Rust
- b. Crown gall
- c. Smut
- d. Powdery mildew

Correct Ans. (b)

38. Which of the following is cultivated in 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 an enlarged 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. carnivores

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. Pteridophytes
- 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. *Penicillium*
- 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 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 gamete of *Ulva* is:

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

Correct ans. (d)

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

- a. Diploid

- b. Triploid
- c. Tetraploid
- 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. Sporangophore
- 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. Pteridophytes
- 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. Sporangiohores
- 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. Sporangiohores
- 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. Sporangiohores
- 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. *Penicillium*

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. *Penicillium*
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. *Penicillium*
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 within 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 mismatch

- a. *Rhizopus* _____ heterotroph
- b. Pink bread mold _____
Penicillium
- 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. Pteridophytes

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. Pteridophytes

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. *Penicillium*

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 by archegonia?

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

Correct Ans. (b)

20. Which of the following produces embryos within 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 bry zygote takes places in the:

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

Correct Ans. (d)