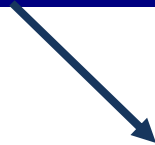


Bilogy MCQ,S

F.Sc

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Medical Entry Test Important MCQS

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)

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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:

- 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 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 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:
- synthesize ribosomes
 - Control what goes into and out of the cell
 - Allow all kinds of substances to enter the cell
 - Move the cell from place to place

Correct ans. B

35. Plant cells are connected by channels through their walls called:
- Plasmodesmata
 - desmosomes
 - middle lamella
 - non of these

Correct ans. A

36. In the fluid mosaic membrane model the lipid bilayer:
- is sandwiched between two protein layers
 - has protein embedded in it
 - lies on top of a single protein layer
 - is covered by a single protein layer

correct ans. B

37. An input of energy is required for which one of the following?
- diffusion
 - osmosis
 - passive transport
 - active transport

Correct ans. D

38. Which of the following cytoplasmic organelles is not bounded by membrane:
- Mitochondrion
 - Lysosome
 - Ribosome
 - 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. Glucose 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 form 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 + H₂O

- 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 Å
- b. 24 Å
- c. 34 Å
- d. 44 Å

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. $C_3H_5O_3$

- 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 palmitic 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. Cytomitosi

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. Zygo spores

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. temperate 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 viruses?

- 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. Bacteria 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 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 membranes located at the outer edge
- d. Mitochondria

Correct Ans. (c)

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

- a. Rust
- b. Crown gall
- 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. 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. *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. Tetraploid
- 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. 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. Sporangiphore
- 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. *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 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 mismatched?

- a. *Rhizopus* _____ heterotrophic
- 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. Zygosporangia 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)

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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. Zygotess

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 in archegonia?

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

- d. spores

Correct Ans. (b)

20. Which of the following produces embryo 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 bryophyte zygote takes place 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 plants 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 gametophytes 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 Pteridophytes 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 num 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. Pteridophytes
- d. Both A & B

Correct Ans. (c)

11. Which of the following produce flowers?

- a. Bryophytes
- b. Pteridophytes
- 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. Pteridophytes
- 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 grow 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 within 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. tegmen
- 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. *diffugia*
- 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. bilateral 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 many 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 exoskeleton?

- 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. diploblastic

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)

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 gut of 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-accelom
- 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
- bony fishes
 - cartilaginous fishes
 - jawless fishes
 - none of these

Correct Ans. (d)

7. Which of the following are without jaws?
- dogfish
 - trout
 - pike
 - none of these

Correct Ans. (d)

8. Which of these has cartilaginous skeleton?
- sharks
 - eel
 - pike
 - rohu

Correct Ans. (a)

9. Which of the following is the character of amphibians?
- living both in water and on land
 - cold blooded
 - least numerous of the terrestrial vertebrates
 - all of these

Correct Ans. (d)

10. Which of these is not true of amphibians?
- breathing by gills in the larval stage
 - breathing by lunge in the adult stage
 - mostly internal fertilization
 - 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)

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. proboscidea

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)

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 °C
- b. 20 °C
- c. 5 °C
- d. 25 °C

Correct Ans. (a)

18. Oxygen gas released during photosynthesis is comes from:

- a. Water
- b. CO₂
- 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. CO₂
- c. ATP
- d. NADP

Correct Ans. (a)

32. Which of the following are products of light reaction?

- a. NADPH₂ and Water
- b. NADPH₂ and ATP
- c. ADP and ATP
- d. NADPH₂ and Glucose

Correct Ans. (b)

33. In the dark reaction, ATP and NADPH₂ 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 world's most common protein?

- a. cellulose
- b. ribulose biphosphate carboxylase
- c. insulin
- d. diastase

Correct Ans. (b)

42. Photophosphorylation in a chloroplast is not 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 pressure
- 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 than 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 balance
 - 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. $\text{C}_{55} \text{H}_{72} \text{O}_5 \text{N}_4 \text{Mg}$
- b. $\text{C}_{55} \text{H}_{70} \text{O}_5 \text{N}_3 \text{Mg}$
- c. $\text{C}_{56} \text{H}_{72} \text{O}_6 \text{N}_4 \text{Mg}$
- d. $\text{C}_{55} \text{H}_{74} \text{O}_5 \text{N}_5 \text{Mg}$

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_2O
- 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 $\text{NAD}_{\text{reduced}}$ 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. Oxalo 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 absorption of CO₂

- 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. Abscissic 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. CO₂ consumption
- b. ATP synthesis
- c. O₂ 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 many 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 from a molecule of ATP in that it has

- a. diamine instead of thymine
- b. fewer 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. enlargement
- 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 primordia
- 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. Begins 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. Absciscic 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)

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