

Water

Correct Ans. b

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

Seeds
Fruits
Leaves
Bark

Correct Ans. (d)

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

8 days
10 days
12 days
14 days

Correct Ans. (c)

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

Vaccine
Bacteria
Antibiotics
Plasmodium

Correct Ans. (a)

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

Latin
Italian
Greek
Arabic

Correct Ans. (b)

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

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

Correct Ans. (c)

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

Merozoite
Sporozoite
Zygote (ookinete)
Gametocyte

Correct Ans. (c)

Fast transport

Correct Ans. (b)

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

Middle lamella
Secondary wall
Primary wall
Plasma membrane

Correct Ans. (c)

11. It is the first to be formed:

Primary wall
Secondary wall
Tertiary wall
Middle lamella

Correct Ans. (a)

12. It is a site of certain metabolic pathways:

Cell wall
Plasma membrane
Cytoplasm
A & B

Correct Ans. (c)

13. The water percentage of cytosol in the cytoplasm is

50
60
70
90

Correct Ans. (d)

14. New Ribosomes are assembled in the :

Nucleolus
Mitochondria
Endoplasmic Reticulum
Golgi Apparatus

Correct Ans. (a)

15. Smooth Endoplasmic Reticulum helps to:

Synthesize proteins
Detoxify the harmful drugs
Prepare food
Decompose proteins

Correct Ans. (b)

Correct Ans. C

22. Nucleic acids are formed of units called:

- Amino acids
- Nucleotides
- Citric acids
- Isoprenoid units

Correct Ans. B

23. Typically a nucleotide is composed of:

- three components
- four components
- five components
- two components

Correct Ans. A

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

- Equal
- Double
- One third
- Half

Correct Ans. D

25. The function of tRNA is:

- To carry genetic information's from DNA to ribosome
- To synthesize protein
- Pick up amino acids and transfer them to ribosomes
- Constitute ribosomes

Correct Ans. C

26. In protoplasm dry matter consists about:

- 90% organic and 10% inorganic compounds
- 70% organic and 30% inorganic compounds
- 60% organic and 40% inorganic compounds
- 50% organic and 50% inorganic compounds

Correct Ans. A

27. Which of the following groups form the nucleotides:

- Sugar _____ Nitrogenous Base _____ Vitamin
- Sugar _____ Vitamin _____ Phosphoric acid
- Sugar _____ Nitrogenous base _____ Phosphoric acid
- Phosphoric acid _____ Nitrogenous base _____ vitamin

Correct Ans. C

48. Distance between twist of DNA molecule is:

- 14 A
- 24 A
- 34 A
- 44 A

Correct Ans. (c)

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

- pentose sugar
- phosphoric acid
- nucleotide
- adenine

Correct Ans. (c)

50. The formula of glyceraldehydes is:

- $C_3 H_5 O_3$
- $C_3 H_6 O_3$
- $C_3 H_4 O_3$
- $C_3 H_6 O_4$

Correct Ans. (b)

51. The number of Carbon in oleic acid is:

- 16
- 18
- 20
- 22

Correct Ans. (b)

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52. Vitamin A is a:

- protein
- wax
- terpenoid
- carbohydrate

Correct Ans. (c)

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

- saturated
- unsaturated
- unbranched
- 16 carbons

Correct ans. (b)

54. Which of these makes cellulose nondigestable:

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Steroid

Correct Ans. (d)

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

the polar bond of water molecule
heat
the presence of oxygen gas
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?

Sutton
Waldeyer
Watson and Crick
Strickberger

Correct Ans. (a)

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

chromatids
chromatin material
shape of the centromeres
position of the centromere

Correct ans. (d)

3. The morphology of the chromosome is best studied during

interphase
prophase
telophase
metaphase

Correct ans. (d)

4. Telocentric chromosomes have centromere located at

one end
both ends
center
one side

Correct Ans. (a)

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

acrocentric
Telocentric
Metacentric
Submetacentric

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

Rust
Crowngall
Smut
Powdery mildew

Correct Ans. (b)

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

Anabaena
Chlamydomonas
Rhizobium
Rhizopus

Correct Ans. (a)

39. Unicellular blue-green algae reproduce by:

fragmentation
conjugation
cell division
hormogonia

Correct Ans. (c)

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

trichome
hormogonium
ovum
akinetete

Correct Ans. (d)

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

Autotroph
Filamentous
Unicellular
Heterocyst

Correct Ans. (c)

42. Nutrients are returned to the environment by:

producers
decomposers
herbivores
carnovores

Correct Ans. (b)

Unicellular
Filamentous
Tubular
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:

Isogamy
Anisogamy
Oogamy
Karyogamy

Correct Ans. (d)

11. Mycorrhiza is association of:

Root-fungus
Stem-fungus
Alga-fungus
Bacteria-fungus
Correct Ans. (a)

12. Mycorrhizal association is:

Parasitic
Symbiotic
Saprophytic
Chlorophytic

Correct Ans. (b)

13. Sporophyte generation produces:

Gametes
Zygote
Embryo
Spores

Correct Ans. (d)

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

Diploid
Triploid
Tetraploid
Monoploid

Correct ans. (d)

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

Diploid
Triploid
Tetraploid
Monoploid

Correct Ans. (a)

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

Nucleus

Chloroplast
Cell wall
Cell membrane

Correct Ans. (c)

17. Mycelium is a term used for:

Mass of spores
Mass of sporangia
Mass of hyphae
Zoospores
Correct Ans. (c)

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

Stolon
Sporangiophore
Rhizoids
Rhizophores

Correct Ans. (c)

19. Pyrenoid is involved in:

conversion of sugar into starch
Conversion of starch into sugar
Synthesis of protein
Photosynthesis

Correct Ans. (a)

20. *Stigeoclonium* is:

Fresh water unicellular green alga
Fresh water multi cellular blue-green alga
Fresh water multi cellular green alga
Marine multi cellular green alga

Correct Ans. (c)

21. Morels and truffles are:

Poisonous
Non-edible
Delicious
None of these

Correct Ans. (c)

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

starch
glucose
lipid
glycogen

Correct Ans. (d)

23. *Amanita* is:

Useful

12. Male gametophyte develops from:

Archegonium
Antheridium
Megaspore
Microspore

Correct Ans. (d)

13. The embryo of *Selaginella* develops into:

Gametophyte
Thallophyte
Saprophyte
Sporophyte

Correct Ans. (d)

14. Production of two types of spores is called:

Microspory
Megaspory
Homospory
Heterospory

Correct Ans. (d)

15. All seed plants are:

Homosporous
Isogamous
Heterosporous
None of these

Correct Ans. (c)

16. Megaspore develops into:

Male gametophyte
Female gametophyte
Male Sporophyte
Female Sporophyte

Correct Ans. (b)

17. Pollen tube is required for the production of:

Embryo
Spore
Zygote
Seed

Correct Ans. (d)

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

Ovule
Seed
Embryo
Pollen tube

Correct Ans. (a)

Catkin
Corymb
Cyme

Correct Ans. (c)

18. In *Euphorbia*, the inflorescence is:

Uniparous
Biparous
Multiparous
None of these

Correct Ans. (c)

19. In wind pollinated flowers the petals are:

Large
Coloured
Scented
Small and dry

Correct Ans. (d)

20. *Triticum aestivum* belongs to the family:

Solanaceae
Poaceae (Graminae)
Brassicaceae
Leguminosae

Correct Ans. (b)

21. Female gametophyte of an angiosperm consists of:

3 cells
5 cells
7 cells
9 cells

Correct Ans. (c)

22. The male gametophyte of an angiosperm consists of:

one cell
2 cells
3 cells
4 cells

Correct Ans. (c)

23. Endosperm mother cell is:

Monoploid
Diploid
Triploid
Tetraploid

Correct Ans. (b)

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

Castor oil
Rice

Correct Ans. (d)

52. In the life cycle of angiosperms meiosis occurs

- during seed formation
- before seed formation
- after spore formation
- during gametes formation

Correct Ans. (b)

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

- sperm
- roots
- leaves
- stem

Correct Ans. (a)

54. The corn grain is a/an

- seed
- embryo
- spore
- fruit with a single seed

Correct Ans. (d)

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

- one
- two
- three
- four

Correct Ans. (b)

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

- one
- two
- three
- four

Correct Ans. (a)

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

- Dodonaea*
- Cocklebur
- Coconut
- Grapes

Correct Ans. (b)

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

Monocotyledons
Gymnosperms
Dicotyledons
All of these

Correct Ans. (a)

59. Which of the following fruits are parthenocarpic?

apples
oranges
mangoes
bananas

Correct Ans. (d)

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

pea
apple
grapes
mango

Correct Ans. (b)

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

food storage cells
water storage cells
reproductive cells
dead cells

Correct Ans. (b)

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

stem
roots
flowers
fruits

Correct Ans. (a)

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

well developed cuticle
low rate of transpiration
volume of the shoot is less in proportion to the surface exposed
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?

stem tuber
bulb
corm
rhizome

lower
equal
none of these

Correct Ans. (b)

38. The wavelengths of visible light are longer than the wavelengths of

infrared
ultraviolet
microwaves
radio waves

Correct Ans. (b)

39. The wavelengths of visible light are shorter than the wavelengths of

infrared
ultraviolet
x-rays
gamma rays

Correct Ans. (a)

40. Which of the following colours of light work best for photosynthesis?

Red
Yellow
Blue
Both a and c

Correct Ans. (d)

41. Which of the following is the world's most common protein?

cellulose
ribulose biphosphate carboxylase
insulin
diastase

Correct Ans. (b)

42. Photophosphorylation in a chloroplast is not similar to which of the following mitochondrial reaction?

substrate-level phosphorylation
oxidative phosphorylation
oxidative decarboxylation
hydrolysis

Correct Ans. (b)

43. A photosystem is an assemblage of pigment molecules together ranging from

10 – 100
100 – 200
200 – 400

Electron transport chain
Krebs cycle

Correct Ans. (c)

24. How many ATP molecules are formed during one turn of Kreb's cycle?

zero
1
2
3

Correct Ans. (b)

25. Glycolysis is a process found in

only eukaryotic cells
only prokaryotic cells
only most muscle cells
virtually all cells

Correct Ans. (d)

26. How many molecules of oxygen gas are used during the Glycolysis of one glucose molecule?

non
1
6
38

Correct Ans. (a)

27. Phosphoglyceraldehyde is oxidized during Glycolysis. What happens to the hydrogen atoms that are removed during this oxidation?

They oxidize NAD
They reduce NAD
They are transferred to Pyruvic acid
They are eliminated in the form of methylene

Correct Ans. (b)

28. During the first step of Glycolysis, glucose is converted to glucose phosphate. The phosphate group comes from

inorganic phosphate
phospholipids of the membrane
ADP
ATP

Correct Ans. (d)

29. Which of the following is not true of Glycolysis?

substrate level phosphorylation takes place
the end products are carbon dioxide and water
ATP is formed
ATP is used

Correct Ans. (b)

30. Which of the following is not formed during alcohol fermentation?

acetyl coenzyme A
Pyruvic acid
Ethanol
Carbon dioxide

Correct Ans. (a)

31. Which of the following is the end product of anaerobic respiration in animals?

ethyl alcohol
lactic acid
carbon dioxide
water

Correct Ans. (b)

32. In the conversion of Pyruvic acid to acetyl coenzyme A, Pyruvic acid is:

oxidized
reduced
broken into one carbon fragment
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:

NADH₂ and FADH₂
ATP
Oxaloacetic acid
Citric acid

Correct Ans. (a)

34. In the electron transport system, the final acceptor electrons is

cytochrome c
cytochrome a
oxygen
FAD

Correct Ans. (c)

35. In aerobic respiration, most of the ATP is synthesized during

Glycolysis
Oxidation of Pyruvic acid
The Krebs cycle
Electron transport

Correct Ans. (d)

36. How many ATP molecules are formed inside mitochondria from the breakdown of one glucose molecule?

32 ATP
36 ATP
38 ATP
40 ATP

Correct Ans. (b)

37. During electron transport, each molecule of FADH₂ produces a maximum of

2 ATP
3 ATP
6 ATP
8 ATP

Correct Ans. (A)

45. The main effect of auxin is to stimulate

division
enlargement
differentiation
turgor

Correct Ans. (b)

46. Cytokinins stimulate cell

division
enlargement
wall thickening
turgor

Correct Ans. (a)

47. When its terminal bud is moved, plant grows more

tall
bushy
slowly
rapidly

Correct Ans. (b)

48. Which of the following delays the normal process of aging in leaves?

auxins
gibberellins
insulin
Cytokinins

Correct Ans. (d)

49. Ethylene is an unusual hormone in that it is

a gas
solid
transported by the xylem
transported by the phloem

Correct Ans. (a)

50. An important effect of ethylene is to cause maturation of

leaf primordial
flower
fruit
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

wilt
flower
fail to flower
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

die
flower
fail to flower
wilt

Correct Ans. (b)

53. Which of these is not true of fermentation (anaerobic respiration)?

net gain of only 2 ATP