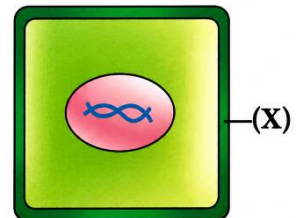




- 1) Which of the following represents the highest level of structural organization in the human body?
- Epithelial tissue
 - Kidney
 - Digestive system
 - Nerve cell
- 2) What is the direct source of stored energy in ATP molecule that is required for the contraction of skeletal muscle?
- Protein.
 - Glucose.
 - Starch.
 - Glycogen.
- 3) Why are carbohydrates considered from the most important sources of energy in the living organism?
- Because they contain energy that is higher than the other substances.
 - Because they are easily stored.
 - Because energy is obtained rapidly from them.
 - Because they can be produced by cells.
- 4) The opposite figure shows the main parts of a plant cell. Study it carefully, then infer:
What polymer is found in the structure of part (X)?
- Starch
 - Glycogen
 - Cellulose
 - Fructose
- 5) Which of the following represents an inorganic molecule found in a living cell?
- Carbohydrate
 - Water
 - Proteins
 - Nucleic acid
- 6) Which of the following groups of elements is most abundant in organic molecules in living organisms?
- Carbon, hydrogen, and oxygen
 - Carbon, nitrogen, and oxygen
 - Carbon, hydrogen, and nitrogen
 - Nitrogen, hydrogen, and oxygen
- 7) Which of the following is not a polymer?
- Proteins
 - Starch
 - Amino acids
 - Nucleic acids
- 8) Which of the following elements is not included in the structure of carbohydrates?
- Carbon
 - Hydrogen
 - Oxygen
 - Nitrogen
- 9) During photosynthesis process, a large number of glucose molecules is produced in the chloroplasts, what is the name of the process by which these molecules stored inside the cell?
- Oxidation.
 - Reduction.
 - Polymerization.
 - Hydrolysis.





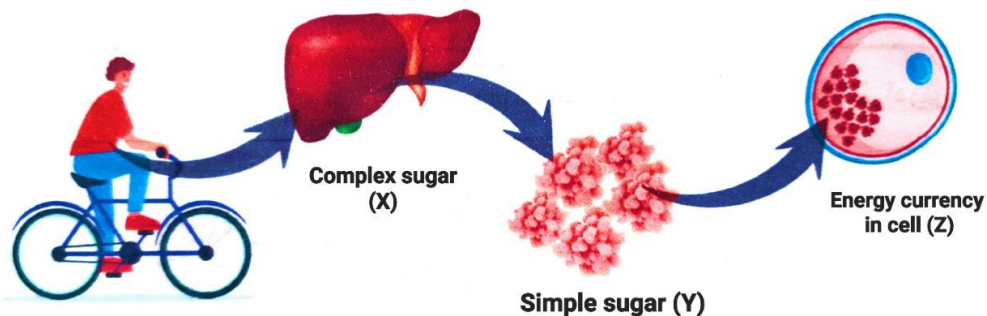
10) Three complex compounds (X), (Y) and (Z):

- The compound (X) is present in the plant cell wall and consists of a large number of glucose molecules.
- The compound (Y) is present in the cell membrane, and the elements (C, H, O, P & N) enter in its structure.
- The compound (Z) is present in the muscles and liver cells of human and consists of a large number of glucose molecules.

Which of the following represents each of (X), (Y) and (Z) respectively?

- a. Glycogen / Cellulose / Phospholipids. b. Cellulose / Phospholipids / Glycogen.
c. Phospholipids / Cellulose / Glycogen. d. Cellulose / Glycogen / Phospholipids.

11) What chemical element distinguishes molecules (Z) from molecules (Y)?



- a. Carbon b. Oxygen c. Phosphorus d. Hydrogen

12) Which of the following is/are not resulted from the hydrolysis of simple and complex lipids?

- a. Cholesterol. b. Testosterone hormone.
c. Estrogen hormone. d. Phospholipids.

13) Which of the following foods would you expect to provide the greatest amount of energy per gram when oxidized in human cells?

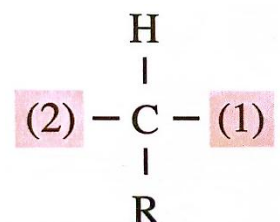
- a. A piece of bread b. A piece of red meat
c. A drop of olive oil d. A piece of cucumber

14) Which of the following elements distinguishes hemoglobin from nucleoproteins?

- a. Nitrogen b. Phosphorus c. Iron d. Iodine

15) In the opposite figure, if structure (1) loses a hydrogen atom (H^+) when a peptide bond is formed. Which of the following represents two groups (1) and (2) respectively?

- a. Amino group / Carboxyl group.
b. Carboxyl group / Amino group.
c. Hydroxyl group / Amino group.
d. Carboxyl group / Hydroxyl group.



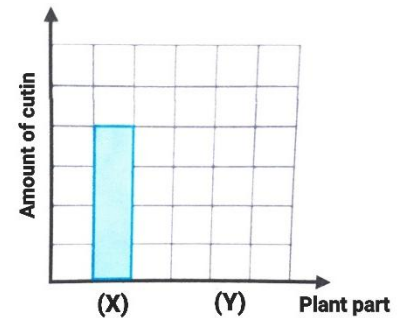


16) The opposite diagram represents the amount of cutin waxy substance in two plant molecules.

Study it well then conclude:

Which of the following plant surfaces might represent (X) and (Y) respectively?

- Leaf of bean plant / cell wall of aquatic Elodea plant.
- Root of cactus plant / Leaf of bean plant.
- Leaf of desert palm plant / Stem of cactus plant.
- The cell wall of aquatic Elodea plant / Root of cactus plant.



17) If proteins are classified according to their function, which of the following is considered from the regulatory proteins?

- Thyroxine.
- keratin.
- Casein.
- Chromatin.

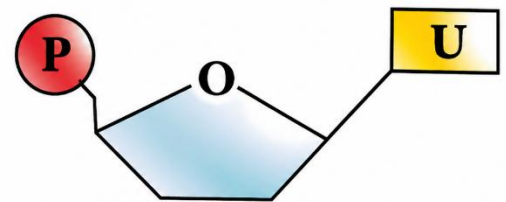
18) Simple goiter (thyroid gland enlargement) can be treated by eating foodstuff which are rich in element.

- phosphorus
- iodine
- iron
- calcium

19) The opposite figure represents the structural unit of nucleic acids.

Which nucleic acid contains this structural unit?

- DNA only
- RNA only
- Both DNA and RNA
- Neither DNA nor RNA



20) Which of the following is responsible for transmitting genetic information from parents to offspring in humans?

- Proteins in body cells
- Lipids in body cells
- DNA nucleotide sequences
- RNA nucleotide sequences

21) Which of the following represents the correct arrangement for the appearance of the genetic traits?

- DNA → Protein → RNA
- Protein → RNA → DNA
- DNA → RNA → Protein
- RNA → Protein → DNA

22) Which of the following represents the carbohydrates in structure of RNA molecule?

- Uracil.
- Ribose.
- Adenine.
- Deoxyribose.

23) In which of the following DNA molecule differs from RNA molecule?

- DNA consists of a single strand and RNA consists of a double strand.
- DNA consists of 4 types of nucleotides and RNA consists of 5 types of nucleotides.
- DNA is present inside nucleus and RNA is present in nucleus and cytoplasm.
- DNA consists of uracil base and RNA contains thymine base.



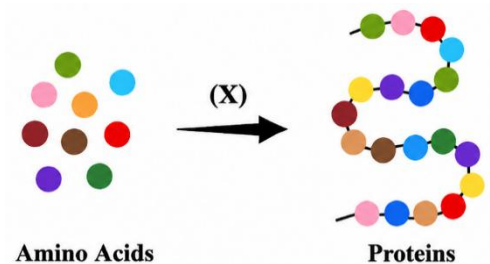
24) Which of the following groups of elements found in both nucleic acids and phospholipids?

- Carbon, hydrogen, and oxygen only.
- Carbon, hydrogen, nitrogen, and phosphorus only.
- Carbon, hydrogen, oxygen, nitrogen, and phosphorus.
- Carbon, hydrogen, oxygen, and sulfur.

25) From the opposite figure:

Which of the following represents process (X)?

- Catabolism / Energy release
- Anabolism / Energy consumption
- Catabolism / Bond breaking
- Anabolism / Release of small molecules



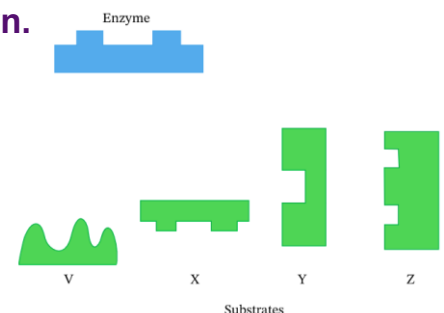
26) Which of the following is an importance of catabolism in the human body?

- Fighting infection
- Building essential biological molecules
- Replacing damaged cells
- Obtaining energy from food

27) A diagram of an enzyme and some substrates is shown.

Which substrate will the enzyme bind to?

- V
- X
- Y
- Z



28) A malfunction of the mitochondria in a cell directly leads to

- Stopping protein synthesis
- Decreased ATP production
- Failure of cell division
- Stopping transpiration

29) Which organelle(s) participate(s) in increasing the number of cells?

- Plastids.
- Lysosome.
- Golgi body.
- Centrosome.

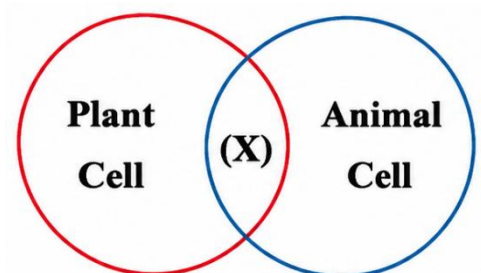
30) The largest amount of ribosomes is found in the cells the produce

- lipids.
- carbohydrates.
- glycogen.
- proteins.

31) Based on your study of the opposite figure:

Which of the following represents the function of organelle (X)?

- Carrying out photosynthesis.
- Carrying out cellular respiration to produce ATP.
- Storing glycogen.
- Filling with water to maintain cell turgidity.

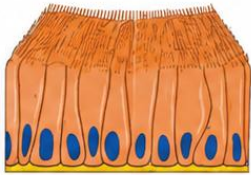




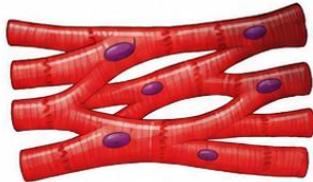
32) Which of the following cells contains the largest amount of lysosomes?

- a. Muscular cell.
- b. Nerve cell.
- c. White blood cell.
- d. Red blood cell.

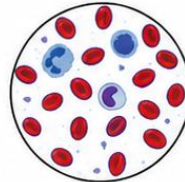
33) Which of the following tissues is responsible for transporting digested food to the different body tissues?



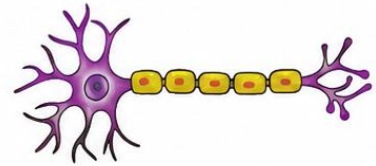
(a)



(b)



(c)

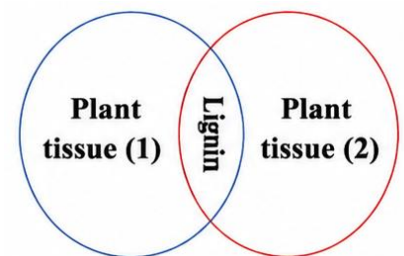


(d)

34) From the adjacent figure:

What are the two types of plant tissues (1) and (2)?

- a. Parenchyma and sclerenchyma
- b. Collenchyma and sclerenchyma
- c. Sclerenchyma and xylem
- d. Collenchyma and phloem

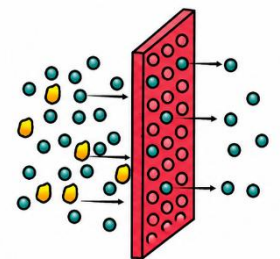


35) Which of the following is considered from the living structures in the cell?

- a. Vessels.
- b. Tracheids.
- c. Companion cells.
- d. Sieve tubes.

36) The opposite schematic diagram may represent the structure of because it is

- a. Cell wall - permeable
- b. Plasma membrane - semi-permeable
- c. Plasma membrane - impermeable
- d. Cell wall - semi-permeable



37) Which statement describes organisms that use autotrophic nutrition?

- a. They obtain food from feeding on other organisms.
- b. They do not require food but survive off water alone.
- c. They are able to synthesize their own food from simple inorganic materials.
- d. They automatically detect when food is present in an area.

38) On eating a piece of bread, which of the following enzymes will start its action first?

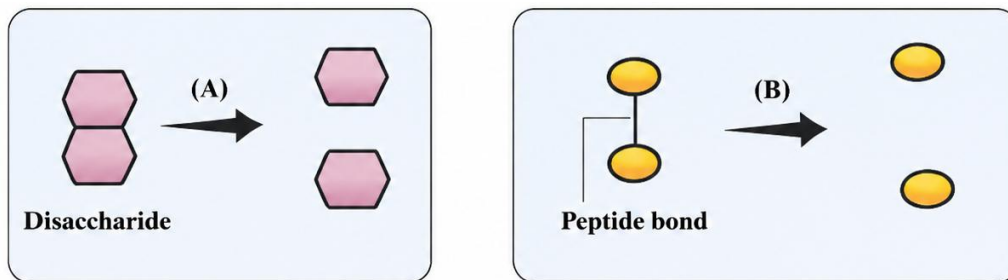
- a. Trypsin.
- b. Peptidase.
- c. Amylase.
- d. Lipase.

39) Which of the following organs that its infection affects the digestion of each fats, proteins and carbohydrates together?

- a. large intestine.
- b. stomach.
- c. pancreas.
- d. liver.



40) Based on the following figure:



What is the site of action of the two enzymes (A) and (B) act?

- a. Mouth b. Stomach c. Esophagus d. Small intestine

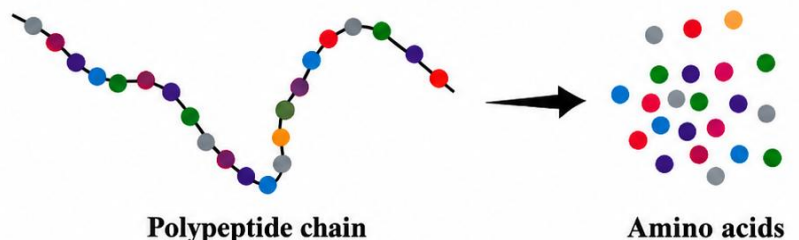
41) Which of the following its digestion may be affected, if the liver is severely damaged?

- a. Carbohydrates. b. Fats. c. Proteins. d. Disaccharides.

42) The following figure illustrates the action of one of the enzymes that works in the human digestive tract.

Which of the following represents this enzyme?

- a. Trypsin
b. Peptidase
c. Amylase
d. Lipase



43) When eating a piece of bread, which enzyme begins to act first?

- a. Trypsin b. Peptidase c. Amylase d. Lipase

44) What is the primary purpose of cellular respiration?

- a. Glucose production
b. Production of adenosine triphosphate molecules
c. Storage of carbon dioxide
d. Reduction of oxygen in the cells

45) How many ATP molecules are produced by anaerobic respiration in living cells when two glucose molecules are consumed?

- a. 2 b. 4 c. 6 d. 36

46) What is the first step of cellular respiration in living cells?

- a. Lactic acid fermentation b. Glucose reduction
c. Glycolysis d. Alcoholic fermentation

47) Which of the following processes involves the breakdown of glucose inside living cells?

- a. Digestion b. Photosynthesis
c. Cellular respiration d. Excretion



48) The second stage of cellular respiration depends on the availability of

- a. Carbon dioxide b. Oxygen c. Glucose d. Ethanol

49) Anaerobic respiration occurs in the

- a. Cytoplasm b. Mitochondria and cytoplasm
c. Nucleus d. Sap Vacuole

50) Which of the following results from the accumulation of lactic acid in muscles?

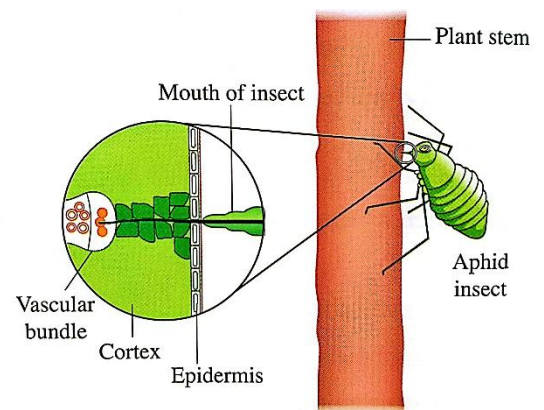
- a. Increased muscle activity
b. Increased products of photosynthesis
c. Muscle fatigue
d. Decreased water and mineral salts

51) Which of the following tissues work on supporting the plant?

- a. Collenchyma and sclerenchyma tissues.
b. Parenchyma and sclerenchyma tissues.
c. Parenchyma and collenchyma tissues.
d. Parenchyma and xylem tissues.

52) The opposite figure illustrates an experiment that was carried out by a researcher, where he let an insect feed on the plant sap by piercing its mouthparts in the plant stem tissues, then he made a transverse section in the plant stem to identify the region where the proboscis of the insect was inserted. He analyzed the liquid that was present in this vessel and found that it consists of sugars, from the previous we conclude that the region where the proboscis of the insect was inserted in the

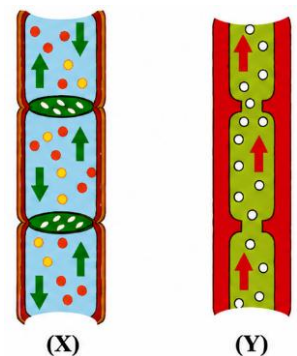
- a. tracheids. b. xylem vessels.
c. sieve tubes. d. parenchyma cells.



53) The opposite figure shows two types of transport tissues in plants. Study it, then determine:

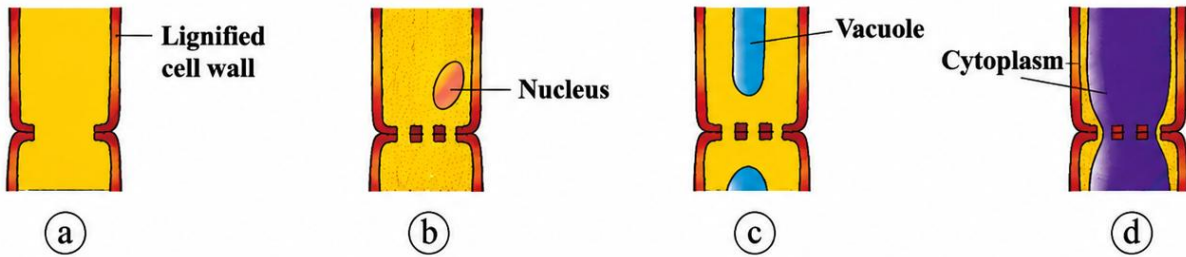
What types of cells make up tissues (X) and (Y), respectively?

- a. Dead cells, living cells
b. Dead cells, dead cells
c. Living cells, living cells
d. Living cells, dead cells





54) Which of the following figures correctly represents a part of a sieve tube?



55) Which tissues leads to the pumping blood from heart to all the body parts?

- a. Epithelial tissues.
- b. Connective tissue.
- c. Muscular tissue.
- d. Nervous tissue.

56) What is the tissue that is responsible for the movement of fingers?

- a. Smooth muscular tissue.
- b. Skeletal muscular tissue.
- c. Cardiac muscular tissue.
- d. Simple epithelial tissue.

57) If there is a high concentration of potassium ions in the soil, they move to an area of low concentration in roots. What term is given to this process?

- a. Diffusion
- b. Active transport
- c. Osmosis
- d. Digestion

58) Which process describes the movement of a liquid solvent through semi-permeable membranes from high concentration to low concentration?

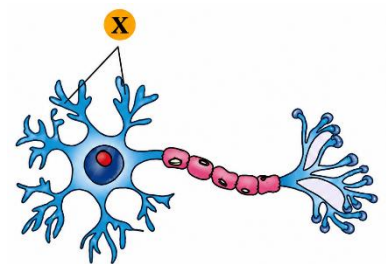
- a. Osmosis
- b. Active transport
- c. Simple diffusion
- d. Facilitated diffusion

59) Which biological process is represented by the opening of some flowers during the day and their closing at night?

- a. Respiration
- b. Excretion
- c. Photosynthesis
- d. Sensation

60) Which function would be affected if there were a defect in structure (X)?

- a. Transmitting impulses toward muscles
- b. Receiving signals from adjacent cells
- c. Generating energy inside the nucleus
- d. Storing genetic information



61) What is the correct and precise pathway of a nerve impulse during a response to an external stimulus?

- a. Sensory receptor → Motor neuron → Interneuron → Sensory neuron
- b. Sensory receptor → Sensory neuron → Interneuron → Motor neuron
- c. Interneuron → Sensory receptor → Sensory neuron → Effector
- d. Motor neuron → Interneuron → Sensory neuron → Sensory receptor

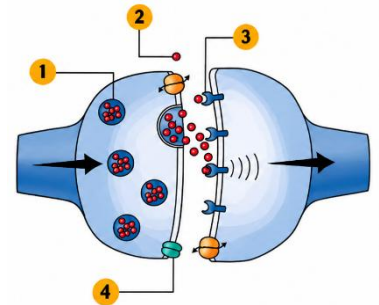


62) What is the ion responsible for rupturing the synaptic vesicles and releasing neurotransmitters?

- a. Sodium b. Potassium c. Calcium d. Chloride

63) From the opposite figure:
What does structure (1) contain?

- a. Glucose
b. Acetylcholine
c. Hemoglobin
d. Insulin

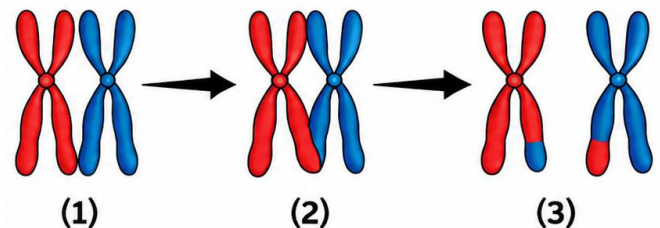


64) The number of chromosomes in a sperm cell is the number of chromosomes in the ovum of a female of the same species.

- a. Twice b. Half c. Equal to d. One-quarter

65) What is the purpose of the process shown in the opposite figure?

- a. Duplicating the cell's genetic material
b. Increasing genetic variation within the species
c. Increasing the number of resulting cells
d. Maintaining the chromosome number in somatic cells



Model answer

1. c	2. b	3. c	4. c	5. b	6. a	7. c	8. d	9. c	10. b
11. c	12. d	13. c	14. c	15. a	16. a	17. a	18. b	19. b	20. c
21. c	22. b	23. c	24. c	25. b	26. d	27. d	28. b	29. d	30. d
31. b	32. c	33. c	34. c	35. c	36. b	37. c	38. c	39. c	40. d
41. b	42. b	43. c	44. b	45. b	46. c	47. c	48. b	49. a	50. c
51. a	52. c	53. d	54. d	55. c	56. b	57. a	58. a	59. d	60. b
61. b	62. c	63. b	64. c	65. b					