

**Test Bank for Human Biology Anatomy
and Physiology for the Health Sciences
CDN 2nd Roscoe**

TRUE/FALSE

1 : The process of breaking of hydrogen bonds in a protein is known as denaturation.a. Trueb. False

A : true

B : false

Correct Answer : A

2 : Cytosine and thymine are single-ring bases called purines.a. Trueb. False

A : true

B : false

Correct Answer : B

3 : DNA is a double helix where by two strands of DNA bind together by the phosphate group.a. Trueb. False

A : true

B : false

Correct Answer : B

4 : Adenine always binds with thymine.a. Trueb. False

A : true

B : false

Correct Answer : A

5 : Sucrose is formed by the dehydration synthesis reaction between two glucose molecules.a. Trueb. False

A : true

B : false

Correct Answer : B

6 : Lactase breaks down lactose into glucose and galactose.a. Trueb. False

A : true

B : false

Correct Answer : A

7 : Cellulose is a structural plant carbohydrate and is used to produce energy in the human body.a. Trueb. False

A : true

B : false

Correct Answer : B

8 : Triglycerides are found in adipocytes.a. Trueb. False

A : true

B : false

Correct Answer : A

9 : If there are only single bonds between the carbons of the fatty acid chain, the structure of the fat molecule will be straight, making the fatty acid a solid.a. Trueb. False

A : true
B : false

Correct Answer : A

10 : Eating fats speeds up the digestion process, so the body has less time to absorb the nutrients.a. Trueb. False

A : true
B : false

Correct Answer : B

11 : Enzymes in our body are unable to oxidize trans fatty acids.a. Trueb. False

A : true
B : false

Correct Answer : A

12 : Eating several oranges in one day will ensure the body has enough vitamin C for several weeks.a. Trueb. False

A : true
B : false

Correct Answer : B

13 : Enzymes in our body are unable to oxidize trans fatty acids.a. Trueb. False

A : true
B : false

Correct Answer : A

MULTIPLE CHOICE

14 : Water molecules are held together by what kind of bond?

A : hydrogen bonds
B : ionic bonds
C : covalent bonds
D : polar covalent bonds

Correct Answer : A

15 : What is the term for molecules that have both polar and non-polar regions?

A : amphipathic
B : hydrophobic
C : hydrophilic
D : covalent

Correct Answer : A

16 : The human body is composed of what percentage of water?

- A : 45–75%
- B : 45–95%
- C : 55–75%
- D : 70-95

Correct Answer : A

17 : By what process do molecules combine to form macromolecules?

- A : hydrolysis
- B : hydrogen bonding
- C : dehydration synthesis
- D : protein synthesis

Correct Answer : C

18 : Which type of bond links amino acids together?

- A : ionic bonds
- B : glycosidic bonds
- C : phosphodiester bonds
- D : peptide bonds

Correct Answer : D

19 : The human body can synthesize _____ of the _____ amino acids from other molecules.

- A : 9, 30
- B : 11, 20
- C : 11, 40
- D : 12, 30

Correct Answer : B

20 : What is the only way that amino acids differ?

- A : by their amino groups
- B : by their carboxyl groups
- C : by their functional groups
- D : by their bonding types

Correct Answer : C

21 : Which of the following is an essential amino acid?

- A : isoleucine
- B : serine
- C : glutamine
- D : histidine

Correct Answer : A

22 : What is the name for the three-dimensional shape that constitutes the functional structure of a protein?

- A : primary structure

- B : secondary structure
- C : tertiary structure
- D : quaternary structure

Correct Answer : C

23 : Which of the following statements is true with respect to RNA and DNA?

- A : DNA contains the stored information for protein synthesis within the nucleotides adenine, thymine, guanine, and uracil.
- B : RNA is a single-stranded nucleic acid molecule transcribed from a DNA gene sequence that codes for the synthesis of a protein.
- C : DNA is a double helix whereby two strands of DNA bind together by the phosphate groups.
- D : In DNA, two hydrogen bonds form between adenine and thymine, and three hydrogen bonds hold guanine and uracil together.

Correct Answer : B

24 : What is the ratio of carbon to hydrogen to oxygen in carbohydrates?

- A : 1:1:2
- B : 2:1:2
- C : 1:2:2
- D : 1:2:1

Correct Answer : D

25 : Which of the following is NOT a major complex carbohydrate relevant to the human body?

- A : starch
- B : glycogen
- C : glucose
- D : cellulose

Correct Answer : C

26 : Which of the following refers to hydrophilic molecules?

- A : They are insoluble in water.
- B : They are water soluble.
- C : They are neutral in water.
- D : They are highly reactive in water.

Correct Answer : B

27 : By which process can the result of hydrolysis be reversed?

- A : polymerization
- B : dehydration synthesis
- C : addition of an amino group
- D : addition of a hydroxyl group

Correct Answer : B

28 : The storage form of carbohydrates is _____ in animals and _____ in plants.

- A : glycogen, cellulose
- B : starch, glycogen
- C : cellulose, glycogen

D : glycogen, starch

Correct Answer : D

29 : Margarine is formed by which of the following processes?

A : hydrogenation

B : polymerization

C : hydration

D : hydrolysis

Correct Answer : A

30 : Which of the following refers to fatty acids with double bonds between some of their carbons?

A : saturated

B : unsaturated

C : hydrogenated

D : trans fats

Correct Answer : B

31 : What is a phospholipid is composed of?

A : two non-polar fatty acid chains and a polar head containing a glycerol and a phosphate group

B : one non-polar fatty acid chain and three phosphate groups

C : three polar fatty acid chains and a polar head containing a glycerol and a phosphate group

D : one non-polar fatty acid chain and two non-polar heads

Correct Answer : A

32 : Which of the following lists contains the three essential fatty acids?

A : linoleic acid, aspartic acid, and glutamic acid

B : aspartic acid, linoleic acid, and glutamic acid

C : alpha-linoleic acid, oleic acid, and glutamic acid

D : alpha-linoleic acid, linoleic acid, and oleic acid

Correct Answer : D

33 : Which of the following describes peptide bonds?

A : They form between fatty acids.

B : They form by a hydrolysis reaction.

C : They link amino acids.

D : They form between monosaccharides.

Correct Answer : C

34 : Which of the following statements does NOT describe a role of cholesterol in human physiology?

A : It is a major constituent of cell membranes.

B : It is involved in the production of mood hormones.

C : It is starting material for production of steroid hormones.

D : It is used by the liver to make bile.

Correct Answer : B

35 : Sarah and Melanie Sarah and Melanie finish their soccer game on a hot summer day and decide to go for a snack at Dairy Queen. Sarah orders a banana split, and Melanie orders a hamburger and fries. Both girls enjoy their treats as they continue to discuss the outcome of their soccer game. After a while Sarah starts to feel bloated and experiences stomach pains. She recalls that this has been frequently occurring when she eats certain foods. What should Sarah do?

A : Nothing, this is normal.

B : Go to sleep and hope she feels better.

C : Refrain from ingesting lactose in the future as she may have developed an inability to produce lactase.

D : Go immediately to the hospital as she likely has an obstructed bowel.

Correct Answer : C

36 : Sarah and Melanie Sarah and Melanie finish their soccer game on a hot summer day and decide to go for a snack at Dairy Queen. Sarah orders a banana split, and Melanie orders a hamburger and fries. Both girls enjoy their treats as they continue to discuss the outcome of their soccer game. After a while Sarah starts to feel bloated and experiences stomach pains. She recalls that this has been frequently occurring when she eats certain foods. What has Melanie just consumed a large amount of?

A : protein

B : essential fatty acids

C : triglycerides

D : amino acids

Correct Answer : C

37 : Which of the following describes the primary structure of protein?

A : It is an alpha helix or beta pleated sheet.

B : It is maintained by hydrogen bonds.

C : It is composed of two or more polypeptide chains.

D : It is the amino acid sequence of a polypeptide chain.

Correct Answer : D

38 : What are cell membranes primarily composed of?

A : essential fatty acids

B : phospholipids

C : polysaccharides

D : nucleic acids

Correct Answer : B

39 : A deficiency in which of the following minerals may cause muscular twitching?

A : phosphorus

B : calcium

C : iron

D : iodine

Correct Answer : B

40 : A mother gives birth to a baby at 38 weeks gestation. The baby is born with neural tube defects. Which of the following vitamins may the mother have been deficient in during

pregnancy?

A : vitamin A

B : vitamin D

C : folic acid

D : biotin

Correct Answer : C

41 : If you eat French fries every day, which of the following will most likely result?

A : It will decrease blood sugar levels.

B : It will decrease insulin production.

C : It will increase blood sugar levels.

D : It will help control appetite.

Correct Answer : C

42 : Which of the following is NOT one of the effects of eating fibre?

A : It adds bulk to large intestine.

B : It acts as a prebiotic.

C : It increases the risk of bowel disease.

D : It helps regulate immune functions.

Correct Answer : C

43 : Which of the following is NOT a method used in refining oils?

A : bleaching

B : deodorizing

C : toasting

D : oxidizing

Correct Answer : D

44 : Which of the following is NOT a macromolecule?

A : phospholipid

B : RNA

C : polypeptide

D : fructose

Correct Answer : D

45 : Which of the following is an example of a hydrophobic molecule?

A : glucose

B : salt

C : hydrocarbon chain of fatty acid

D : amino acid

Correct Answer : C

46 : Which of the following is a monosaccharide?

A : sucrose

B : galactose

C : maltose

D : glycogen

Correct Answer : B

47 : Which of the following is the monomer for RNA?

- A : Amino acid
- B : Ribose
- C : Cholesterol
- D : Nucleotide

Correct Answer : D

48 :

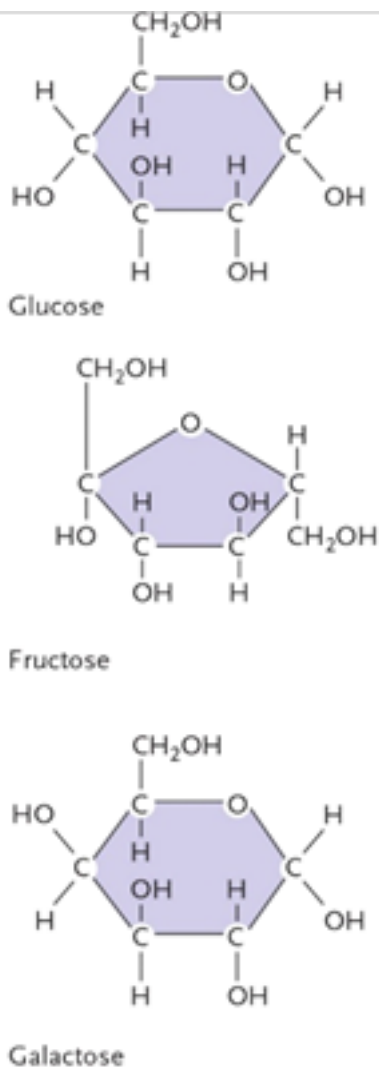


Figure 2.15 Monosaccharides

The three monosaccharides—glucose, fructose, and galactose—have the same chemical formula $C_6H_{12}O_6$ and slightly different chemical structures.

What is this molecule?

- A : monosaccharide
- B : amino acid
- C : ribose
- D : cholesterol

Correct Answer : A

49 : Which of the following is the process for forming bonds between monomers?

- A : polymerization
- B : denaturation

- C : dehydration
- D : hydrolysis

Correct Answer : A

50 : If a molecule is composed of a carboxyl group, an amino group, a hydrogen, and a functional group, what kind of molecule it?

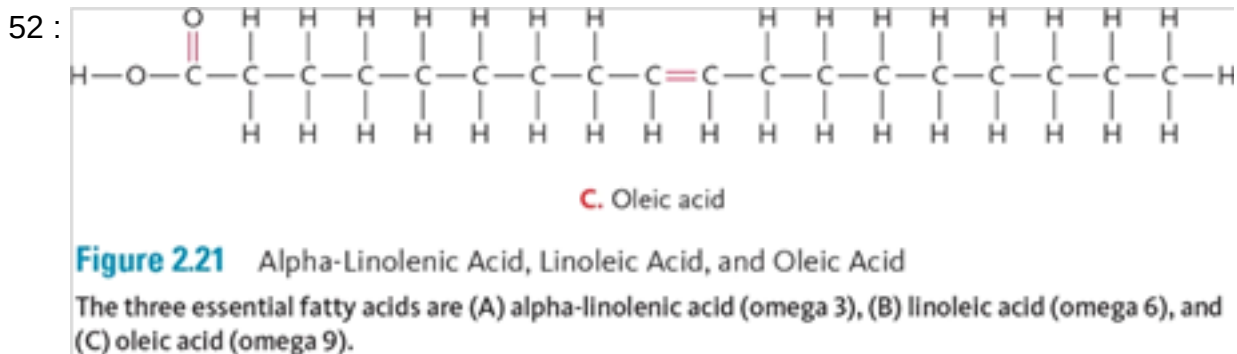
- A : amino acid
- B : nucleotide
- C : fatty acid
- D : disaccharide

Correct Answer : A

51 : Which of the following is an example of a protein of the extracellular matrix?

- A : actin
- B : blood type molecules
- C : antibodies
- D : collagen

Correct Answer : D



What is this molecule?

- A : cis fatty acid
- B : trans fatty acid
- C : polyunsaturated fatty acid
- D : saturated fatty acid

Correct Answer : A

53 : What is the complementary strand of DNA for CTGGATAC?

- A : CTGGATAC
- B : GACCUAUG
- C : CAUAGGUTC
- D : GACCTATG

Correct Answer : D

54 : What is the primary type of fat that you would find in olive oil?

- A : saturated fat
- B : unsaturated fat
- C : trans fat
- D : phospholipid

Correct Answer : B

55 : Which of the following is NOT important for protein function?

- A : The amino acid sequence.
- B : The secondary structure.
- C : The tertiary structure.
- D : The number of amino acids.

Correct Answer : D

56 : If a fat is solid at room temperature, it is most likely which of the following?

- A : Saturated
- B : Unsaturated
- C : polymerized
- D : hydrolyzed

Correct Answer : A

57 : Which of the following is NOT a type of protein?

- A : antibody
- B : enzyme
- C : membrane channel
- D : glycogen

Correct Answer : D

58 : Which of the following is an example of an enzyme?

- A : hemoglobin
- B : collagen
- C : polymerase
- D : ion channels

Correct Answer : C

59 : What bonds are broken in a denatured protein?

- A : peptide bonds
- B : hydrogen bonds
- C : glycosidic bonds
- D : phosphodiester bonds

Correct Answer : B

60 : Which of the following has thymine?

- A : DNA
- B : RNA
- C : both DNA and RNA
- D : neither DNA nor RNA

Correct Answer : A

61 : What is lactose composed of?

- A : glucose and galactose
- B : glucose and glucose

- C : fructose and glucose
- D : maltose and glucose

Correct Answer : A

62 : Which of the following is most commonly used by our cells to make ATP?

- A : cellulose
- B : peptides
- C : glucose
- D : amino acids

Correct Answer : C

63 :

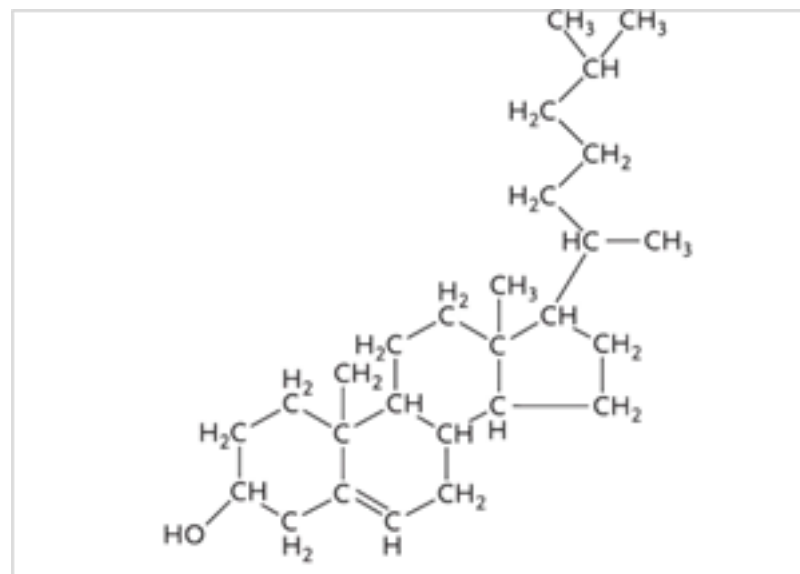


Figure 2.22 Cholesterol

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What is this molecule?

- A : cholesterol
- B : phospholipid
- C : monounsaturated fat
- D : triglyceride

Correct Answer : A

64 : Which of the following is a structural polysaccharide found in plant cells that we eat but do not digest?

- A : glycogen
- B : glucose
- C : starch
- D : cellulose

Correct Answer : D

65 : Which of the following is NOT found in human cell membranes?

- A : phospholipids
- B : triglycerides
- C : ribosomes
- D : cholesterol

Correct Answer : D

66 : Which of the following is an essential fatty acid?

A : omega 3

B : cholesterol

C : trans fats

D : saturated fats

Correct Answer : A