



BASIC SCIENCE

Biology

Our Groups



قناة الاكاديمية



Telegram

Q1/ What is lactose, What is the scientific reason why some people cannot tolerate it?

Lactose is the main sugar in milk. Lactose intolerance occurs due to a lack of lactase enzyme, causing gas and discomfort

Q2/ Explain the difference between carbohydrates and proteins in structure and function.

- Carbohydrates: Provide energy (e.g., glucose).
- Proteins: Perform enzymatic and structural functions (e.g., enzymes, hemoglobin)

Q3/ Define organic compounds, and why is carbon considered a key element in them?

Organic compounds are carbon-based. Carbon forms four bonds, enabling diverse structures

Q4/ Compare monosaccharides and polysaccharides in terms of structure and function.

- Monosaccharides: Simple sugars (e.g., glucose).
- Polysaccharides: Long sugar chains (e.g., starch)

Q5/ What is the difference between saturated and unsaturated fats? Give an example of each.

- Monosaccharides: Simple sugars (e.g., glucose).
- Polysaccharides: Long sugar chains (e.g., starch)

Q6/ Explain the difference between glucose and fructose in terms of structure.

Glucose and fructose are isomers with different ring structures

Q7/ Why are proteins essential for the human body? List three major functions.

Proteins are essential for:

1. Enzymes: Speed up reactions (e.g., lactase).
2. Structure: Provide support (e.g., collagen).
3. Transport: Carry substances (e.g., hemoglobin).

Q8/ Why are lipids hydrophobic?

Lipids are hydrophobic due to nonpolar hydrocarbon chains

Q9/ Why is carbon such a versatile and important element for forming organic molecules?

Carbon forms diverse structures (chains, rings) due to its four bonds

Q10/ Describe the types of structures that carbon can form and how these structures can affect the function of molecules.

Carbon structures (chains, rings) affect molecule properties like reactivity

Q11/ What is the difference between monosaccharides, disaccharides, and polysaccharides? Give examples of each type.

Monosaccharides: Glucose.

- Disaccharides: Sucrose.
- Polysaccharides: Starch

Q12/ What is the role of sugars in both plants and animals?

Plants: Use sugars for energy (starch) and structure (cellulose).
• Animals: Use sugars for energy and store them as glycogen

Q13/ What is the importance of proteins for the human body? Give examples of types of proteins and their functions

Proteins: Enzymes (amylase), structural (collagen), and transport (hemoglobin)

Q14/ How can a simple change in the amino acid sequence affect the function of a protein?

A change in amino acid sequence alters protein shape, affecting function (e.g., sickle-cell anemia)

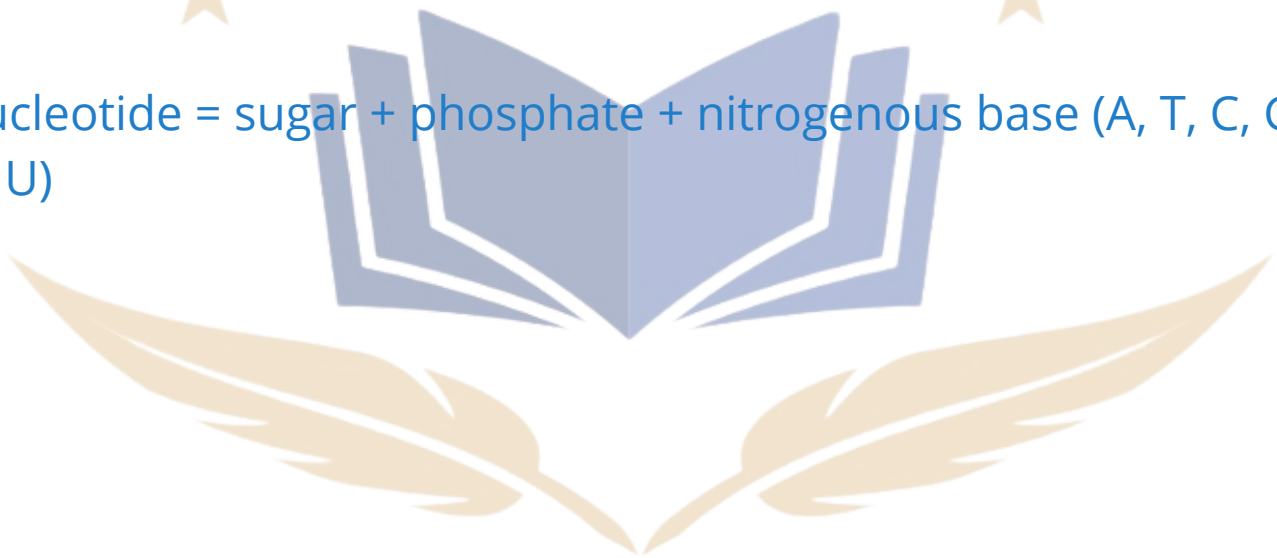
Q15/ Explain the difference between DNA and RNA in terms of structure and function.

DNA: Double-stranded, thymine, stores genetic info.

- RNA: Single-stranded, uracil, aids protein synthesis

Q16/ What are the three parts that make up a nucleotide?

Nucleotide = sugar + phosphate + nitrogenous base (A, T, C, G, or U)





ARMS
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استثمر في تعليمك اليوم ، لتحصد
ثمار ذلك غداً

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