Nutrients and New Molecule Production

Biology · Practice Test · 20 Questions

1. What is the primary role of nutrients for the organism?

A) To provide energy and ensure assimilation
B) To directly build new cells
C) To export hormones and enzymes
D) To facilitate the storage of lipids

2. What is assimilation in the context of cells?

A) The construction of their own molecules
B) The absorption of nutrients from the bloodstream
C) The production of energy through metabolism
D) The export of synthesized products

3. Where does the synthesis of proteins primarily take place?

A) In the nucleus
B) In the cell membrane
C) In the cytoplasm
D) Within the mitochondria

4. What are proteins assembled from?

A) Amino acids
B) Lipids
C) Carbohydrates
D) Nucleic acids

5. In the experiment with the adult rat, what was used to mark the amino acids?

A) A radioactive atom of carbon
B) A fluorescent molecule
C) An isotope of nitrogen
D) A stable isotope of oxygen

6. After several consecutive days of feeding, where were the labeled amino acids found in the rat?

A) In all cells of the organism
B) Only in the digestive system
C) Exclusively in the liver cells
D) Primarily in the bone marrow

7. The graph shows the evolution of radioactivity in the liver proteins. What does this indicate about the incorporation of amino acids?

A) It's a continuous process over time
B) It happens instantaneously
C) It occurs only at the beginning
D) It decreases rapidly after a short period

8. What does the renewal of cells and molecules necessitate?

A) The production of new molecules
B) A constant supply of energy
C) The breakdown of existing structures
D) The elimination of waste products

9. The diagram illustrates that nutrients are absorbed from the intestinal wall into the bloodstream. What is the next step for these nutrients?

A) Assimilation into new molecules
B) Direct export from the body
C) Immediate release of energy
D) Storage as lipids

10. What are some examples of new molecules produced by cells?

A) Lipids, proteins, enzymes, hormones
B) Water, carbon dioxide, and oxygen
C) Vitamins, minerals, and fiber
D) Simple sugars and fatty acids

11. The term 'assimilation' implies the use of nutrients for what purpose?

A) Building new molecular structures
B) Generating immediate energy
C) Facilitating nutrient absorption
D) Storing excess energy

12. According to the text, the nature of proteins depends on the order of what?

A) Amino acids
B) Nucleotides
C) Fatty acids
D) Glycerol

13. What does the graph indicate about the liver cells' protein radioactivity over time?

A) It increases and then stabilizes
B) It decreases steadily
C) It remains constant
D) It fluctuates randomly

14. The diagram shows 'Mise en réserve' which translates to:

A) Storage
B) Absorption
C) Assimilation
D) Export

15. What is the source of energy provided by nutrients?

A) The organism itself
B) The external environment
C) The breakdown of existing molecules
D) The synthesis of new molecules

16. The process described in Activity 2 focuses on the transformation of nutrients into what?

A) New molecules
B) Waste products
C) Heat energy
D) Simple compounds

17. The diagram shows nutrients being absorbed from the intestinal wall. What is the physical barrier involved?

A) The intestinal wall
B) The cell membrane
C) The blood vessel wall
D) The skin

18. What are hormones and other exported products synthesized from?

A) Nutrients
B) Energy
C) Storage molecules
D) Waste materials

19. The experiment suggests that the body's cells are constantly rebuilding themselves using components derived from:

A) Dietary nutrients
B) Stored energy reserves
C) Environmental elements
D) Internal waste

20. The term 'sque' in the context of proteins likely refers to:

A) Skeletal structure
B) Sequence
C) Solubility
D) Size