

**1. What is the main focus of the lecture?**

- A. How DNA is transcribed and translated into proteins
- B. The structure of cellular organelles and their functions
- C. The concept of chemical pathways in cells and how they are regulated
- D. The principles of enzyme catalysis

**2. How does the speaker organize the lecture?**

- A. First describes what pathways are, then explains feedback mechanisms, followed by external influences
- B. By types of cells, then types of reactions, then types of enzymes
- C. Listing metabolic pathways one by one with their chemical equations
- D. Comparing animal cells and plant cells in terms of pathway operation

**3. According to the lecture, how is a pathway in a cell built up?**

- 1.
- 2.
- 3.
- 4.

**4. What are the two kinds of feedback mechanisms mentioned in the lecture, and how do they differ in their effect on a chemical pathway?**

- A. Positive feedback increases the production of enzymes, while negative feedback stops enzyme production completely in all cases.
- B. Positive feedback amplifies the activity of the pathway, while negative feedback reduces or shuts it down when enough product is made.
- C. Positive feedback helps turn off the pathway once the product is made, and negative feedback keeps it running longer.
- D. Positive feedback slows down the pathway, while negative feedback speeds it up to meet energy demands.

**5. The lecture refers to “external signals” from outside the cell. What role do these external signals play in the regulation of chemical pathways?**

- A. They supply the energy needed to power the chemical reactions in the pathway.
- B. They randomly trigger enzymes to start or stop working without any specific pattern.
- C. They permanently alter the DNA to create new chemical pathways in the cell.
- D. They activate or inhibit pathways by signaling the cell to respond to environmental changes.

**6. Which of the following is not discussed in the lecture?**

- A. Enzymes catalyzing individual steps in a pathway
- B. Negative and positive feedback mechanisms
- C. Role of ATP in energy transfer for pathways
- D. Influence of external signals on pathway regulation

7. Which of these diagrams most closely represents the pathways and feedback loops?

