

Biology (New Book) - 9th Class Biology Urdu Medium Chapter 8 Preparation

Q1. Define ATP and ADP mean.

Ans 1: ATP:

Cells use a special energy currency for their reactions. This currency is nucleotide called adenosine triphosphate. ATP is the main energy transfer molecule in the cell

Ans 2: ADP:

In common energy reactions, when outer P-P high-energy bond of ATP breaks. ATP becomes ADP and one P_i is released. Cells get energy from the oxidation of food. They store this energy by combining ADP with P_i to form ATP

Q2. How do muscles respond to oxygen deficiency during intense exercise.

Ans 1: When skeletal muscles of humans work hard but oxygen supply is not sufficient to fulfil the demand, the skeletal muscles carry out anaerobic respiration to get energy

Q3. How Photosynthesis and aerobic respiration are interlinked with each other.

Ans 1: Both are interlinked in the following ways.

- i) Both take place in living organisms.
- ii) Energy conversion takes place in both processes.

Q4. Describe Bioenergetics .

Ans 1: Define:

Bioenergetics is the study of how living organisms acquire, convert, store, and utilize energy to fuel their life processes. Or, Bioenergetics is the study of energy transformations in living organisms.

Q5. What are the end products of anaerobic respiration in animals and yeast.

Ans 1: The end product of anaerobic respiration in animals is lactic acid and in yeast is ethyl alcohol.

Q6. Define Aerobic Respiration

Ans 1: Define: Cellular respiration occurring in the presence of oxygen is called aerobic respiration.

Explain:

- i. It is the complete oxidation of glucose with maximum release of energy.
- ii. It is first phase, a molecule of glucose is broken down into two molecules of pyruvic acid.
- iii. In the second phase, the molecules of pyruvic acid are completely oxidized and all energy is released.

Q7. Lactic Acid Fermentation.

Ans 1: During anaerobic respiration in the skeletal muscles of humans and other animals, pyruvic acid is converted into lactic acid. This type of anaerobic respiration is called lactic acid fermentation.

Q8. How is oxygen produced during photosynthesis.

Ans 1: During light reaction of photosynthesis, light breaks water molecule. Oxygen is released while hydrogen atoms give electrons to chlorophyll and become hydrogen ions.

Q9. Write down equation for Photosynthesis.

Ans 1: $6\text{CO}_2 + 12\text{H}_2\text{O} + \text{Photons} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 + 6\text{H}_2\text{O}$
Carbon dioxide + water + light energy..... Glucose + Oxygen + Water

Q10. Anaerobic Respiration.(Fermentation)

Ans 1: Define: Cellular respiration that occurs in the absence of oxygen is called anaerobic respiration.
Explain:
i. In anaerobic respiration, glucose is incompletely oxidized with less amount of energy released.
ii. In the second phase, pyruvic acid may be treated in two ways.