SmartKalike

CBSE Class 10 · Science

Life Processes

10 most probable questions for Boards 2027

Q1. 1 mark · Multiple choice

Carbohydrates not used immediately by a plant are stored mainly as:
(A) Protein
(B) Starch
(C) Cellulose
(D) Fatty acids

Answer

(B) Starch — carbohydrates which are not used immediately are stored in the form of starch, which serves as the internal energy reserve.

Q2. 2 marks · Short answer

Distinguish between autotrophs and heterotrophs in terms of the food materials they use. Give one example of each.

Answer

Some organisms use simple food material obtained from inorganic sources in the form of carbon dioxide and water. These organisms, the autotrophs, include green plants and some bacteria. Other organisms utilise complex substances; heterotrophic organisms include animals and fungi.

Q3. 3 marks · Medium answer

State what chloroplasts contain. Describe the role of stomata in gas exchange during photosynthesis and identify other plant surfaces across which gas exchange occurs.

Answer

1. Chloroplasts are cell organelles in some leaf cells and contain chlorophyll.
2. Stomata are tiny pores on the surface of leaves; massive amounts of gaseous exchange take place through them for photosynthesis. Guard cells control the opening and closing of each pore.
3. Gas exchange also occurs across the surfaces of stems, roots and leaves.

Q4. 5 marks · Long answer

State the storage form of some excess energy in humans. Then list the main events of photosynthesis in sequence and explain, using desert plants as an example, why the steps need not occur immediately one after another.

Answer

Photosynthesis fulfils the carbon and energy requirements of autotrophic organisms by converting carbon dioxide and water into carbohydrates.
1. Some of the energy derived from food in humans is stored in the body in the form of glycogen.
2. First, chlorophyll absorbs light energy.

3. Next, light energy is converted into chemical energy, and water molecules split into hydrogen and oxygen.
4. Finally, carbon dioxide is reduced to carbohydrates. These steps need not occur one after another immediately: desert plants take up carbon dioxide at night and prepare an intermediate, which is acted upon by energy absorbed by chlorophyll during the day.
Thus, the stages of photosynthesis can occur at different times.

Q5. 1 mark · Very short answer

Name two factors on which an organism's form of nutrition depends.

Answer

The form of nutrition differs depending on the type and availability of food material as well as how it is obtained by the organism.

Q6. 2 marks · Short answer

What role do enzymes play in the nutrition of heterotrophs? Explain how heterotrophs depend on autotrophs, giving two examples of heterotrophs.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-10/science/life-processes

Q7. 3 marks · Medium answer

Describe how ATP is formed from ADP and inorganic phosphate during respiration. State how much energy is released when its terminal phosphate linkage is broken, and give two cellular processes that use ATP.

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Q8. 5 marks · Long answer

Describe the role of salivary amylase in digestion. Then state the substances released by the gastric glands and explain the roles of hydrochloric acid, pepsin and mucus. Where does complete digestion of carbohydrates, proteins and fats occur, and which organs provide secretions to assist it?

Full answer on SmartKalike: https://smartkalike.com/cbse/class-10/science/life-processes

Q9. 1 mark · Very short answer

How do fungi such as bread mould obtain nutrition?

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Q10. 2 marks · Short answer

How does photosynthesis fulfil the carbon and energy requirements of autotrophs? State the raw materials and conditions needed to produce carbohydrates.

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