

NTSE

NCERT Solutions for Class 10 Science
BIOLOGY – Life Processes



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NCERT ANNEXURE

Here are subjective type questions and answers for your reference:

1. Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like us?

Ans. Multicellular organisms such as humans possess complex body designs and all the cells may not be in direct contact with the surrounding environment. Thus, simple diffusion will not meet the oxygen requirements of all the cells.

2. What are the differences between autotrophic nutrition and heterotrophic nutrition?

Ans.

Autotrophic nutrition		Heterotrophic nutrition	
(i)	Food is synthesized from simple inorganic raw materials such as CO ₂ and water.	(i)	Food is obtained directly or indirectly from autotrophs. This food is broken down with the help of enzymes.
(ii)	Presence of green pigment (chlorophyll) is necessary.	(ii)	No pigment is required in this type of nutrition.
(iii)	Food is generally prepared during day time.	(iii)	Food can be obtained at all times.
(iv)	All green plants and some bacteria have this type of nutrition.	(iv)	All animals and fungi have this type of nutrition.

3. Where does the plant get each of the raw materials required for photosynthesis?

Ans. The following raw materials are required for photosynthesis:

The raw material CO₂ enters from the atmosphere through stomata.

Water is absorbed from the soil by the plant roots.

Sunlight, an important component to manufacture food, is absorbed by the chlorophyll and other green parts of the plants.

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4. What are the methods used by plants to get rid of excretory products?

Ans. Plants use completely different strategies for excretion than those of animals. They can get rid of excess water by transpiration. For other wastes, plants use the fact that many of their tissues consist of dead cells, and that they can even lose some parts such as leaves. Many plant waste products are stored in cellular vacuoles. Waste products may be stored in leaves that fall off. Other waste products are stored as resins and gums, especially in old xylem. Plants also excrete some waste substances into the soil around them.

5. How are water and minerals transported in plants?

Ans. The transport of water & minerals from roots to various parts of plant body is called Ascent of sap. According to transpiration pull theory of ascent of sap:

- Water moves in a continuous column from root to stem.
- Water molecules always remain attached to each other.
- Transpiration from leaves creates suction pull in the xylem vessels of stem and ultimately roots.
- This suction pull results in the continuous absorption and movement of water in upward direction.

NCERT EXEMPLAR

Given below are Multiple Choice Questions:

1. Which of the following statements about the autotrophs is incorrect?

- (A) They synthesize carbohydrates from carbon dioxide and water in the presence of sunlight and chlorophyll.
 (B) They store carbohydrates in the form of starch.
 (C) They convert carbon dioxide and water into carbohydrates in the absence of sunlight.
 (D) They constitute the first trophic level in food chains.

Ans. (C)

2. In which of the following groups of organisms, food material is broken down outside the body and absorbed?

- (A) Mushroom, green plants, *Amoeba* (B) Yeast, mushroom, bread mould
 (C) *Paramecium*, *Amoeba*, *Cuscuta* (D) *Cuscuta*, lice, tapeworm

Ans. (B)

3. Select the correct statement.

- (A) Heterotrophs do not synthesise their own food.
 (B) Heterotrophs utilise solar energy for photosynthesis.
 (C) Heterotrophs synthesise their own food.
 (D) Heterotrophs are capable of converting carbon dioxide and water into carbohydrates.

Ans. (A)

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I still wonder how one man has such a deep understanding of an examination. It becomes the truth what ever Vipin Sir says about NTSE.

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4. Which is the correct sequence of parts in human alimentary canal?
- (A) Mouth → stomach → small intestine → oesophagus → large intestine
(B) Mouth → oesophagus → stomach → large intestine → small intestine
(C) Mouth → stomach → oesophagus → small intestine → large intestine
(D) Mouth → oesophagus → stomach → small intestine → large intestine

Ans. (D)

5. If salivary amylase is lacking in the saliva, which of the following events in the mouth cavity will be affected?
- (A) Proteins breaking down into amino acids
(B) Starch breaking down into sugars
(C) Fats breaking down into fatty acids and glycerol
(D) Absorption of vitamins

Ans. (B)

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