

ICSE Board
Class VII Biology
Sample Paper – 1 Solution

Question 1

1. (a) Meristematic tissue. (Meristematic tissues are made up of actively dividing cells which produce more cells leading to the growth of the plant body.)
2. (c) They provide mechanical strength. (Parenchyma cells are thin walled, round or oval shaped, contain leucoplasts and store food. They are present in the stem, leaves and flowers of the plant.)
3. (c) Pseudopodia. (*Amoeba* moves with the help of pseudopodia and the movement is termed 'amoeboid movement'.
4. (c) Skin covered with scales. (The skin of mammals is covered with hair.)
5. (a) Sea urchin. (The body of sea urchin is covered with spikes externally.)
6. (c) 38. (Aerobic respiration takes place in the presence of oxygen. 38 molecules of ATP are formed along with the release of CO_2 .)
7. (b) Plant excretory product. (Tannin is an excretory product secreted by the tea leaves or the barks of trees.)
8. (b) Forearm and back. (In skin-prick test, the common areas for testing include the inside of the forearm and the back.)
9. (d) Muscles of the urinary bladder. (Muscles of the urinary bladder are unstriated or smooth muscles which are not under the control of one's will.)
10. (c) Tendons. (Tendons are in the form of tough parallel fibres of connective tissues containing fibroblasts and collagen fibres which join muscles to the bones.)
11. (a) Dendrites. (The fine, elongated hair-like extensions from the cell body of a nerve cell are called dendrites.)
12. (a) Protista. (Kingdom Protista includes single-celled or unicellular organisms with a well developed nucleus, eg., *Amoeba*.)
13. (c) Earthworm. (Animals with jointed legs are called arthropods. The body of an earthworm is composed of rings or segments.)

14. (a) Leaves. (Stomata are tiny openings found mainly on the lower surface of leaves.)

15. (a) Tissues. (Tissues collectively constitute an organ. Example: Connective tissue, nerves and sensory cells together constitute the organ tongue.)

Please note that the information provided in brackets is to help you in your learning. It does not have to be included in your answer.

Question 2

A.

1. Xylem
2. Mycelium
3. Cardiac muscles
4. Cranium
5. Allergens

B.

1. Histamine
2. Dendrites
3. Cristae
4. Bryophytes
5. Radial

Question 3

A.

Column A	Column B
1. Sponge	d. Porifera
2. Maize	a. Monocot
3. <i>Paramoecium</i>	e. Protista
4. Blood	b. Corpuscles
5. Mitochondria	c. Powerhouse of the cell

B.

- (a) Leaf is covered with black strip so that some part of the leaf does not receive sunlight.
- (b) Aim of this experiment is to show that sunlight is necessary for photosynthesis.
- (c) Yes, destarching of leaf is necessary before performing this experiment. During this period, all the starch from leaves will be removed to the storage organs and the leaves will not show the presence of starch. This ensures that any starch present after the experiment has been formed under experimental conditions.

Question 4

A.

(a) Monocots - Rice, Grass

Dicots- Pea, Brinjal

(b) Differences between monocots and dicots:

Monocots	Dicots
1. One cotyledon	1. Two cotyledons
2. Parallel venation	2. Reticulate venation
3. Fibrous roots	3. Tap roots

B.

Class	Aves	Mammalia
Body covering	Feathers	Hair
Reproduction	Lay eggs	Give birth to young ones
Examples	Peacock, sparrow	Cow, deer

Question 5

A.

1. Striated muscles are under the control of one's will while unstriated muscles are not under the control of one's will.
2. The movement of materials in xylem is unidirectional, whereas the movement in phloem is bidirectional.
3. Molluscs move with the help of a muscular foot while echinoderms move with the help of tube feet.
4. Aerobic respiration releases 38 molecules of ATP, while anaerobic respiration releases 2 molecules of ATP.
5. Cocci are spherical in shape, while bacilli are rod-shaped.

B.

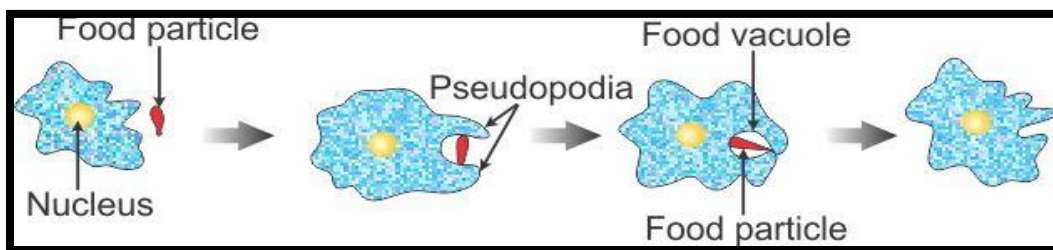
1. Kidneys. (Kidney is a part of the excretory system, while trachea, bronchi and lungs constitute the respiratory system.)
2. Reptilia. (Class Reptilia belongs to Phylum Vertebrata while Class Annelida, Arthropoda and Nematoda belong to Phylum Invertebrata.)
3. *Spirogyra*. (*Spirogyra* is multicellular, while *Euglena*, *Amoeba* and *Chlorella* are unicellular.)
4. Spinal cord. (The spinal cord belongs to the nervous system, while the pituitary, thyroid and adrenal are glands and belong to the endocrine system.)
5. Vulture. (A vulture can fly, while the penguin, ostrich and kiwi are all flightless birds.)

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Question 6

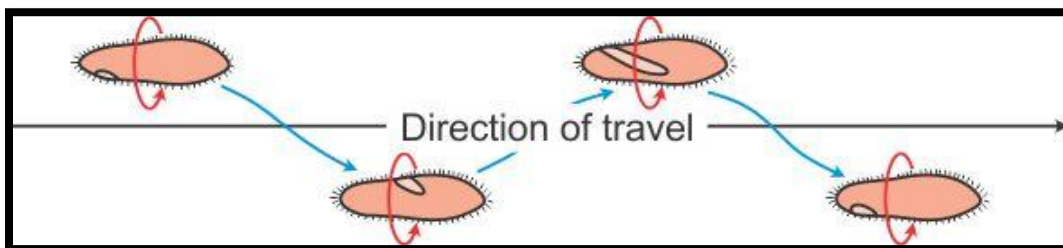
A. Movement in *amoeba*:

- *Amoeba* is unicellular, and does not have a definite shape.
- In order to move, it thrusts out temporary finger-like projections called false-feet or 'pseudopodia' in the direction of movement.
- The cellular contents are pushed forward into the pseudopodium.
- *Amoeba* moves forward because of the flowing motion of the cytoplasm. It is often referred to as amoeboid movement.



Movement in *paramoecium*:

- *Paramoecium* has a slipper-shaped body with a flexible membrane called **pellicle**.
- The pellicle is covered with short hair-like structures called **cilia**.
- The cilia beat in an organised manner to propel the organism through water.
- During its movement, the organism rotates in a spiral path.
- It moves forward or backward depending on the direction in which the cilia beat.
- It can also crawl on its oral side using the cilia as tiny legs.



B.

1. **Classification:** Grouping organisms together on the basis of certain common features is called classification.
2. **Binary fission:** Binary fission is a method of asexual reproduction in which a single parent organism splits to give rise to two identical daughter organisms.
3. **Vertebrates:** Animals with a backbone or a vertebral column are called vertebrates.
4. **Photosynthesis:** The process of synthesising food using water from the soil and carbon dioxide from the air together with chlorophyll and sunlight is called photosynthesis.
5. **Sensory nerve:** Sensory nerve contains only sensory fibres which bring impulses from the sense organs to the brain or the spinal cord.

Question 7

A.

1. Symptoms of food allergy:

- Abdominal pain
- Bloating
- Vomiting
- Diarrhoea
- Itchy skin
- Swelling of the skin

2. Liverfluke is placed in phylum Platyhelminthes. Liverfluke is a small, soft, flattened, unsegmented worm. It does not have a body cavity. Therefore, it is placed in Phylum Platyhelminthes.

B.

1. Main functions of cerebellum:

- It helps in maintaining the posture and equilibrium of our body.
- It enables us to make precise and accurate movements.

2. The plant will not remain healthy for a long time because:

- It would not get oxygen for respiration.
- It would not get carbon dioxide to carry out photosynthesis.
- The upward movement of water and minerals would be hampered due to lack of transpiration.