

ICSE Board
Class VII Biology
Sample Paper – 2 Solution

Question 1

1. (a) Sclerenchyma. (Sclerenchyma consists of long, narrow and thick cells which are dead.)
2. (a) Muscles to bones. (Tendons are in the form of tough parallel fibres of connective tissues which join muscles to the bones.)
3. (c) Blood and lymph. (Cartilage and bone are supportive connective tissues. Blood and lymph are fluid connective tissues.)
4. (a) Angiosperms and gymnosperms. (Gymnosperms bear seeds but they do not produce fruits. Angiosperms bear seeds and also produce flowers and fruits.)
5. (d) Alveoli. (Exchange of gases such as oxygen and carbon dioxide takes place at the thin and moist walls of the alveoli.)
6. (a) Rohu. (Rohu belongs to Class Pisces which includes fishes. All fishes have bodies covered with scales and they breathe with the help of gills.)
7. (d) Starch. (During photosynthesis, plants produce glucose which is immediately utilized by the cells or stored in the form of insoluble starch.)
8. (a) ATP. (ATP or Adenosine Triphosphate is the energy currency of the cell. Any activity inside the cell is carried out by the energy released by the ATP molecules.)
9. (b) Adipose tissue. (Adipose tissue contains cells filled with fat globules.)
10. (b) Carbolic acid. (Carbolic acid is an antiseptic which is added during the respiration experiments to prevent the growth of bacteria on dead seeds.)
11. (c) Urinary bladder. (Urinary bladder is a muscular bag situated towards the bottom of the abdomen and stores urine temporarily.)
12. (b) Contractile vacuole. (Elimination of wastes from the body of *Amoeba* takes place with the help of contractile vacuole.)
13. (c) Binary fission. (In binary fission, the parent organism splits and divides into two identical daughter organisms.)

14. (c) Renal pelvis. (After secretion, the remaining fluid or urine from the nephrons passes into the renal pelvis of the kidney and next through the ureters and finally, into the urinary bladder.)

15. (d) Swollen, red patches appear on the skin. (Hives is an outbreak of swollen, pale red bumps or patches on the skin.)

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. Phloem
2. Thorax
3. Fungi
4. Stomata
5. Bryophytes

B.

1. Tube feet
2. Bowman's capsule
3. Spores
4. Nephridia
5. Guard

Question 3

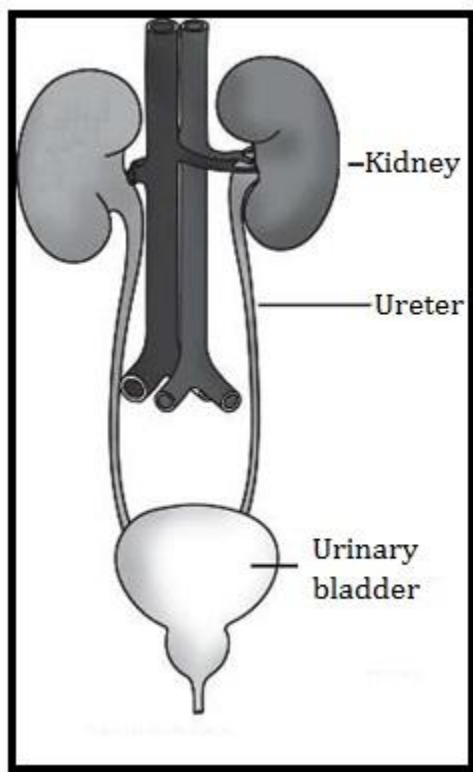
A.

| Column A | Column B |
|--------------|---------------|
| 1. Sponge | C. Porifera |
| 2. Snail | D. Mollusc |
| 3. Butterfly | E. Arthropoda |
| 4. Toad | B. Amphibia |
| 5. Lizard | A. Reptilia |

B.

1. The given picture shows the structure of chloroplast (plastid). Chloroplasts are found in plant cell. They help in the manufacture of food for the plants by the process of photosynthesis.

2.

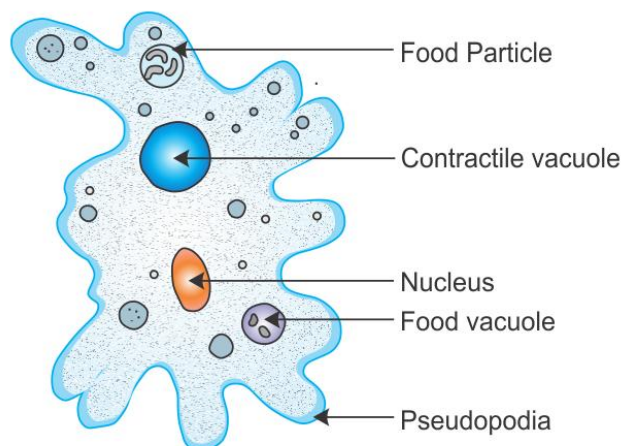


Question 4

A.

- (a) Substances which cause allergies are called allergens. Dust, spores and pollen are examples of allergens.
- (b) A blood test is mostly preferred to test an allergy rather than a skin prick test because:
 - Quick and simple
 - Can be ordered by a licensed healthcare provider
 - Can be performed irrespective of age, skin condition, medication, symptoms, disease activity and pregnancy
 - Very safe since the person is not exposed to any of the allergens during the testing procedure

B. The given figure shows the structure of an Amoeba.



Question 5

A.

| | Aerobic respiration | Anerobic respiration |
|---------------------------|----------------------------------|--|
| Oxygen requirement | Oxygen is utilised | Oxygen is not utilised |
| End products | Carbon dioxide, water and energy | Ethanol/lactic acid, carbon dioxide and energy |
| Energy released | 38 ATP | 2 ATP |

B.

1. Tannin. (Tannin is an excretory product in plants while urea, uric acid and bile are the excretory products in animals.)
2. Spinal nerves. (Spinal nerves are a part of the peripheral nervous system while cerebrum, medulla and cerebellum are parts of the brain which is a part of the central nervous system.)
3. Water strider. (Water strider is an insect, while bat, blue whale and flying squirrel are mammals.)
4. Typhoid. (Typhoid is a bacterial disease while hay fever, hives and asthma are allergic reactions.)
5. Ligament. (Ligament is an animal tissue while xylem, parenchyma and meristem are all plant tissues.)

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 6

A. Difference between respiration and photosynthesis.

| Respiration | Photosynthesis |
|---|---|
| 1. During respiration food is broken down and energy is released. | 1. During photosynthesis food is manufactured and energy is stored. |
| 2. Oxygen is utilised and carbon dioxide is released during this process. | 2. Oxygen is released and carbon dioxide is utilised during this process. |
| 3. It is a continuous process. | 3. It occurs only during the day. |
| 4. It occurs in all cells. | 4. It occurs only in cells containing chlorophyll. |
| 5. The site of respiration is the mitochondria. | 5. The site of photosynthesis is the chloroplast. |

B.

- Egestion:** Egestion, also called defecation, is the process of removal of undigested food materials left behind after the process of absorption is complete.
- Tissue:** A group of cells specialised to perform a particular function in the body is called a tissue.
- Symbiosis:** Symbiosis is a kind of relationship between two organisms wherein both the organisms are mutually benefited.
- Monocotyledons:** Seeds which contain only one cotyledon or seed leaf in their seeds are called monocotyledons.
- Breathing:** Breathing is a physical process of inhalation and exhalation of gases, which occurs outside the cells, with no release of energy during the process.

Question 7

A.

| | Arthropoda | Annelida | Mollusca |
|------------------------|---|---|--|
| Characteristics | <ol style="list-style-type: none"> Body divided into head, thorax and abdomen Body has jointed legs | <ol style="list-style-type: none"> Body composed of rings or segments Special organs for excretion called nephridia | <ol style="list-style-type: none"> Soft unsegmented body Body enclosed in a hard shell |
| Example | Crab | Earthworm | Snail |

B.

1. **Commercial importance of yeast:**

- (a) Yeast is a kind of fungi. It is used in making bread. Carbon dioxide produced during fermentation is trapped in the dough which helps the bread to rise when baked, giving it the required lightness and soft texture.
- (b) Yeast is also used in making vinegar.
- (c) It produces vitamin B₁₂ (riboflavin).
- (d) It is also used in breweries for alcoholic preparations.

2. **Differences between xylem and phloem:**

| Xylem | Phloem |
|--|--|
| 1. Transport water and minerals | 1. Transport food and nutrients |
| 2. Flow of water and nutrients is unidirectional | 2. Flow of food and nutrients is bidirectional |
| 3. Contains dead tissues at maturity with no cell contents | 3. Contains living tissues without nucleus |