

**ICSE Board**  
**Class VII Biology**  
**Sample Paper – 1**

**Time: 2 hrs**

**Total Marks: 75**

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**General Instructions:**

1. All questions are **compulsory**.
  2. Questions 1 to 15 carry one mark each.
  3. Questions in 2 A and B carry one mark each.
  4. Questions in 3 A carry one mark each and B carries 5 marks.
  5. Question 4 A and B carries 5 marks each.
  6. Questions in 5 A and B carry one mark each.
  7. Questions in 6A and B carry one mark each.
  8. Question 7 A and B carry five marks each.
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**Question 1**

Choose the correct answer out of the four available choices given below each question. [15]

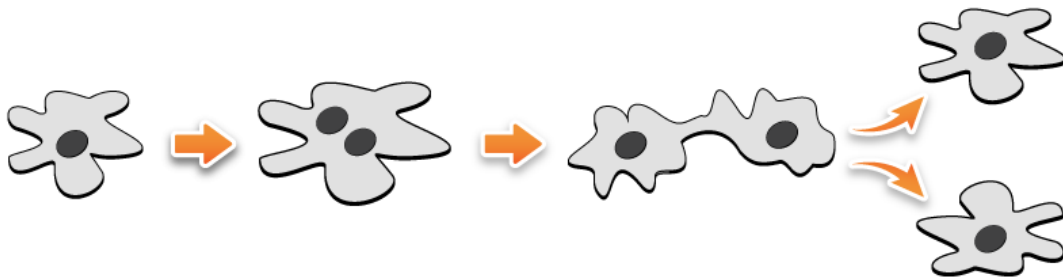
1. Which of the following tissues consists of dead cells?
  - (a) Sclerenchyma
  - (b) Parenchyma
  - (c) Collenchyma
  - (d) Aerenchyma
  
2. Tendons connect \_\_\_\_\_ to \_\_\_\_\_.
  - (a) Muscles to bones
  - (b) Muscles to skin
  - (c) Bones to skin
  - (d) Muscles to muscles
  
3. Fluid connective tissue in humans is
  - (a) Blood and cartilage
  - (b) Lymph and plasma
  - (c) Blood and lymph
  - (d) Bone and cartilage
  
4. Based on whether they produce fruits or not, plants are classified into
  - (a) Angiosperms and gymnosperms
  - (b) Bryophytes and pteridophytes
  - (c) Angiosperms and bryophytes
  - (d) Gynosperms and pteridophytes

5. Oxygen and carbon dioxide are exchanged at the \_\_\_\_\_.
- (a) Nasal cavities
  - (b) Trachea
  - (c) Pharynx
  - (d) Alveoli
6. Which of the following has a scaly skin on its body and breathes with the help of gills?
- (a) Rohu
  - (b) Tortoise
  - (c) Sparrow
  - (d) Rat
7. Carbohydrates are stored by the plants in the form of
- (a) Vitamins
  - (b) Fats
  - (c) Proteins
  - (d) Starch
8. Which of the following refers to the energy currency of the cell?
- (a) ATP
  - (b) ADP
  - (c) NADH
  - (d) NADP
9. Which of following tissues stores fats?
- (a) Areolar tissue
  - (b) Adipose tissue
  - (c) Epithelial tissue
  - (d) Ligaments
10. Which of the following chemicals is added during respiration experiments to prevent bacterial growth on dead seeds?
- (a) Citric acid
  - (b) Carbolic acid
  - (c) Pyrogallic acid
  - (d) Potassium permanganate
11. Which of the following stores urine?
- (a) Ureter
  - (b) Urethra
  - (c) Urinary bladder
  - (d) Kidney

12. Excretion in Amoeba takes place with the help of \_\_\_\_\_.

- (a) Food vacuole
- (b) Contractile vacuole
- (c) Pseudopodia
- (d) Cilia

13. Identify this method of reproduction.



- (a) Multiple fission
- (b) Fragmentation
- (c) Binary fission
- (d) Segmentation

14. Nephrons release urine into the \_\_\_\_\_, from where the ureters carry it to the urinary bladder.

- (a) Glomerulus
- (b) Kidneys
- (c) Renal pelvis
- (d) None of these

15. Which of the following occurs due to allergic reaction 'hives'?

- (a) Lining of the nasal cavity becomes inflamed
- (b) Walls of the bronchioles contract
- (c) Blood pressure decreased
- (d) Swollen, red patches appear on the skin

## Question 2

A. Name the following.

[5]

1. Tissue involved in the transport of food in plants.
2. The middle portion of an insect's body.
3. Organisms in which the body consists of thread-like structures.
4. Tiny openings found on the lower side of the leaf for the exchange of gases.
5. Amphibians of plant kingdom.

B. Fill in the blanks.

[5]

1. Starfish moves with the help of \_\_\_\_\_.
2. Each nephron consists of a cup-shaped structure called \_\_\_\_\_.
3. \_\_\_\_\_ are tiny structures capable of producing new plants.
4. Annelids have special organs for excretion called \_\_\_\_\_.
5. Stomata are surrounded by a pair of bean-shaped cells called \_\_\_\_\_ cells.

### Question 3

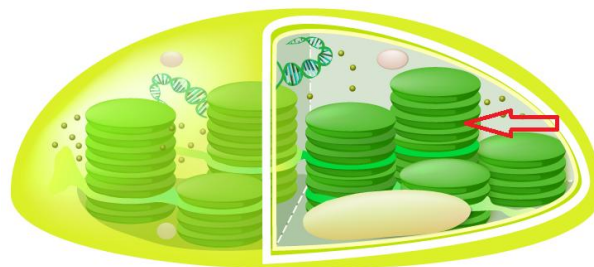
A. Match the following.

[5]

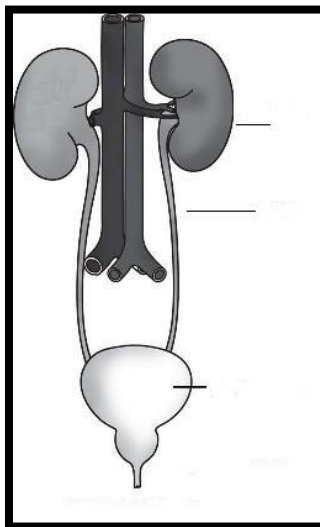
Column A	Column B
1. Sponge	A. Reptilia
2. Snail	B. Amphibia
3. Butterfly	C. Porifera
4. Toad	D. Mollusc
5. Lizard	E. Arthropoda

B. Answer the following.

1. Observe the picture given below and identify the cell structure. In which type of cell is this structure present? What is its role? [2]



2. Observe the picture given below and label the parts. [3]



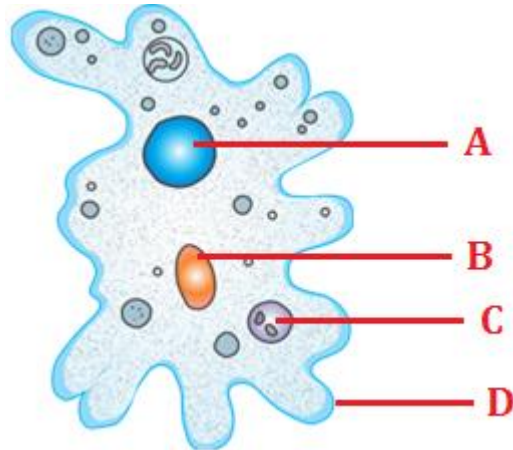
#### Question 4

A.

(a) What are allergens? Name any two allergens. [2]

(b) Which test is mostly preferred to test an allergy, skin prick test or blood test? Why? [3]

B. Identify the figure and label its parts. [5]



#### Question 5

A. Complete the table given below. [5]

	<b>Aerobic respiration</b>	<b>Anerobic respiration</b>
<b>Oxygen requirement</b>		
<b>End products</b>		
<b>Energy released</b>		

B. Find the odd one out. [5]

1. Tannin, Urea, Uric acid, Bile
2. Cerebrum, Medulla, Spinal nerves, Cerebellum
3. Bat, Blue whale, Flying squirrel, Water strider
4. Typhoid, Hay fever, Hives, Asthma
5. Xylem, Parenchyma, Meristem, Ligament

**Question 6**

- A. State the differences between respiration and photosynthesis. [5]
- B. Define the following terms. [5]
1. Egestion
  2. Tissue
  3. Symbiosis
  4. Monocotyledons
  5. Breathing

**Question 7**

- A. Write two characteristics and one example for each of the following: [5]
1. Arthropoda
  2. Annelida
  3. Mollusca
- B. Answer the following.
1. State the commercial importance of yeast. [2]
  2. Write three points of differences between xylem and phloem. [3]

# Solution

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## 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.

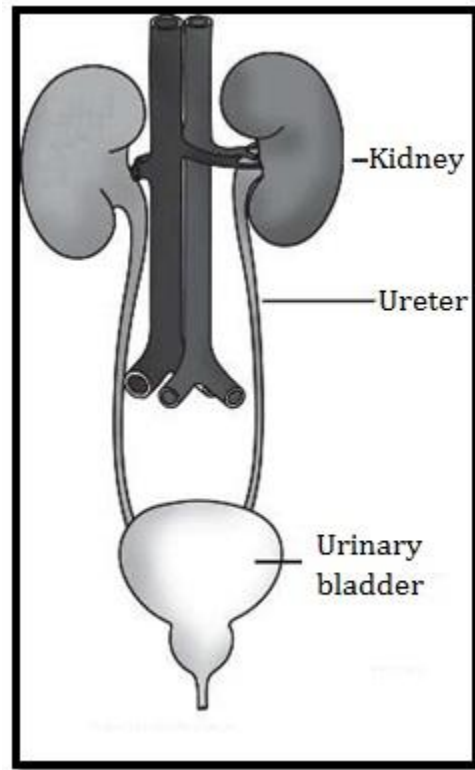
<b>Column A</b>	<b>Column B</b>
1. Sponge	C. Porifera
2. Snail	D. Mollusc
3. Butterfly	E. Arthropoda
4. Toad	B. Amphibia
5. Lizard	A. Reptilia



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

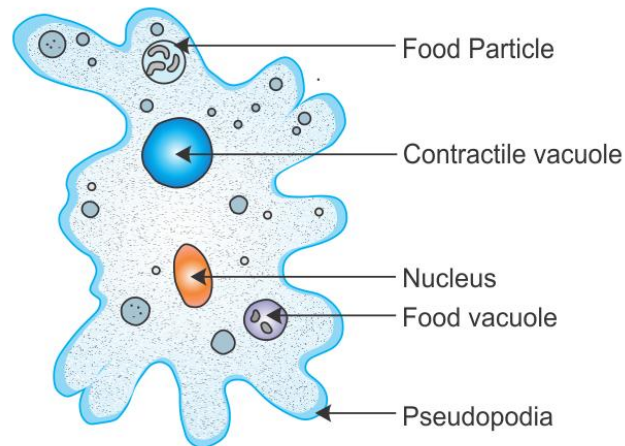
A.

(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.

	<b>Aerobic respiration</b>	<b>Anerobic respiration</b>
<b>Oxygen requirement</b>	Oxygen is utilised	Oxygen is not utilised
<b>End products</b>	Carbon dioxide, water and energy	Ethanol/lactic acid, carbon dioxide and energy
<b>Energy released</b>	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
<b>Characteristics</b>	<ol style="list-style-type: none"> <li>1. Body divided into head, thorax and abdomen</li> <li>2. Body has jointed legs</li> </ol>	<ol style="list-style-type: none"> <li>1. Body composed of rings or segments</li> <li>2. Special organs for excretion called nephridia</li> </ol>	<ol style="list-style-type: none"> <li>1. Soft unsegmented body</li> <li>2. Body enclosed in a hard shell</li> </ol>
<b>Example</b>	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 B<sub>12</sub> (riboflavin).
- (d) It is also used in breweries for alcoholic preparations.

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

<b>Xylem</b>	<b>Phloem</b>
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