

**PRACTICE QUESTIONS
FOR
SELF EVALUATION
FROM
CHAPTER - I & II**

Level 1

1. Complete the following:

- (i) _____ is the energy currency of the cell.
- (ii) _____ is found only in an animal cell.
- (iii) _____ found out that plants are made up of cells.

2. State whether the following are true or false. Correct and rewrite the false statement:

- (i) Big vacuole is present in plant cell.
- (ii) The waste disposal part of the cell is mitochondria.

3. Match the following:

| <i>A</i> | <i>B</i> |
|------------------------------|---------------------|
| 1. Suicide bag | (a) Mitochondria |
| 2. Semi-permeable | (b) Lysosome |
| 3. Brain of the cell | (c) Plasma membrane |
| 4. Site of protein synthesis | (d) Ribosome |
| 5. Power house of the cell | (e) Cell wall |
| | (f) Nucleus |

Level 2

- 4. Why plasma membrane is regarded as a semi-permeable membrane?
- 5. Name the 'suicide bag of the cell'. Why is it called so?
- 6. List the points to distinguish a prokaryotic cell from a eukaryotic cell.
- 7. Give reasons:
 - (i) Cell wall is freely permeable.
 - (ii) Chemical analysis of protoplasm is difficult.

Level 3

- 8. Write the functions of the following organelles:
 - (i) Ribosomes
 - (ii) Mitochondria
 - (iii) Chromoplast
- 9. Draw an animal cell and label the following parts:
 - (i) Semi-permeable membrane.
 - (ii) The part that helps in respiration.
 - (iii) The part that transport materials.
- 10. Explain the structure and function of golgi body.

Level 1

1. Name the location of the following:

- (i) Intercalary meristem.
- (iii) Areolar tissue.
- (v) Ligament.

- (ii) Striated muscles.
- (iv) Stratified epithelium

2. State whether the following are true or false.

- (i) Collenchyma cells have intercellular spaces.
- (ii) Length of the stem is due to intercalary meristem.
- (iii) Sclerenchyma is a complex tissue.
- (iv) When parenchyma contains chlorophyll, it is called as chlorenchyma.
- (v) Lymph contains RBC.

3. Find out the odd one.

- (i) Vessels, companion cells, tracheids, xylem parenchyma.
- (ii) Parenchyma, sclerenchyma, phloem, collenchyma.
- (iii) Cardiac muscle, smooth muscle, nerve cell, striated muscle.
- (iv) Tendon, ligament, bone, columnar epithelium.

Level 2

4. Define:

- (i) Simple permanent tissue
- (iv) Matrix

- (ii) Axon
- (v) Tissue

(iii) Tendon

5. Write the functions of:

- (i) Collenchyma
- (iii) Platelets

- (ii) Neuron
- (iv) Connective tissue.

6. Differentiate between:

- (i) Parenchyma and Sclerenchyma.
- (iii) Smooth and Striated muscle.
- (v) Apical meristem and Lateral meristem.

- (ii) Xylem and Phloem.
- (iv) Blood and Lymph.

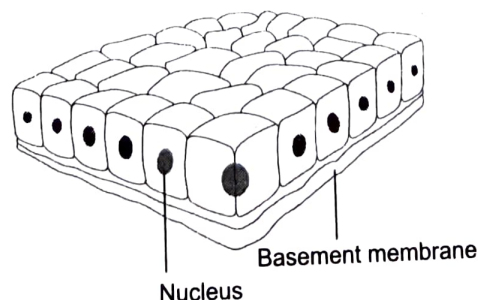
Level 3

7. Draw a neuron and label the following:

- (i) The part that receives impulses.

- (ii) The part that transmit the impulses to another neuron.

8. (i) Identify the figure.



- (ii) Where can you see this tissue?
- (iii) Write the function of it.

VERY SHORT ANSWER QUESTIONS

1. Name the type of tissue found

- (a) at the tip of plant roots.
- (c) on the surface of human skin.
- (e) in the palms and soles.
- (g) in the inner lining of the intestine.
- (i) in the gritty mass (pulp) of pears.
- (b) at the base of the leaves.
- (d) between muscles and bones.
- (f) in the wall of the heart.
- (h) in the brain and the spinal cord.
- (j) on the lower surface of leaves.

2. Identify the following tissues:

- (a) Skeletal tissue which is devoid of blood vessels.
- (b) Straw-coloured fluid connective tissue which lacks RBCs.
- (c) Plant tissue that has lost its ability to divide.
- (d) Tissue consisting of cells with thick, lignified cell walls.
- (e) Tissue responsible for the transportation of water in plants.

3. Pick the odd one out:

- 1. Bone, blood, tendon, nerve.
- 2. Tracheids, sieve tubes, tracheae, wood fibres.
- ✓ 3. Root tips, internodes, leaf stalk, cambium.
- 4. Trichomes, cork, root hair, aerenchyma.
- 5. Cuboidal, columnar, ciliated, connective.

4. Give one word for the following statements:

- 1. Tissues organised in a specific proportion and pattern.
- 2. Tissues responsible for increase in the girth of plants.
- 3. Living storage cells of the plants.
- 4. Blood cells responsible for clotting.
- ✓ 5. Muscles that work at our will.

5. Fill in the blanks:

- 1. Potato tubers store starch in _____ cells.
- 2. _____ acts as cement and makes sclerenchyma hard.
- 3. Parenchyma containing chloroplasts is known as _____ and that with air-filled intercellular spaces is called _____.
- 4. The ova from the oviducts are guided to the uterus by _____ cells.
- ✓ 5. _____ muscles never take rest.

6. Match the following columns:

Column A

1. *Hydrilla*
2. Companion cells
3. Stone cells
4. Blood clotting
5. Skeletal muscles
6. Thickened corners

Column B

- (a) Sclerenchyma
- (b) Platelets
- (c) Striated muscles
- (d) Aerenchyma
- (e) Phloem
- (f) Collenchyma

SHORT ANSWER QUESTIONS

1. List the functions of **three** types of simple plant tissues.
2. What are the different types of cells found in human blood?
3. Name the elements that constitute xylem and phloem. Give their importance as vascular elements.
4. Name **three** types of muscles found in the human body and compare these structurally as well as functionally.
5. If we cut the tips of onion roots, they stop growing further. Why?
6. Name the tissues which form the following:
 - (a) Epidermis
 - (b) Cartilage
 - (c) Xylem
 - (d) Parenchyma
 - (e) Tendon
 - (f) Neuron.

LONG ANSWER QUESTIONS

1. Differentiate between the following:
 - (a) Meristematic and permanent tissue.
 - (b) Xylem and phloem.
 - (c) Columnar epithelium and ciliated epithelium.
 - (d) Skeletal muscles and cardiac muscles.
 - (e) Collenchyma and sclerenchyma.
 - (f) Bone and cartilage.
 - (g) Cell and tissue.
2. Explain the structure and functions of different kinds of blood cells present in human body.
3. Draw a well-labelled structure of a typical nerve fibre. Write the characteristic features and function of each part.
4. List the different elements of plant vascular tissues. Explain their structure and role in transportation in plants.
5. Tabulate the differences between three kinds of simple permanent plant tissues. Draw structure of each to support your answer.

VERY SHORT ANSWER QUESTIONS

1. Fill in the blanks:

- The cell is the fundamental _____ and _____ unit of organisms.
- The smallest living cell found on the earth is _____ whereas _____ is considered the largest living cell.
- Red blood cells are _____ and _____ to transport maximum amount of oxygen into the body.
- The plasma membrane is made up of _____ and _____, while the cell wall is composed of _____.
- Chromatin material of nucleus condenses into _____ during cell _____.
- The _____ serves as a passage for the transport of materials into the cell.
- Lysosomes are filled with _____ enzymes and are called _____.
- The inner membrane of mitochondria is folded into _____.
- Elaioplasts store _____ and amyloplasts store _____ in the plant cells.
- The fluid content of vacuole in plant cells is called _____.
- Centrosomes contain two _____ which help in cell division.

2. State whether the following statements are true or false:

- Cells are the building blocks of *Amoeba* and *Paramecium*.
- The first living cell was observed by Anton van Leeuwenhoek.
- The nerve cells are long and branched for rapid transmission of impulses within the body.
- Mitochondria are called the powerhouse of the cell and require lot of energy to work.
- Chloroplasts provide green colour to the plant.
- Plasma membrane is a dead covering surrounding all the cells.
- Chromosomes contain the segment of RNA called genes.
- Rough endoplasmic reticulum helps in protein synthesis because it has ribosomes attached to its surface.
- Plant cells have small vacuoles filled with cell sap.
- Protoplasm and cytoplasm are synonymous terms.

3. Match the following columns:

Column A

- Cell wall
- Largest cell
- Spindle-shaped
- Cristae
- Scavengers
- Dictyosomes
- Genes
- Chromoplast
- Bacteria
- Centrosome

Column B

- Cell secretion
- Prokaryote
- DNA
- Ostrich's egg
- Cellulose
- Xanthophyll
- Lysosomes
- Mitochondria
- Cell division
- Muscle cell

SHORT ANSWER QUESTIONS

- Name the scientist(s) who
 - put forward the concept of cell.
 - observed the first living cell.
 - coined the term cell.
 - proposed the Cell Theory.
 - designed the electron microscope.
- Name the organelle which is called the
 - controlling centre of the cell.
 - biochemical machine of the cell.
 - demolition squad of the cell.
 - traffic police of the cell.
 - suicide bag of the cell.
- State the Cell Theory and its significance.

4. Write a few examples illustrating that the cells vary in size.
5. How is shape of the cells related to the functions performed by them? Give examples.
6. Write **three** structural differences between an animal and a plant cell.
7. Why are most of the cells called microscopic?
8. Which major feature differentiates a prokaryotic and eukaryotic cell?
9. What is the significance of mitochondria in a cell?
10. What are plastids? Mention different types of plastids and their role in plant cells.
11. Name the organelle present only in animal cells. What is its significance?

LONG ANSWER QUESTIONS

1. Differentiate between the following:

| | |
|------------------------------------|---------------------------------|
| (a) Plasma membrane and cell wall. | (b) Animal cell and plant cell. |
| (c) Rough ER and smooth ER. | (d) Prokaryotes and eukaryotes. |
| (e) Leucoplasts and chromoplasts. | (f) Centrosome and chromosome. |
2. Draw a well-labelled diagram of the nucleus. Write the functions of each part.
3. List the cytoplasmic organelles of a cell. Write the functions of each organelle.
4. What are the different names given to lysosomes? Justify each name with reference to the functions.
5. State **one** characteristic feature and **major** functions of the following organelles:

| | |
|------------------|----------------------------------|
| (a) Centrosome | (b) Vacuole |
| (c) Dictyosomes | (d) Smooth endoplasmic reticulum |
| (e) Elaioplasts. | |

STRUCTURED/APPLICATION/SKILL QUESTIONS

1. Observe the figure A and answer the following questions:

- (a) Label the parts numbered 1–14.
- (b) Which part
 - controls the metabolic activities of a cell?
 - provides energy for carrying out functions?
 - helps in the synthesis of carbohydrates?
 - regulates the protein synthesis in the cell?
- (c) Name an organelle which is not present in the animal cell.
- (d) Differentiate between 1 and 10 based on their composition.

