

The cell

ORAL QUESTIONS

A. Answer these questions orally.

1. Who gave the cell theory?
2. Who discovered cells and when?
3. What is the shape of muscle cells?
4. Why are chloroplasts green in colour?
5. What are coloured plastids called?
6. What are found suspended in the cytoplasm?
7. Do all cells have the same shape?

B. Match the columns.

COLUMN A

1. Nerve cell
2. Liver cell
3. Red blood cell
4. *Acetabularia*
5. Ostrich egg

COLUMN B

- (a) About 10 cm long
- (b) 7 μ in diameter
- (c) More than a metre long
- (d) About 7 cm in diameter
- (e) 20 μ –30 μ in diameter

PUZZLES/QUIZ

C. Find at least nine terms that are related to Cells.

A	P	K	E	Q	A	G	A	W	Y	A
N	M	N	E	R	V	E	C	E	L	L
E	F	U	P	E	H	N	P	X	W	E
V	A	C	U	O	L	E	Y	D	Q	E
C	H	L	O	R	O	P	L	A	S	T
I	Y	E	G	K	A	G	W	Y	Z	I
T	D	U	H	G	W	M	E	R	V	S
Y	R	S	K	T	Z	W	O	Q	B	S
U	A	L	W	E	Q	O	U	E	L	U
R	I	B	O	S	O	M	E	U	B	E
L	E	U	C	O	P	L	A	S	T	A

D. Unscramble the words given below into meaningful words. Take help from the clues given alongside.

1. I U E S T S

_____ (a group of cells having same structure, performing same functions)

2. U E C L O V A

_____ (Central water-filled space found in a plant cell)

3. L S C U U E N

_____ (the control centre of the cell)

4. O M M S O R E H S C

_____ (thread like structures in the nucleus that carry genes)

CLASS TEST

E. MCQ– Tick (✓) the correct option.

1. Which of the following cells found in humans can change their shape?

- | | | | |
|----------------------|--------------------------|--------------------|--------------------------|
| (a) Nerve cell | <input type="checkbox"/> | (b) Muscle cell | <input type="checkbox"/> |
| (c) White blood cell | <input type="checkbox"/> | (d) Red blood cell | <input type="checkbox"/> |

2. Which of these cells found in the leaves of plants are kidney-shaped?

- | | | | |
|--------------|--------------------------|-----------------|--------------------------|
| (a) Xylem | <input type="checkbox"/> | (b) Phloem | <input type="checkbox"/> |
| (c) Plastids | <input type="checkbox"/> | (d) Guard cells | <input type="checkbox"/> |

3. Who observed single-celled organisms in rain water?

- | | |
|---------------------------|--------------------------|
| (a) Robert Hooke | <input type="checkbox"/> |
| (b) Anton Van Leeuwenhoek | <input type="checkbox"/> |
| (c) Robert Brown | <input type="checkbox"/> |
| (d) Schleiden | <input type="checkbox"/> |

4. Several organs join together to form

- | | | | |
|-------------|--------------------------|---------------------|--------------------------|
| (a) A cell | <input type="checkbox"/> | (b) A tissue | <input type="checkbox"/> |
| (c) A human | <input type="checkbox"/> | (d) An organ system | <input type="checkbox"/> |

5. Which of the following statements is incorrect?

(a) *Amoeba* is a unicellular organism

(b) Chromoplasts are colourless plastids

(c) Leucoplasts are colourless plastids

(d) Mitochondria is called the power house of the cell

F. Very short answer questions.

1. Why are cells coloured with some dye while studying under a microscope?

2. What is the process of colouring cells while studying under a microscope?

3. Name a few unicellular organisms.

4. What is a tissue?

5. What is a nervous tissue?

6. What is the function of a nerve cell?

7. What is the function of xylem cells?

8. What do tissues together form?

9. What is an organ formed of?

10. Name two tissues of which brain is formed of.

11. Name any five organ systems found in human beings.

12. What are the different shapes in which cells are found?

13. Write the shapes of the following cells:

(a) Muscle cell

(b) Nerve cell

(c) White blood cell

(d) Guard cell

14. Give the full form of RNA.

15. Is cell wall found in animal cells?

16. What is the full form of DNA?

17. Do animal cells have vacuoles?

18. What is the other name for false feet found in *Amoeba*?

19. Name one cell organelle which is found only in

(a) Plant cell

(b) Animal cell

G. Short answers questions.

1. Differentiate between.

(a) Plant cell and Animal cell

PLANT CELL	ANIMAL CELL

(b) Unicellular organisms and Multicellular organisms

UNICELLULAR ORGANISMS	MULTICELLULAR ORGANISMS

2. What does the cell theory proposed by Schleiden and Schwann state?

3. What is a cell membrane? What are its functions?

4. Each organ system is associated with a specific function. Justify this statement with two examples.

5. What is a cell wall? What are its functions?

6. What is nucleus? Where is nucleus located in
(a) A plant cell

(b) An animal cell

7. What is nucleoplasm?

8. What is nucleolus?

9. What are chromosomes?

10. What are chromatin threads?

11. What are genes? What is their function?

12. What are the functions of nucleus?

13. What is the function of mitochondria?

14. What is endoplasmic reticulum? What are its functions?

15. What are the functions of golgi bodies?

16. What is the function of lysosomes?

17. What is the function of ribosomes?

18. What are plastids?

19. What is the colour of chloroplasts? What is their function?

20. What is the function of chromoplasts?

21. What are leucoplasts? What is their function?

22. What are vacuoles?

H. Long answer questions.

1. Draw well-labelled diagram of an animal cell.



2. Size of cells varies considerably in different living organisms–Justify this statement.

3. Different shapes of cells are related to their specific functions–Justify this statement.

4. Write a note on the discovery of cell.

HOME ASSIGNMENT

I. Think and answer.

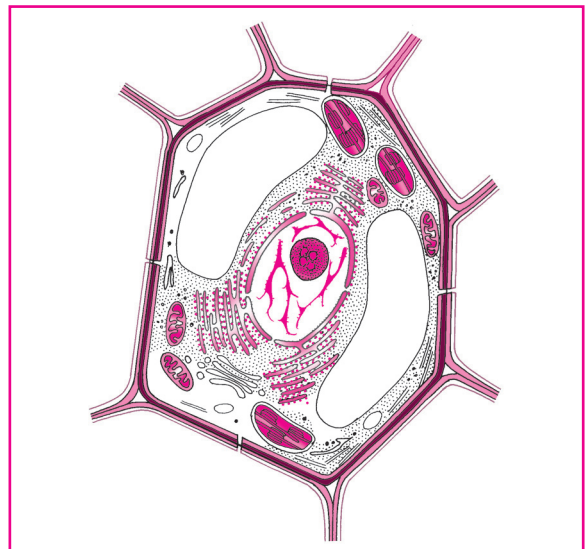
1. Neha observed a slide under a microscope. She saw a large number of scattered cells. Each cell was irregular in shape, had a darkly stained nucleus in the centre and a thin plasma membrane surrounding the cell cytoplasm. Which cell do you think she observed—an animal cell or a plant cell?

2. What do you think is the red colour of carrots and tomatoes due to?

3. (a) Look at the diagram shown alongside. Is it a plant cell or an animal cell?

(b) Name any three cell organelles which are common in both plant cell and animal cell.

(c) Label the diagram shown alongside.



WORKSHEET

J. Give reasons for the following.

1. Chromosomes are called hereditary vehicles.

2. Mitochondria is called the power house of the cell.

3. The nuclear envelope is perforated by nuclear pores.

4. Chromosomes are visible only in the cells undergoing division.

5. In a plant cell, the nucleus is shifted to one side.
