

# 8

## Cell—Structure and Functions

### MULTIPLE CHOICE QUESTIONS

- Choose the correct statement with respect to unicellular organisms:
  - in unicellular organisms, tissues work in co-ordination to perform different functions.
  - unicellular organisms do not require food.
  - unicellular organisms respire and reproduce.
  - all unicellular organisms move by cilia.
- Majority of cells cannot be seen directly with our naked eyes because:
  - organisms are generally unicellular
  - cells are microscopic
  - cells are present only inside the body
  - cells are grouped into tissues
- Read the different combinations of terms given below:
  - cell wall, cell membrane, nucleus, plastid
  - cell wall, nucleus, ribosome, chromosome
  - cell membrane, mitochondria, ribosome, chromosome
  - cell membrane, ribosome, mitochondria, chloroplast.The correct combination of terms with reference to an animal cell is \_\_\_\_\_.
- Which one of the following term is not a part of the nucleus?

(a) ribosome	(c) chromosome
(b) nucleolus	(d) gene
- A suitable term for the various components of cells is

(a) tissue	(c) chromosomes
(b) cell organelles	(d) genes
- The jelly-like fluid substance present in cells is called

(a) protoplasm	(c) chloroplast
(b) chromosome	(d) cytoplasm

7. Read the following pairs of examples of organisms:
- |                      |                                  |
|----------------------|----------------------------------|
| (a) moss and sponge  | (c) bacteria and blue-green alga |
| (b) yeast and Amoeba | (d) penicillium and Spirogyra    |
- The pair that belongs to the group prokaryotes is \_\_\_\_\_
8. Read the following terms and select the pair that is related to inheritance of characters.
- |                                   |
|-----------------------------------|
| (a) cell wall and cell membrane   |
| (b) chromosome and mitochondria   |
| (c) chloroplast and cell membrane |
| (d) chromosome and genes          |
9. Choose the correct statement:
- |   |
|---|
| (a) Genes are located in the chromosomes.     |
| (b) Cell is located in the nucleus.           |
| (c) Chromosomes are located in the nucleolus. |
| (d) Cell membrane surrounds the nucleus.      |
10. Green colour of leaves is due to presence of the pigment \_\_\_\_\_
- |                 |                  |
|-----------------|------------------|
| (a) chlorophyll | (c) mitochondria |
| (b) ribosomes   | (d) chloroplast  |
11. The unit of measurement used for expressing dimension (size) of cells is:
- |                |                |
|----------------|----------------|
| (a) centimeter | (c) micrometer |
| (b) millimeter | (d) metre      |
12. The most important function of cell membrane is that it:
- |   |
|---|
| (a) controls the entry and exit of materials from cells.    |
| (b) controls only the entry of materials into cells.        |
| (c) controls only the exit of materials from cells.         |
| (d) allows entry and exit of materials without any control. |
13. Paheli accidentally placed her hand over a flame and immediately pulled it back. She felt the sensation of heat and reacted due to the action of
- |                  |                      |
|------------------|----------------------|
| (a) blood cells  | (c) nerve cells      |
| (b) skin surface | (d) nucleus of cells |
14. Of the following parts of a cell listed below, name the part that is common to plant cell, animal cell and a bacterial cell.
- |                 |                   |
|-----------------|-------------------|
| (a) chloroplast | (c) cell membrane |
| (b) cell wall   | (d) nucleus       |

15. The thread-like structures present in the nucleus are
- (a) nucleolus
  - (b) chromosomes
  - (c) genes
  - (d) ribosomes
16. Identify the statement which is true for cells.
- (a) Cells can be easily seen with naked eyes.
  - (b) Insect's egg is not a cell.
  - (c) A single cell can perform all the functions in a unicellular organism.
  - (d) The size and shape of cells is uniform in multicellular organisms
17. Which of the following is not a cell?
- (a) Red Blood Corpuscle (RBC)
  - (b) bacterium
  - (c) spermatozoa
  - (d) virus
18. Which of the following feature will help you in distinguishing a plant cell from an animal cell?
- (a) cell wall
  - (b) cell membrane
  - (c) mitochondria
  - (d) nucleus
19. Under a microscope Paheli observes a cell that has a cell wall but no distinct nucleus. The cell that she observes is
- (a) a plant cell
  - (b) an animal cell
  - (c) a nerve cell
  - (d) a bacterial cell
20. Cheek cells do not have \_\_\_\_\_
- (a) cell membrane
  - (b) nucleus
  - (c) golgi apparatus
  - (d) plastids
21. Identify the correct statement.
- (a) Tissue is a group of dissimilar cells.
  - (b) An organ consists of similar cells.
  - (c) Vacuoles are not found in plant cells.
  - (d) Prokaryotes do not have nucleus.
22. Which of the following statements are true for eukaryotic cells?
- (i) They do not have a nuclear membrane.
  - (ii) They have a well organised nucleus.
  - (iii) They have a nuclear membrane.
  - (iv) Blue green algae are eukaryotic cells.



30. What are the functions of cell wall in plant cells?

### SHORT ANSWER QUESTIONS

31. Is the following statement correct? If it is wrong, correct the statement

Statement : “Unicellular organisms do not respire, only multicellular organisms respire”

32. Match the terms given in column I with their functions given in column II and fill the blanks given below the table:

Column I	Column II
A. Chloroplast	i) carries hereditary characters
B. Cell membrane	ii) controls the activities of cells
C. Nucleus	iii) site of photosynthesis
D. Chromosome	iv) controls the movement of materials into and out of cells.

A-\_\_\_\_; B-\_\_\_\_; C-\_\_\_\_; D-\_\_\_\_

33. Observe the following diagram given as Fig. 8.1.



Fig. 8.1

Answer the following questions.

- Does it represent a plant cell or an animal cell?
- Does it represent a prokaryotic cell or an eukaryotic cell?

34. Label the parts A to E in the given as Fig. 8.2 diagram.

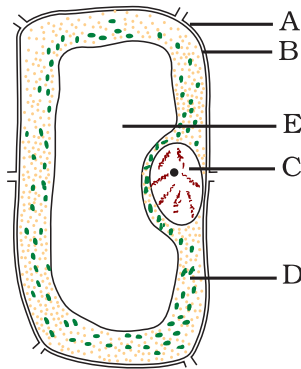


Fig. 8.2

35. Classify the following terms into cells, tissues and organs and write in the tabular column given below.

RBC, WBC, Nerve cell, blood, muscle, blood vessels, brain, heart, hand

Cell	Tissue	Organ
.....	.....	.....
.....	.....	.....
.....	.....	.....

36. Read the following statements and write the appropriate term against each statement.

- A. I control the functions of a cell. Who am I? .....
- B. I am like a policeman. I do not allow anything and everything to get in and out of the cell. Who am I? .....
- C. I transfer characters from parents to offsprings. Who am I? .....

37. Fill in the blanks with the terms given in the box below:

Nucleus, chromosomes, cell wall, cell membrane, protoplasm, cytoplasm, ribosome, cell organelles

The outermost layer of plant cells is the \_\_\_(a)\_\_\_ beneath which is the \_\_\_(b)\_\_. The term \_\_\_(c)\_\_\_ refers to the jelly-like substance containing all the \_\_\_(d)\_\_. The \_\_\_(e)\_\_\_ contains thread-like structures called \_\_\_(f)\_\_.

### LONG ANSWER QUESTIONS

38. Cells consist of many organelles, yet we do not call any of these organelles as structural and functional unit of living organisms. Explain.
39. Why do plant cells have an additional layer surrounding the cell membrane? What is this layer known as?
40. The size of the cells of an organism has no relation with the size of its body. Do you agree? Give reason for your answer.