

SAINIK SCHOOL GOPALGANJ

SUB - SCIENCE

CLASS - IX

ASSIGNMENT-3

FUNDAMENTAL UNIT OF LIFE

1. Given below are four options against each question. Choose the option which you consider the most appropriate as your answer.

- (i) Which of the cell organelles is involved in membrane biogenesis?
(a) Ribosome (c) Golgi body
(b) Endoplasmic Reticulum (d) Peroxisome
- (ii) When a plant cell is placed in a hypertonic solution, it undergoes:
(a) No change (c) Deplasmolysis
(b) Plasmolysis (d) Replasmolysis
- (iii) Amoeba acquires its food through a process, termed:
(a) Exocytosis (c) Plasmolysis
(b) Endocytosis (d) a and b both
- (iv) The cell organelle involved in forming complex sugars from simple sugars are:
(a) Endoplasmic Reticulum (c) Plastids
(b) Ribosomes (d) Golgi apparatus
- (v) Which of the following are covered by a double membrane
(a) Mitochondria (c) Plastid
(b) Vacuole (d) a and c

Answer the following questions.

2. What is chromosome?
3. Define plasmolysis.
4. Why is ATP called energy currency of the cell?
5. Which factor determines the shape and size of the cell?
6. What is gene?

7. What is lacking in a virus which makes it dependent on living cell to multiply?
Give reason.
8. Lysosomes are a kind of waste disposal system of a cell. Justify the statement.
9. Draw a labeled diagram of a prokaryotic cell.
10. Which cell organelle is called power house of the cell? And why?

Long answer type questions:

11. Create a ven diagram to compare the structure of plant and animal cell.
12. Distinguish between hypotonic solution, isotonic solution and hypertonic solution.
13. With the help of the flow chart list all the cell organelles and write one function of each of them.
14. Define osmosis. Explain the phenomenon with an example.

Extended Learning

15. Take two slice of cucumber in two Petri dishes. Sprinkle salt and leave other as such. State your observation pertaining to the differences in the surface of cucumber slices and amount of water released from both in the Petri dishes after 10 minutes
16. Weeds can be killed by sprinkling salt in the soil on which they grow. Which phenomenon produces this effect?
17. What happens to plant when excess chemical fertilizers added.
18. Why does the skin of your finger shrink when you wash clothes for long times?
19. A person takes concentrated solution of salt. After sometime he starts vomiting. What is the phenomenon responsible for such a situation? Explain.
20. We eat food composed of all the nutrients like carbohydrate, proteins, fats, vitamins, minerals and water. After digestion, these are absorbed in the form of glucose, amino acids, fatty acids, glycerol etc. What mechanisms are involved in absorption of digested food and water?

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