

THE FUNDAMENTAL UNIT OF LIFE

DAY 2

1. Can you name the two organelles we have studied that contain their own

genetic material?

Answer- Mitochondria and plastids their own genetic material

2. If the organization of a cell is destroyed due to some physical or chemical influence, what will happen?

Answer- If the organization of a cell is destroyed due to some physical or

chemical influence then cell will not be able to perform its basic

functions like digestion, excretion, respiration etc. This may stop all

the life activities and the life of an individual may come to an end.

3. Why are lysosomes known as suicide bags?

Answer- Lysosomes are called suicide bags because in case of any disturbance of their cellular metabolism they release their own

enzymes to digest their own cell.

4. Where are proteins synthesized inside the cell?

Answer- The proteins are synthesized in the Ribosome

5. What would happen if the plasma membrane ruptures or breaks down?

Answer- If ever the plasma membrane ruptures or breakdown then the cell

will not be able to exchange material from its surroundings by

diffusion. As a result of it the protoplasmic material will disappear

and the cell will die.

6. What would happen to the life of a cell if there was no Golgi apparatus?

Answer- Golgi apparatus performs the function of a storage modification

and packaging of products. If Golgi apparatus is not there then

materials synthesized by cell will not be packaged and transported.

7. Which organelle is known as the powerhouse of the cell? Why?

Answer- Mitochondria are known as the powerhouse of cells because

energy required for various chemical activities needed to

support

life is released by mitochondria in the form of ATP (Adenosine triphosphate) molecules.

8. Where do the lipids and proteins constituting the cell membrane get synthesized?

Answer- Lipids are synthesized in Smooth endoplasmic reticulum and the

proteins are synthesized in endoplasmic reticulum.

9. How does an Amoeba obtain its food?

Answer- Amoeba obtains food using temporary finger-like extensions on

the cell surface which fuse over the food particle forming a food-

vacuole. Complex substances are broken down into simpler ones

inside the food vacuole which then diffuse into the cytoplasm. The

remaining undigested material is moved to the surface of the cell

and thrown out resulting in excretion.

10. Write the characteristics of cell.

Answer

- Cells are the structural and functional unit of life.
- Cells size ranges from 1 to 100 micrometer
- Cells can replicate independently.
- Cells Contain hereditary information due to presence of nucleus or nucleoid.
- Cells perform all the life sustaining activities by themselves.

11. Give an example of

- (a) Prokaryotic organisms
- (b) Eukaryotic organisms
- (c) Unicellular organism
- (d) multicellular organism

Answer

- (a) Bacteria and blue green algae.
- (b) Humans and plants
- (c) Amoeba and yeast
- (d) Mango tree and tiger

12. Write a short note on cell theory.

Answer

The postulates of cell theory:

- (a) All the organisms are made up of cell or group of cells.
- (b) Cell is the structural and functional unit of life.

(c) All the cells arise from the pre-existing cells.

13. What is Plasmolysis?

Answer

Shrinkage of protoplasts from the cell wall in presence of hypertonic solution

due to exosmosis is known as plasmolysis.

14. What do you mean by nucleoid?

Answer

In prokaryotes and lower organism like bacteria the nuclear region of the

cell may be poorly defined because of the absence of a nuclear membrane.

Such an undefined and incipient nucleic region containing only naked nucleic acids without any membrane covering them is called a nucleoid.