

## Exercise

① Make a comparison and write down ways in which plants cells are also different from animal cells?

ans -

Plant cell	Animal cell
① Plant cells have cell walls.	① Animal cells don't have cell walls.
② They contain chloroplast.	② They don't have chloroplast.
③ They don't have centrioles.	③ Centriole is present in them.
④ Vacuole is large and is present in centre of the cell.	④ Vacuole is present and it is small.
⑤ Nucleus is present in the side of the plant cell.	⑤ Nucleus is present in the centre of the animal cell.

② How is Prokaryotic cell different from a eukaryotic cell?

ans - Prokaryotic cell is generally smaller in size (1-10  $\mu\text{m}$ ), nuclear region is poorly defined. The cell organelles are not membrane bound and has a single chromosome.



Eukaryotic cell is generally larger in size. (5-100)  $\mu\text{m}$ . A True nucleus having a nuclear membrane is present. More than one chromosome is present. It contains membrane bound cell organelles like Mitochondria, plastids, etc. Ribosome is of 80S types. Cell division takes place by mitosis or meiosis.

Q3. What would happen if the plasma membrane ruptures or breaks down?

ans - Plasma membrane is a selectively permeable membrane that surrounds the cells and allows the entry and exit of selected materials of the cells. If it ruptures the content of the cells will come in direct contact with the surrounding mediums and not only unwanted materials will be able to enter freely into the cell, but useful materials will also find its way out of the cell easily. This will seriously disrupt the various metabolic activities of the cell and will result in its eminent death.



Q4. What would happen to the life of the cell if there were no Golgi Apparatus?

ans - If there were no Golgi Apparatus, the materials synthesized by the Endoplasmic Reticulum would not be carried to the various parts inside and outside of the cell. Also the Golgi Apparatus performs the function of storage and modification of the materials synthesized in the cell, these materials could not be stored or modified further.

Moreover, there will be no production of lysosomes which will cause the accumulation of waste material, viz., worn out and dead cell organelles within the cell which will ultimately lead to cell death.

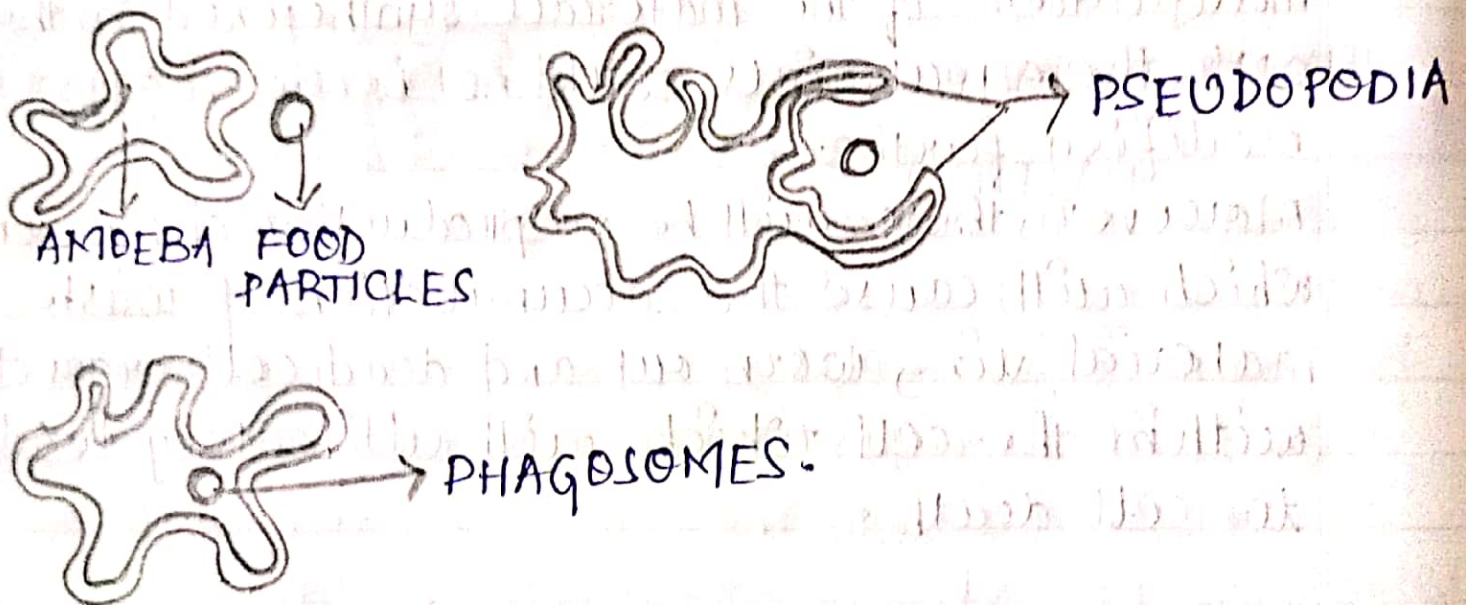
Q5. Which organelle is known as the powerhouse of the cell?

ans - Mitochondria are known as powerhouse of the cell because they are the sites of cellular respiration. They release energy in the form of ATP (Adenosine Triphosphate). This energy is then utilised by the organelles to carry out their basic functions.



Q6. How does an Amoeba obtain its food

ans - In Amoeba the food particles get surrounded by a cell membrane invagination called pseudopodia. The pseudopodia then merge with each other forming a food vacuole which is engulfed into the body of Amoeba. These vesicles are called as phagosomes where the food is digested.



Q7. Where do lipids and proteins constituting the cell membrane get synthesized?

ans - Lipids are synthesized in the smooth endoplasmic reticulum. From where they are transported to the cell membrane. Proteins are synthesized by the ribosomes in the cytoplasm, these are then transferred to golgi complex and ER for further modifications from where they reach the destination.



Q.8. What is osmosis?

ans - The diffusion of water or solvent through a semi-permeable membrane from a solution of lower concentration of solutes to a solution of higher concentration of solutes is called osmosis.

# ANIMAL CELLS

