

# CHAPTER -8 CELL STRUCTURE &FUNCTION

## *MODULE-3 hand out*

### COMPARISON OF PLANT AND ANIMAL CELLS

#### PLANT CELL

Basic components of a plant cell are:

Cell wall

Cell membrane

Nucleus

Cytoplasm

Cytoplasm has the following organelles

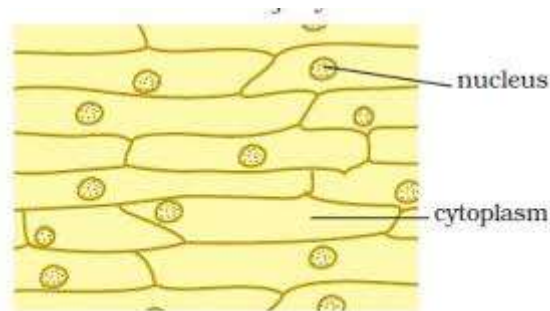
Mitochondria, Golgi bodies, Ribosomes, Plastids ,vacuoles ,lysosomes

Endoplasmic reticulum

#### **How do we observe the basic components of a plant cell**

##### **Lab activity :- Temporary stained mount of onion peel**

1. Take an onion bulb and cut it into small pieces. Remove the dry pink coverings.
2. Peel off the fleshy white layers with the help of forceps or with hand.
3. With the help of blade cut the peel into small pieces
4. Place a small piece in a drop of water on a glass slide.
5. Add a drop of methylene blue solution to the layer
6. Cover the peel gently with the coverslip. While placing the cover slip ensure that there are no air bubbles under the coverslip.
7. Observe the slide under the microscope



**Fig. 8.5 : Cells observed in an onion peel**

## ANIMAL CELL

Basic components of an animal cell are:

- Cell membrane
- Nucleus
- Cytoplasm

Major cell organelles in the cytoplasm are:

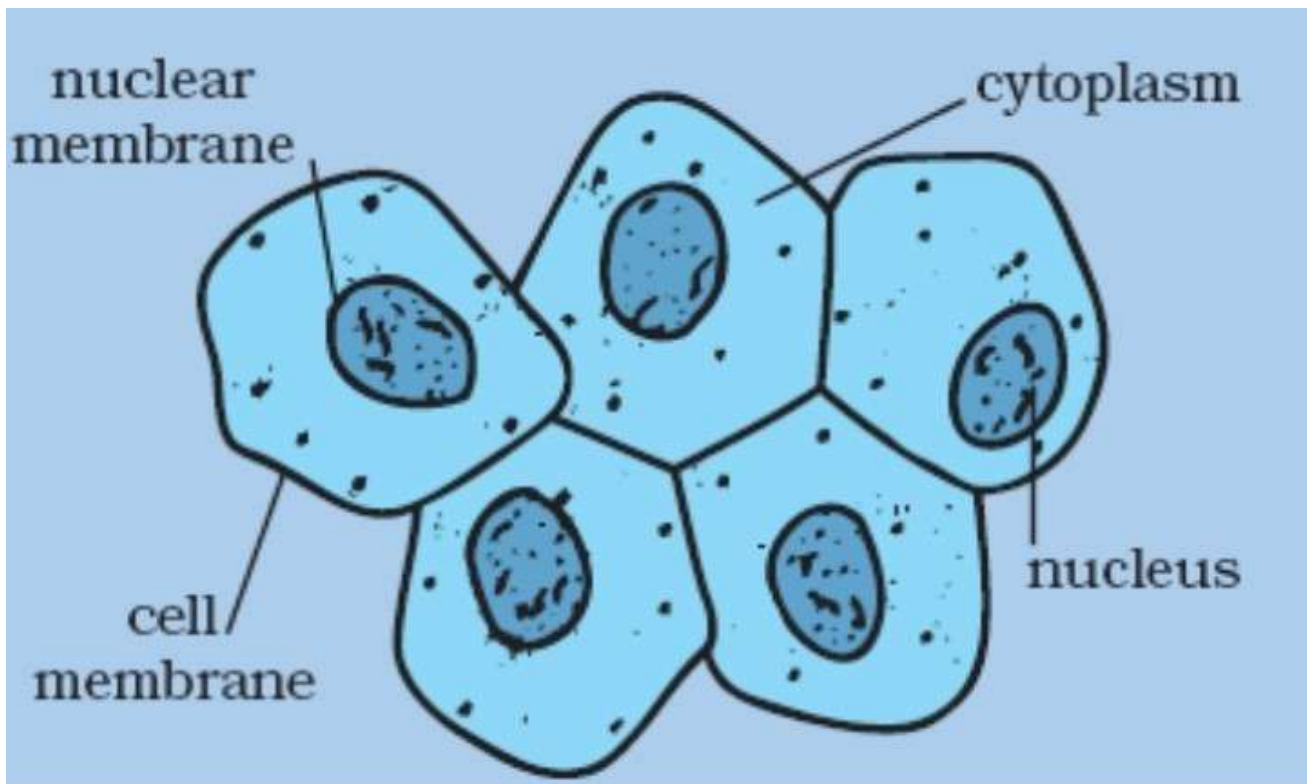
Mitochondria, Golgi bodies, Ribosomes, Vacuole, Lysosome, Endoplasmic reticulum

### How do we observe the basic components of an animal cell

#### Lab activity :- Temporary stained mount of human cheek cell

1. Scrape inside of the mouth by using a clean tooth pick.
2. Place it in a drop of water on a glass slide
3. Add a drop of iodine and place a coverslip over it
4. Observe it under microscope

Several cells can be seen with distinct cell membrane, cytoplasm and nucleus.



## Comparison of plant and animal cells

Sl.No	Part	Plant cell	Animal cell
1	Cell membrane	Present	Present
2.	Cell wall	Present	Absent
3	Nucleus	Present	Present
4	Nuclear membrane	Present	Present
5	Cytoplasm	Present	Present
6	Plastids	Present	Absent
7	Vacuole	Present(Large,single)	Present(Small,many)

Animal cells are very similar to plant cells except for the following major differences:

- Animal cells are not surrounded by cell walls
- Animal cells do not contain chloroplasts
- The vacuoles in plants are much larger than those of animals.

\*\*\*\*\*