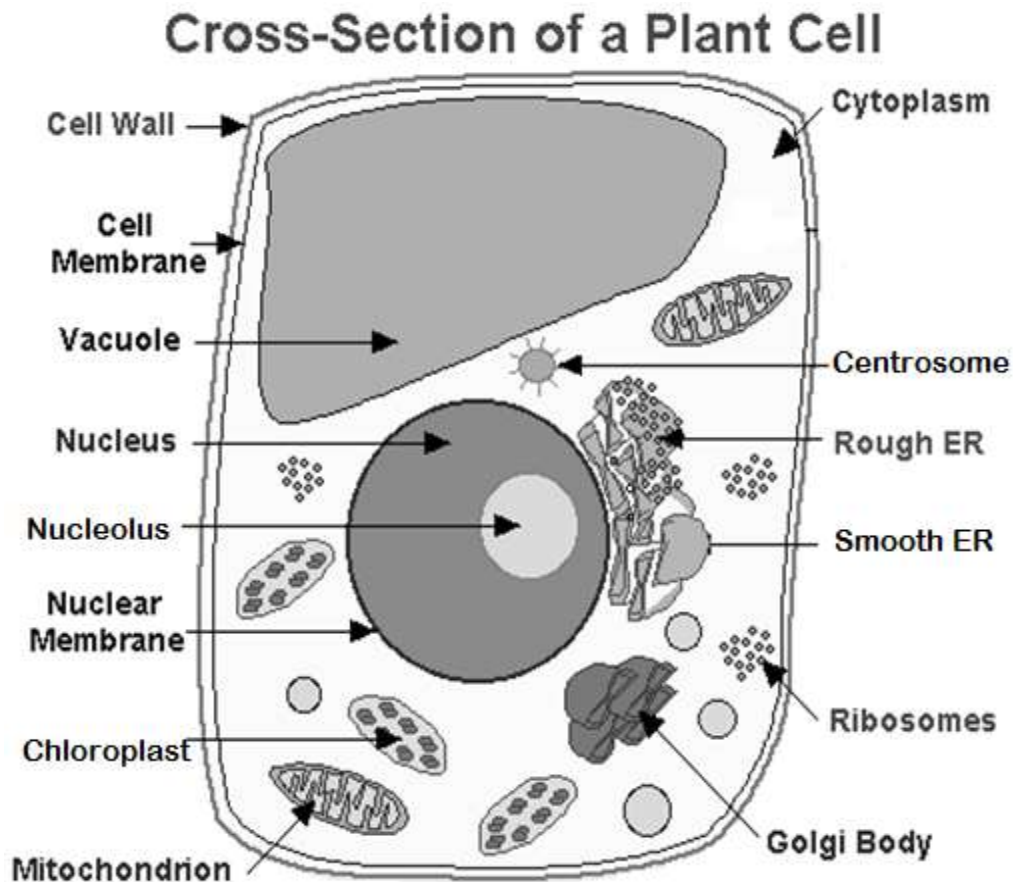


**INDIAN SCHOOL MUSCAT
DEPARTMENT OF SCIENCE
CELL**

STD – VIII

The basic components of the cell are Cytoplasm, Cell membrane, Nucleus and Organelles.



CELL MEMBRANE:

- The thin outer covering of cell is called the cell membrane or the plasma membrane.
- It separates the cell and its contents from the surroundings.
- It protects the cell and gives it shape.
- It is semi permeable and allows only water, minerals and some necessary substances to pass through it. It controls what passes in and out of the cell.

CELL WALL

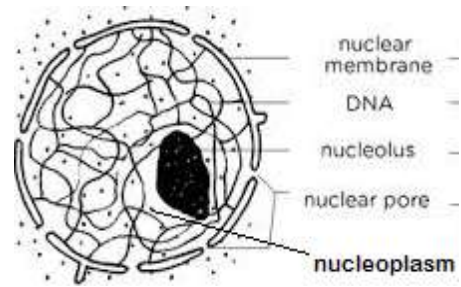
- It is present only in plant cells.
- It is an additional wall outside the cell membrane.
- It is a thick wall made up of cellulose.
- It gives shape, support and protection to the plant cell.
- It provides rigidity to the plant cell to withstand the environmental effects.

CYTOPLASM

- The cytoplasm is a jelly like substance that makes up most of the inside of the cell.
- It has the nucleus and various other cell components called cell organelles.

NUCLEUS

- The nucleus is a spherical structure present inside the cell and is the control centre of the cell.
- It is surrounded by the Nuclear membrane which is also semi permeable.
- Inside the nucleus is a liquid called Nucleoplasm which has a smaller spherical structure called Nucleolus.
- The nucleoplasm has rod like structures called chromosomes that contain the genes (DNA) which help to transfer hereditary characters from parents to the offspring.
- The nucleus and the cytoplasm together make up the PROTOPLASM.



IMPORTANT CELL ORGANELLES-Small structures present in the cytoplasm that perform different functions are called cell organelles.

MITOCHONDRIA

- Mitochondria are small rod like structures that provide energy and are therefore called as POWER HOUSE of the cell.

ENDOPLASMIC RETICULUM

It is a network membranous tubes that connect the cell membrane with the nuclear membrane and helps to transport substances in and out of the cell.

GOLGI APPARATUS

These are membranous sacs that secrete useful substances such as enzymes and hormones and also store them.

PLASTIDS

These are disc shaped structures that often contain pigments present only in plant cells . They can be of three types, chloroplasts (that give green colour), chromoplasts (that give different colours) and leucoplasts (that give no color).

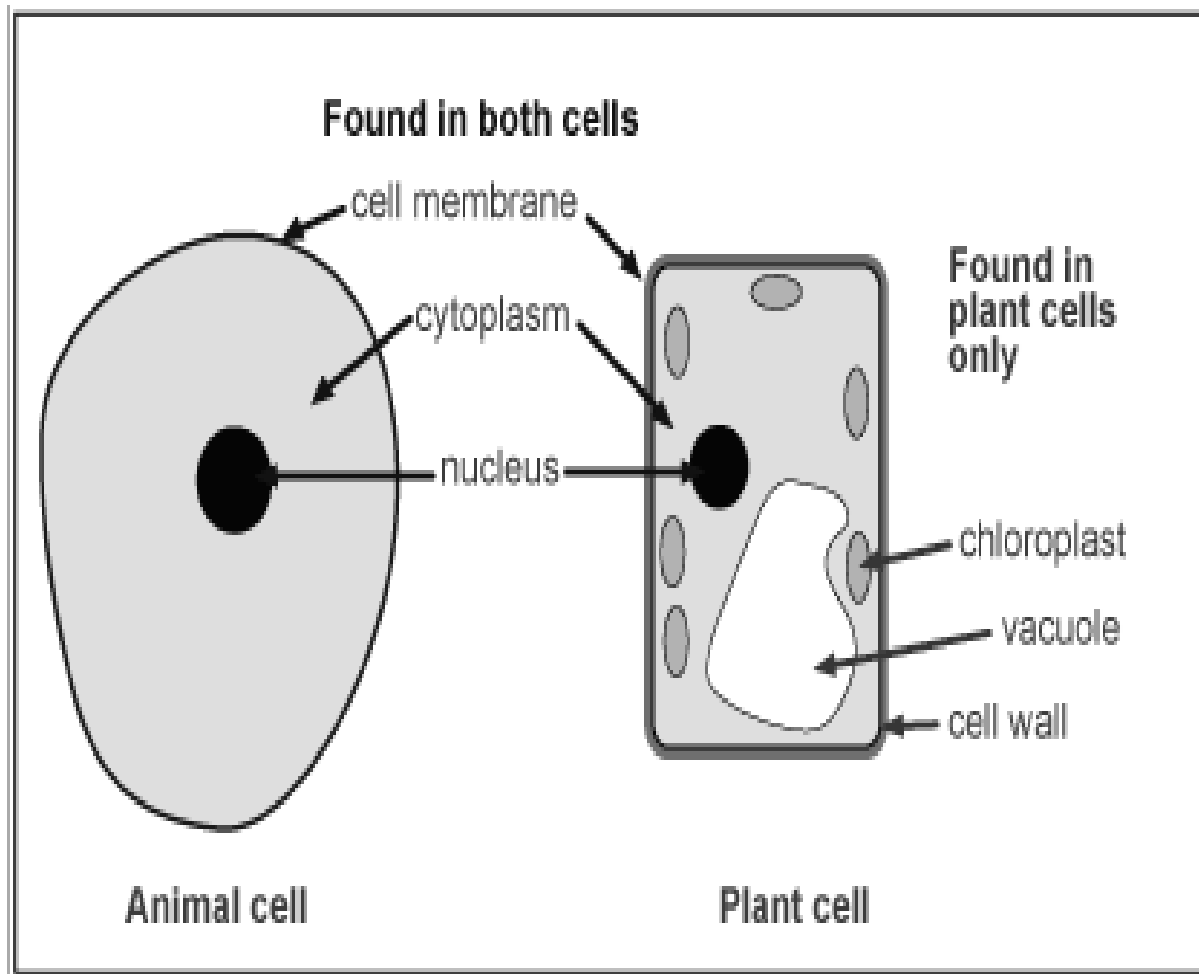
RIBOSOMES

They are tiny structures either attached to the endoplasmic reticulum or scattered in the cytoplasm .They are associated with protein synthesis.

VACUOLES

These are sac like structures .In plant cells they are large and occupy most of the space in the cell, they store food, water and wastes. In animal cells they are small and help to remove wastes and also help in digestion.

COMPARISON BETWEEN ANIMAL AND PLANT CELL



S.no.	ANIMAL CELL	PLANT CELL
1.	Smaller in size	Larger in size
2.	Cell membrane is present but no cell wall	Both cell membrane and cell wall are present
3.	Plastids are absent	Plastids are present, generally chloroplasts that contain chlorophyll that helps in photosynthesis.
4.	Vacuoles are smaller and more in number	Vacuoles are larger and occupy a large space in the cell