

CLASS 9- BIOLOGY-CORE ASSGMT

THE FUNDAMENTAL UNIT OF LIFE

1. Fill in the blanks:-

- (a) New cells are formed from pre-existing cells.
- (b) Movement of water molecules from their higher concentration to their lower concentration through a semi- permeable membrane is called Osmosis.
- (c) The functional components of cell are plasma membrane, cytoplasm & nucleus.
- (d) Protoplasm has two parts- cytoplasm & nucleoplasm.
- (e) Nucleus, mitochondria & plastids have their own DNA & ribosomes.
- (f) The shrinkage or contraction of the contents of the cell away from the cell wall is known as plasmolysis.
- (g) The process by which Amoeba can engulf a food particle is endocytosis.
- (h) Biogenesis is the manufacture of lipids required for making cell membrane.
- (i) A cell that lacks nuclear membrane is called a prokaryotic cell & the nuclear region is called nucleoid.
- (j) Movement of materials in & out of the cell takes place by diffusion & osmosis.

2. What is the advantage of multicellularity over unicellularity?

Ans- Division of labour.

3. What are the chromosomes made up of?

Ans- DNA & proteins

4. A cell placed in a solution swells up. What kind of solution is it? Why does it happen?

Ans- It is a hypotonic solution & water enters the cell by endosmosis causing the cell to swell up.

5. Why are lysosomes known as "suicidal bags"?

Ans- They secrete powerful digestive enzymes to digest the worn out and damaged cell organelles as well as the cell itself when it loses its functional ability.

6. Why is the nucleus so significant in a cell?

Ans- Nucleus has the following important functions-

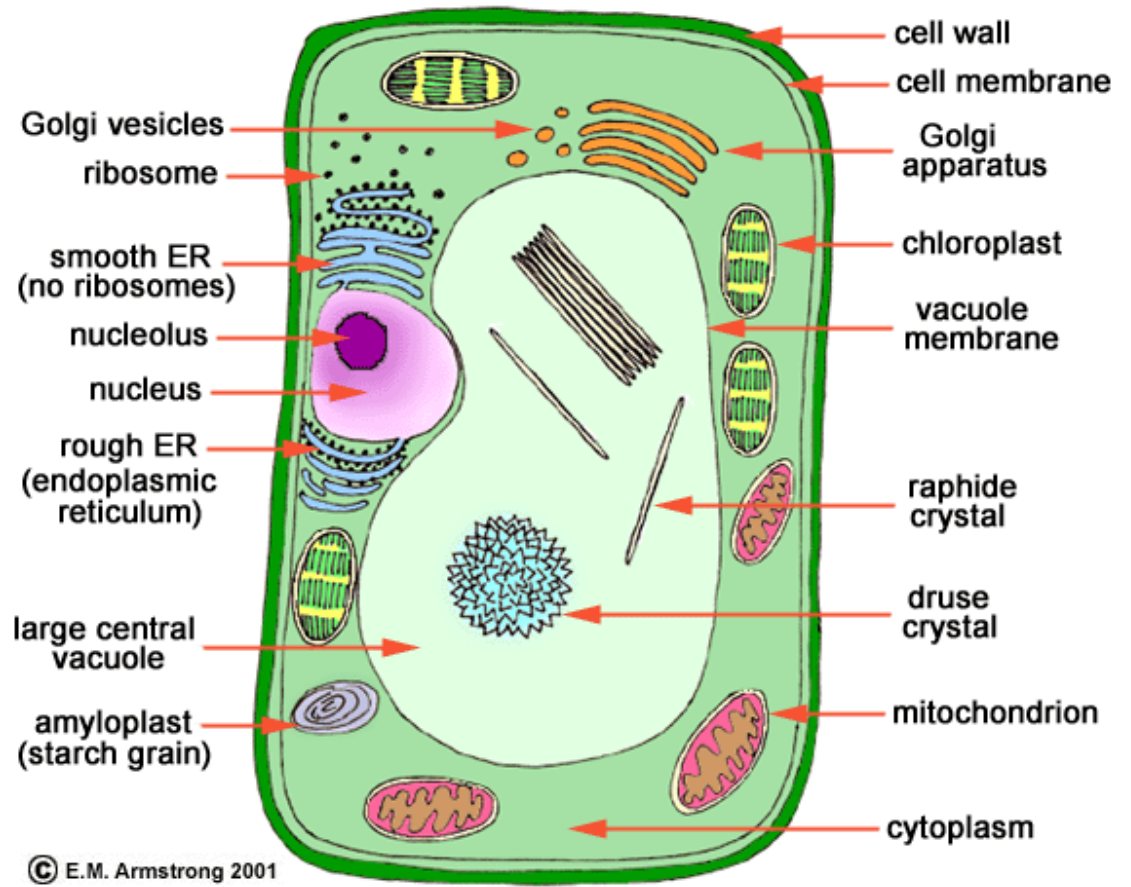
- (i) It controls all cell activities
- (ii) It contains hereditary material that transmits hereditary information from one generation to the next
- (iii) It helps in cell division

7. Differentiate between plant & animal cells.

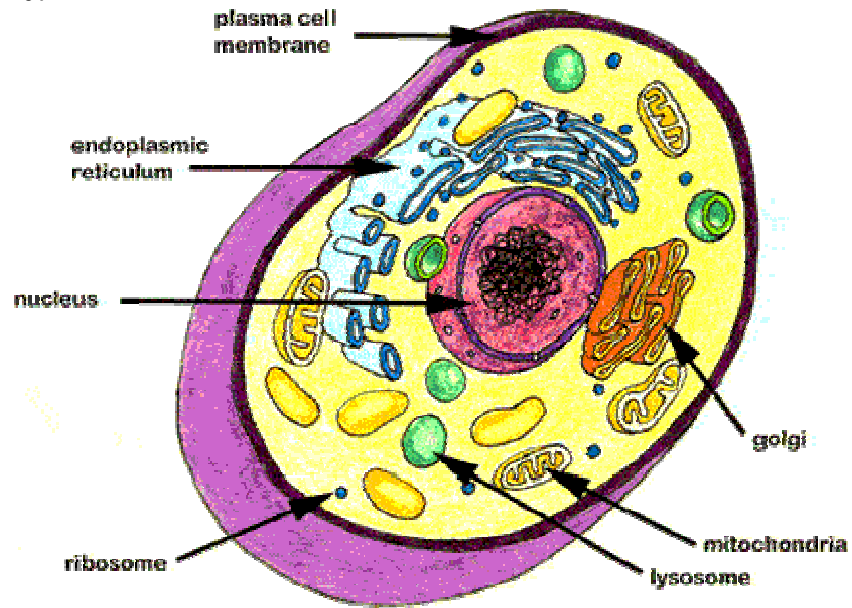
PLANT CELL	ANIMAL CELL
1- Surrounded by 2 membranes- cell wall & cell membrane.	1- Surrounded only by cell / plasma membrane.
2- Possess 3 types of plastids- chloroplasts, chromoplasts, leucoplasts.	2- Do not possess plastids.
3- Do not possess lysosomes.	3- Possess lysosomes.
4- Nucleus is towards the periphery.	4- Nucleus is in the centre.
5- Centrioles are absent.	5- Centrioles present & help in cell division.

8. Draw neat & labeled diagrams of the following:-

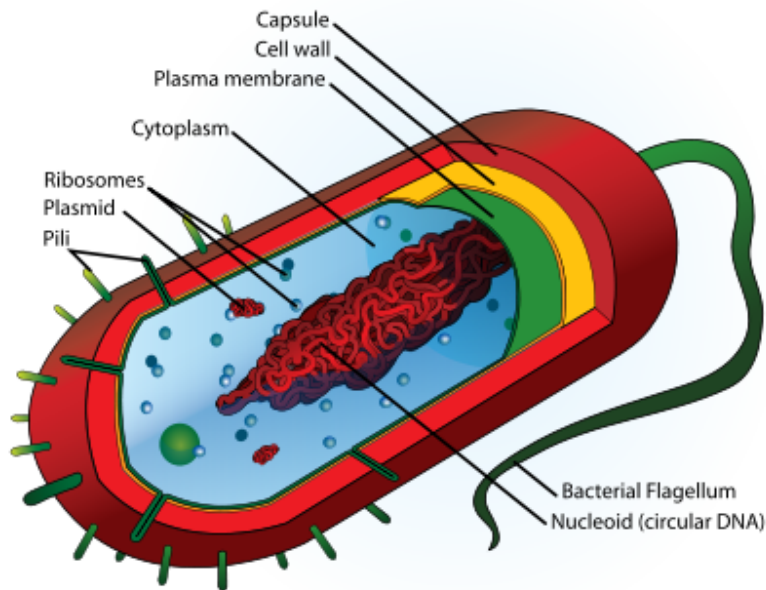
(i) Typical plant cell



(ii) Typical animal cell



(iii) Prokaryotic cell



9. Give the major functions of the following cell organelles-

(a) Endoplasmic reticulum-

RER- Synthesis of proteins as it has ribosomes attached to it

SER- Synthesis of lipids required for making cell membrane

(b) Golgi apparatus-

Storage & packaging of various products.

(c) Mitochondria-

Production of ATP(Adenosine Triphosphate) which is a source of energy.

(d) Ribosomes-

Protein synthesis

(e) Golgi Apparatus-

Storage & packaging of various products.

(f) Lysosomes-

Digestion of worn out & damaged organelles