

LONG QUESTION ANSWER

Question 1. Give five points of differences between plant cell and animal cell.

Answer:

Plant Cell	Animal Cell
1. Size is usually larger than animal cell.	1. Size is usually smaller than plant cell.
2. Cell wall present.	2. Cell wall absent.
3. Plastids are present.	3. Plastids are absent.
4. Vacuoles are large in number and bigger in size.	4. Vacuoles are small in size and less in number.
5. Centriole absent.	5. Centriole present.

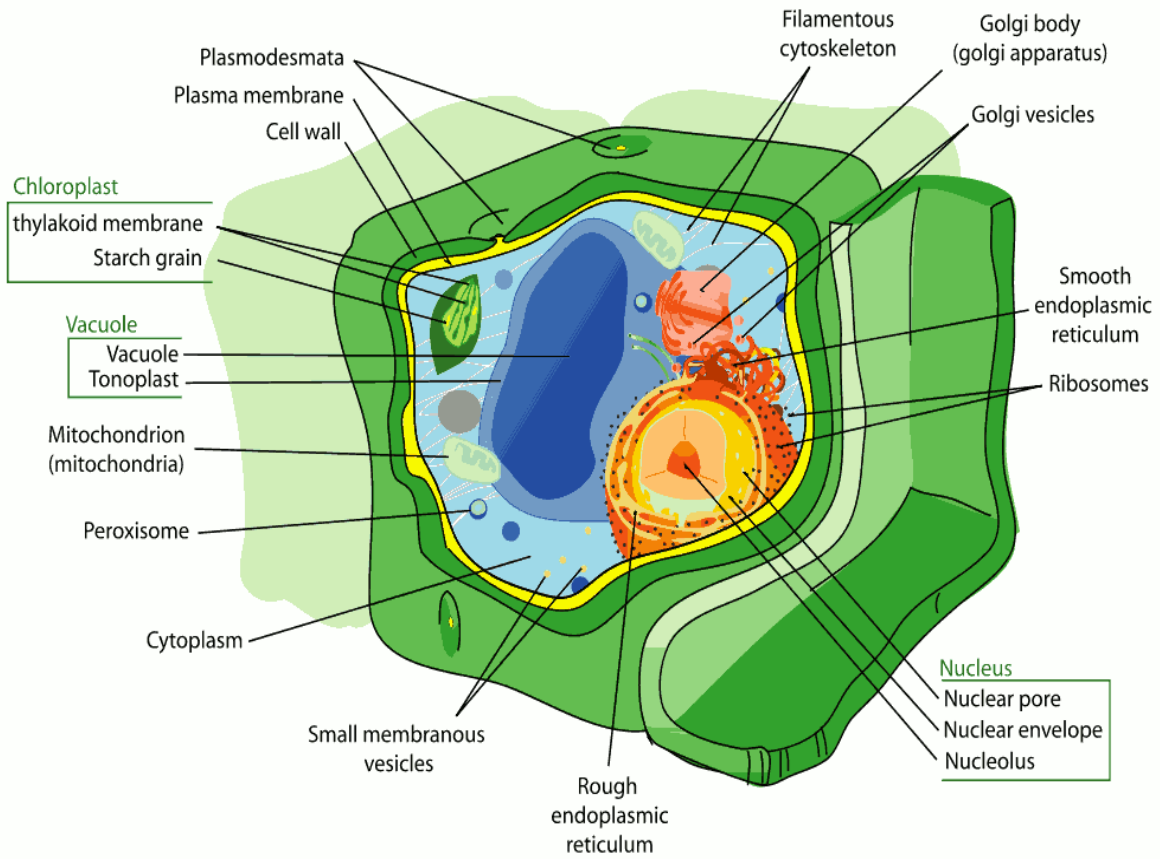
Question 2. Give five points of differences between prokaryotic cell and eukaryotic cell.

Answer:

Characters	Prokaryotic Cell	Eukaryotic Cell
1. Size	0.5–5 μm diameter.	Diameter 1 μm –40 μm .
2. Nucleus	No true nucleus, single chromosome, nuclear membrane absent.	True nucleus, nuclear membrane is present, more than one chromosome is present.
3. Organelles	Membrane-bound organelles are absent.	Membrane-bound organelles are present.
4. Ribosomes	Ribosomes are 70s and randomly scattered.	Ribosomes are 80s, can be free or attached to ER.
5. Cell division	Cell divides by simple fission.	Cell divides by mitosis or by meiosis.

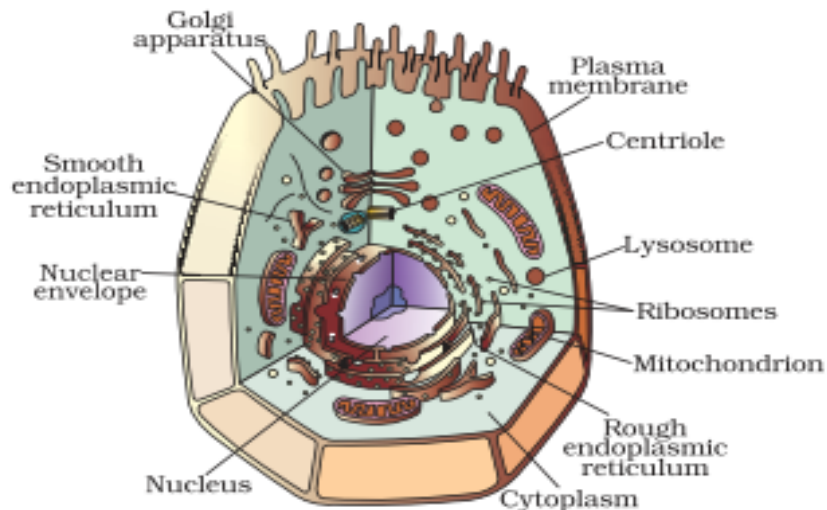
Question 3. Draw a neat labelled diagram of plant cell and label its parts.

Answer:



Question 4. Draw a neat labelled diagram of animal cell.

Answer:



Question 5. Name the cell organelle for the following:

- (a) Present only in plant cell, provides strength and rigidity to the cell.
- (b) It is the site for lipids synthesis and helps in detoxification of drugs.
- (c) The inner membrane is folded to form cristae, it has its own DNA and proteins.
- (d) It helps in the formation of lysosomes.
- (e) It imparts color to the fruit and flowers.

Answer:

- (a) Cell wall
- (b) Smooth endoplasmic reticulum
- (c) Mitochondria
- (d) Golgi apparatus
- (e) Chromoplast

Question 6. Vasu was helping his mother in laying the table when they had some guest for dinner. Vasu was about to sprinkle salt on salad for dressing. His mother stopped him from doing so and told him that it is too early to sprinkle salt on the salad, he should do so only when they are seated for having the dinner.

- (a) What would happen if salt is sprinkled on the salad?
- (b) Which property of cells is seen in adding salt to it?
- (c) What value of Vasu is seen?

Answer:

- (a) On sprinkling of some salt on the salad, the salad will release water.
- (b) The salt outside the salad acts as hypertonic solution as it has less water

concentration and therefore the cell loses water by osmosis.

(c) Vasu showed the value of being very helpful, caring and responsible.

Question 7. Anu is a five-year-old girl who joined the swimming classes. After the first class she was worried when she saw her wrinkled fingers. She asked her elder sister about the wrinkling and shrinking of her fingers. Her sister explained Anu why it was so.

(a) Why did the fingers wrinkle after swimming?

(b) What caused the shrinking/wrinkling of fingers?

(c) What value of Anu is seen in the above case?

Answer:

(a) Fingers wrinkled because the cells of the skin lost some water.

(b) This happened because of the difference in the concentration of water in the skin cells and swimming pool's water.

(c) Anu showed the value of aware citizen and a good learner who clarifies the doubts.

Question 8. Two sailors got marooned on the island, both of them were very thirsty and one of the sailors tried to drink sea water. The other sailor immediately stopped him from drinking the salty water of sea and suggested to wait for some help, stay calm and patient.

(a) What would happen if the sailor drinks salty water?

(b) What is osmosis?

(c) What value of sailors is reflected in the above act?

Answer:

(a) On drinking salty water, exosmosis in the intestine will cause dehydration and vomiting.

(b) The movement of water molecules through a permeable membrane is called osmosis.

(c) Sailors showed the value of being patient, composed, empathy and determination.

Question 9. Sachin's mother wanted to use some eggs for incubation. Sachin helped his mother in separating rotten and spoiled eggs from the good ones. He took a bucket of water to separate them.

(a) How can one separate the rotten eggs from the good ones using water?

(b) What is the shell of egg made up of?

(c) What value of Sachin is seen in this act?

Answer:

(a) We can separate the rotten eggs by dipping them in water. The eggs that will float in water are rotten eggs and the one that sinks are good one.

(b) Egg shell is made up of calcium carbonate.

(c) Sachin showed the value of being helpful, responsible behavior.

(b)