

NDA-CDS

TOP 25 MCQS CELL BIOLOGY



SHIVANGI MA'AM

In A Plant Cell, Which One Of The Following Contains Their Own DNA?

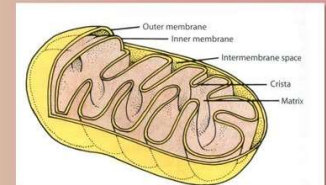
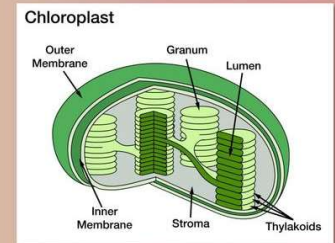
- a) Nucleus and Endoplasmic Reticulum
- b) Ribosome and Golgi apparatus
- c) Mitochondria and Chloroplast
- d) Chloroplast and Vacuoles

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Mitochondria & Chloroplasts

- Important to see the similarities
 - Both transform energy
 - generate ATP
 - double membranes
 - 2 semi-autonomous organelles
 - move, change shape, divide on their own
 - Have their own internal ribosomes, DNA & enzymes



Which Of The Cell Organelle Helps In Cell Division And Controls The Activity & Hereditary Characters Of The Cell?

- a) Centrosomes
- b) Nucleus
- c) Cytoplasm
- d) Golgi apparatus

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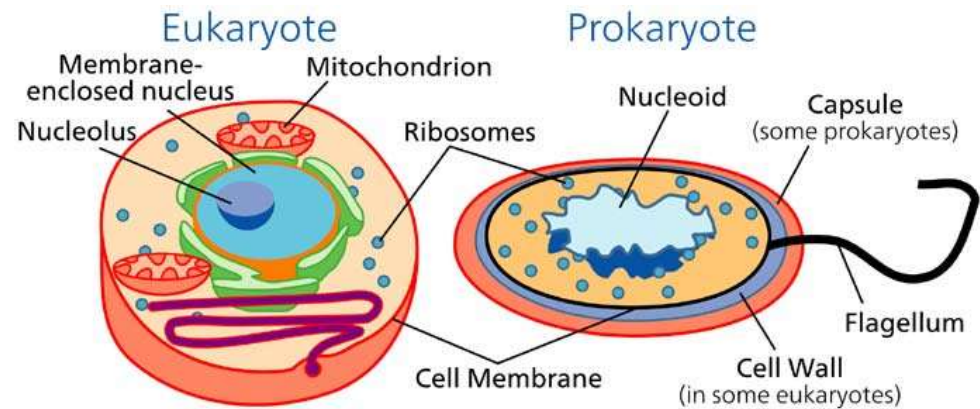
"The main **function** of the cell **nucleus** is to control gene expression and mediate the replication of DNA during the cell cycle. The **nucleus** is an organelle found in eukaryotic cells. Inside its fully enclosed nuclear membrane, it contains the majority of the cell's genetic material."

Which Of The Following Organelles Shows Similarity To A Prokaryotic Cell?

- a) Mitochondria only
- b) Chloroplast only
- c) Both chloroplast and mitochondria
- d) None of the above

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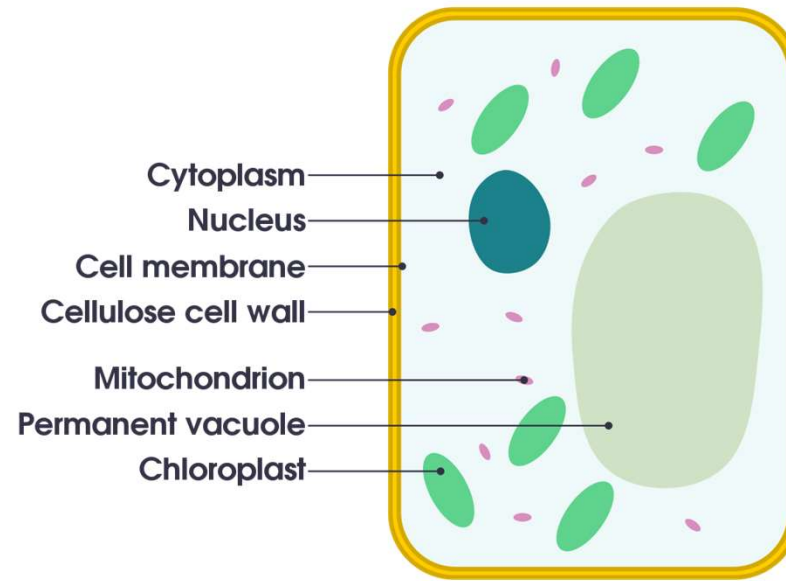


What Is The Cell Wall Of A Plant Made Of ?

- a) Cellulose
- b) Carbohydrates
- c) Lipids
- d) Lipoprotein

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Which Is The Longest Body Cell?

- a) RBCs
- b) Neurons
- c) Osteocytes
- d) Sperms

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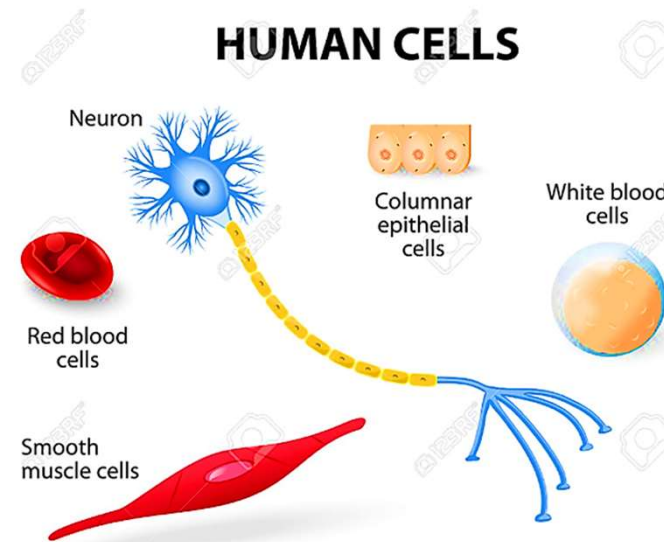
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- **Neurons** are about **1 m** in length

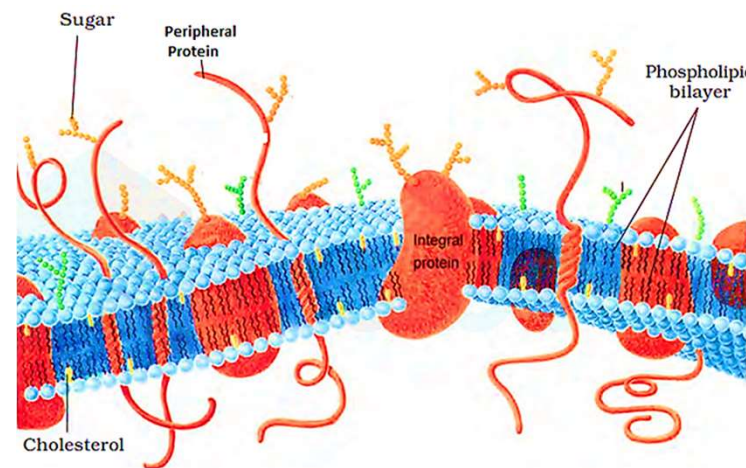


Plasma Membrane Is Made Up Of Which Organic Molecules?

- a) Carbohydrates
- b) Vitamin
- c) Lipids and protein
- d) Roughage

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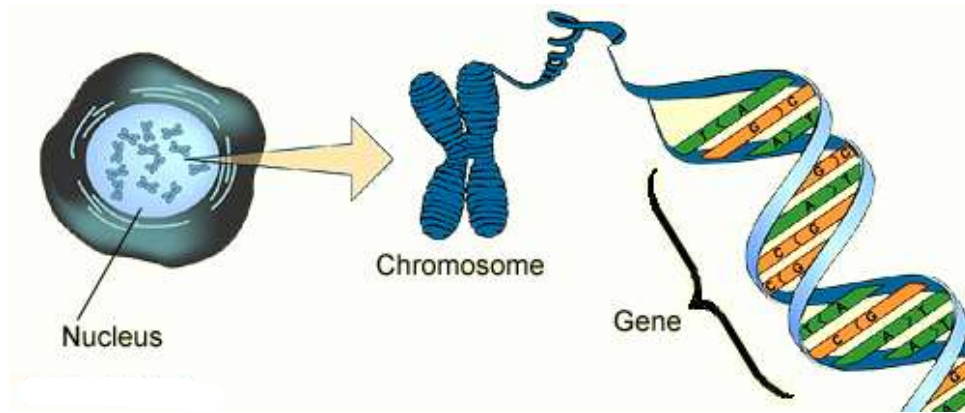


Chromosomes Are Located In The:

- a) Golgi bodies
- b) Nucleus
- c) Vacuoles
- d) Plastids

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What Are Required For Light Reaction Of Photosynthesis?

- a) Chlorophyll, Water, Light
- b) Chlorophyll, Water, Carbon dioxide, Light
- c) Chlorophyll, Carbon dioxide, Oxygen
- d) Chlorophyll, Light, Oxygen

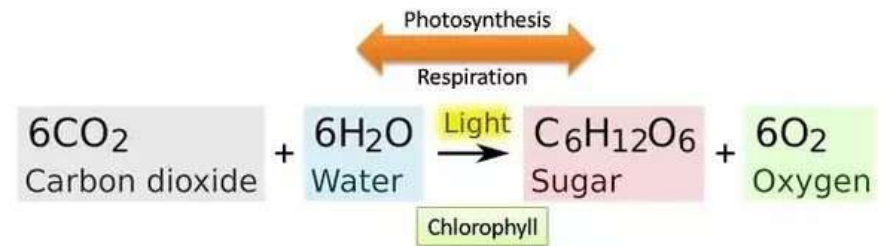
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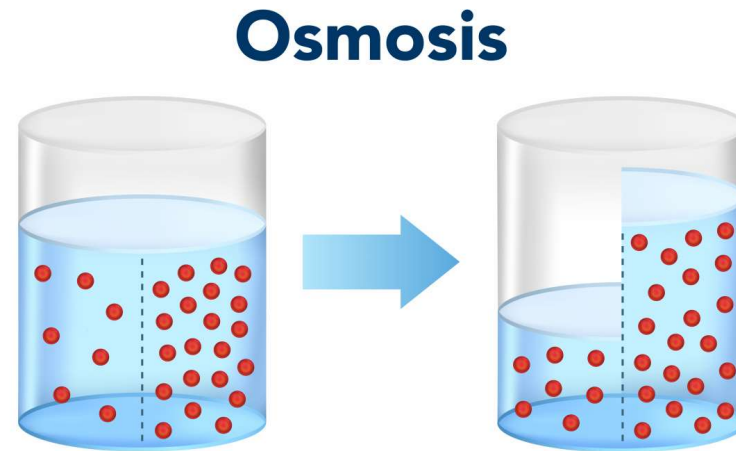


The Movement Of Water Molecules Through A Semipermeable Membrane Is Called:

- a) Diffusion
- b) Osmosis
- c) Contraction
- d) None of these

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Number Of Oxygen Molecules Required During Glycolysis Of One Glucose Molecule Is

a) zero

b) one

c) six

d) four

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The glycolysis is a common pathway for aerobic and anaerobic respiration and no oxygen O_2 is consumed during this process.

Therefore, the number of oxygen molecules required during glycolysis of one glucose molecule is "Zero"

Which of the following process does not happen during the light reaction of photosynthesis?

- a) photolysis of water
- b) reduction of carbon-di-oxide
- c) photophosphorylation
- d) reduction of NADP

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The following major events occur during the light reaction of photosynthesis:

Photolysis of water: In this water splits into protons, electrons and oxygen and produces NADPH and ATP.

Photophosphorylation: The process through which, ATP is synthesized from ADP and inorganic phosphate (P) by the cell organelles (like mitochondria and chloroplast).

Reduction of NADP: NADP is a reduced in the photosynthesis light reactions that is consumed in the Calvin cycle and used in many other anabolic reactions in both plants and animals.

In The Context Of Respiration, The Stage Known As Glycolysis Involves The Breaking Down Of _____ To Pyruvic Acid.

- a) lactic acid
- b) fructose
- c) citric acid
- d) glucose

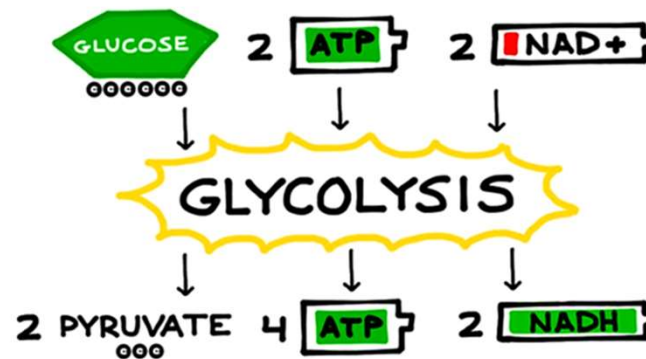
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There Are Some Chemicals Whose Limited Application On The Leaf Surface Reduces Or Checks Transpiration. Which Of The Following Is An Anti-transpirant?

- a) Phenyl mercuric acetate
- b) Naphthalene acetic acid
- c) Ethidium bromide
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- Anti-transpirant are chemical compounds applied to the leaf surfaces of plants to reduce or check transpiration.

In A Tall Tree, Which Force Is Responsible For Pulling Water And Minerals From The Soil?

- a) Gravitational force
- b) Transportation force
- c) Suction force
- d) Conduction force

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- a) Gravitational force
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 - c) Suction force**
 - d) Conduction force
- During the process of transpiration, water evaporates from the surface of a leaf via microscopic pores i.e. stomata.
 - The loss of water creates a suction force that pulls up more water and minerals from the soil.

Which Of The Following Polysaccharides Is Also Known As Animal Starch?

- a) Starch
- b) Cellulose
- c) Glycogen
- d) Sucrose

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Glycogen

- Animal starch that is a polymer of glucose that is stored in the liver & muscle of animals
- Hydrolyzed in our cells at a rate that provides energy between meals

Ribosomes Are Sites For

- a) Protein synthesis
- b) Photosynthesis
- c) Fat synthesis
- d) Respiration

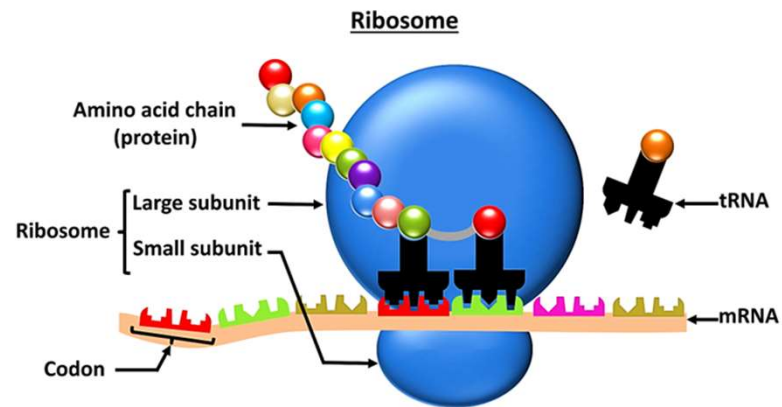
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a) Protein synthesis

b) Photosynthesis

c) Fat synthesis

d) Respiration



Ribosomes Are Formed Of:

- a) DNA and RNA
- b) RNA and Protein
- c) DNA and Protein
- d) RNA and Amino acids

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- Ribosomes are composed of **ribonucleic acids and proteins**.

The Chemical Nature Of 'Silk' Is

a) Carbohydrate

b) Lipid

c) Protein

d) Fatty acid

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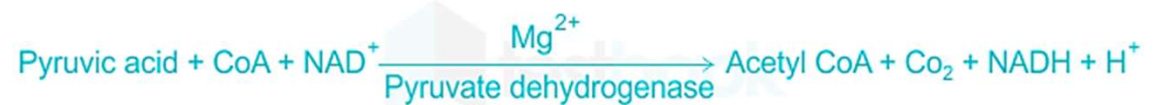
- Silk is a natural protein fibre composed of fibroin which is extracted from an insect larva to form cocoons.
- Fibroin is mainly made of amino acids.

Pyruvic Acid Before Combining With Oxaloacetic Acid Of Citric Acid Cycle Becomes

- a) Lactic acid
- b) Aceto-acetic
- c) Cis-acotinic acid
- d) Acetyl Co-A

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Number Of ATP Molecules Produced On Complete Breakdown Of Pyruvic Acid Molecules In Presence Of Oxygen:

- a) 24
- b) 15
- c) 38
- d) 30

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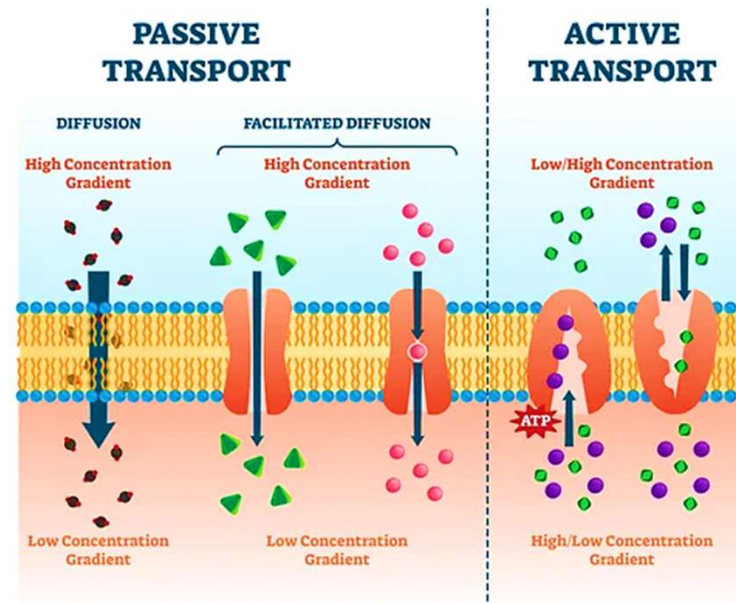
Two molecules of Pyruvic acid are formed during Glycolysis of one glucose molecule, the total number of ATP molecules produced will be $15 \times 2 = 30$.

The oxygen and carbon dioxide crosses the plasma membrane by the process of

- a) Active diffusion
- b) Facilitated diffusion
- c) Passive diffusion
- d) Random diffusion

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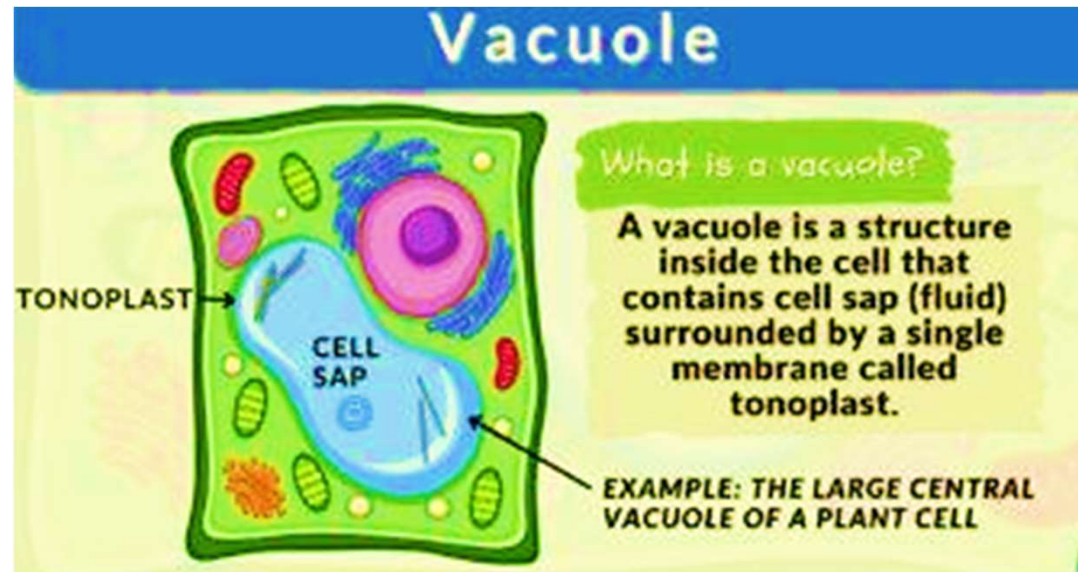


The membrane around the vacuole is known as

- a) Tonoplast
- b) Elaioplast
- c) Cytoplast
- d) Amyloplast

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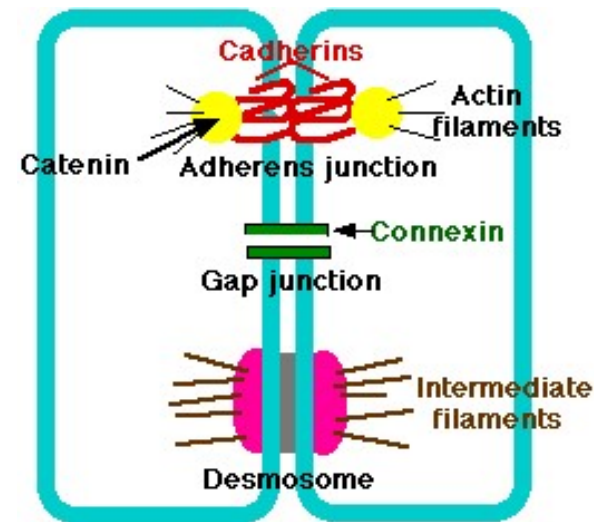


Animal Cells Are Interconnected By _____

- a) Desmosomes
- b) Cell wall
- c) Plasmodesmata
- d) Plasma membrane

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- a) **Desmosomes**
- b) Cell wall
- c) Plasmodesmata
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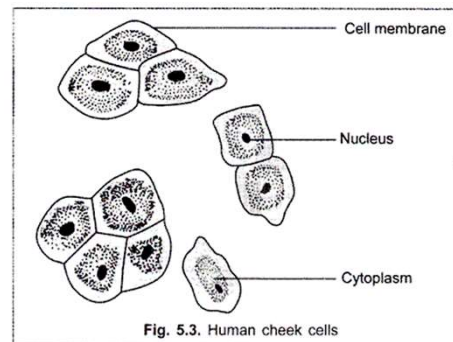
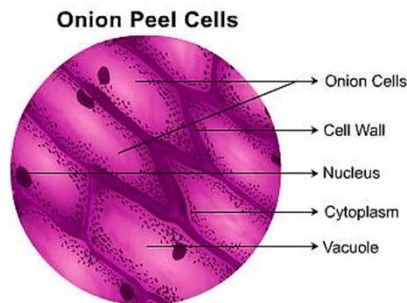


The Major difference between the human cheek cells and onion peel cells is _____?

- a) Presence of mitochondria in onion peel
- b) Absence of plasma membrane in cheek cells
- c) Cell wall presence in onion peel cells
- d) Absence of endoplasmic reticulum in cheek cells

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An Organelle That Mainly Serves As A Packaging Area For Molecules That Are Distributed Across The Cell And Are Called _____?

a. Golgi apparatus

b. Mitochondria

c. Plastids

d. Vacuole

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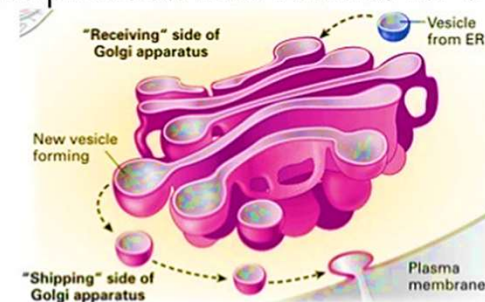
b. Mitochondria

c. Plastids

d. Vacuole

Golgi Body Function

- Modifies proteins and lipids
- Process materials to be removed from the cell
- Make and secrete mucus
- Packages products into vesicles for transport



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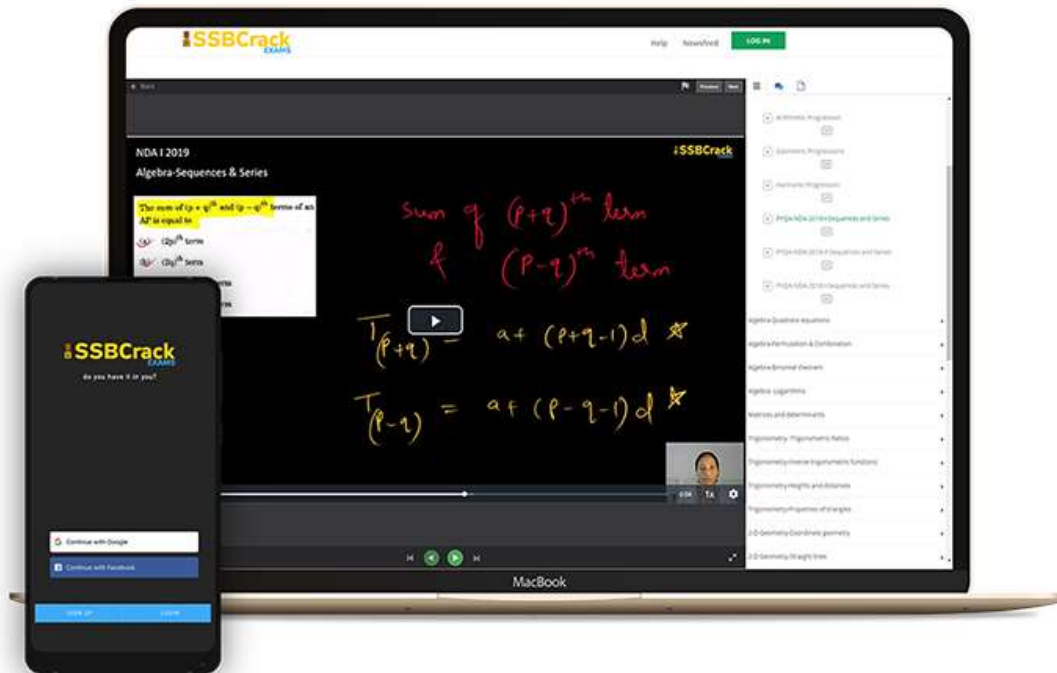
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