# SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES



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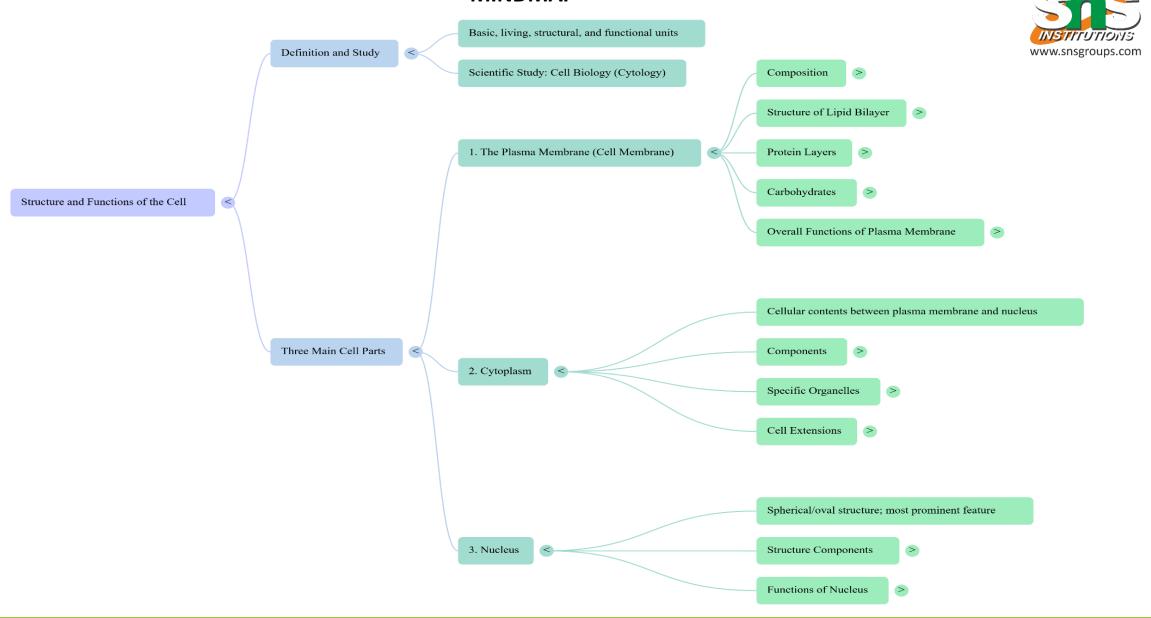
Coimbatore -641035

COURSE NAME: HUMAN ANATOMY AND PHYSIOLOGY

PHARM D IST YEAR

TOPIC: CELL AND ITS COMPONENTS-III

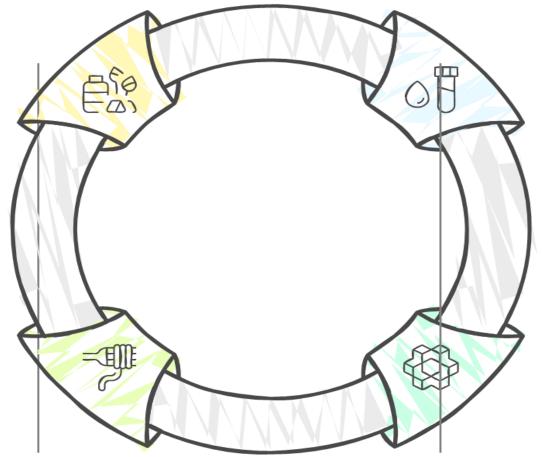
#### **MINDMAP**





#### **Inclusions**

Stored materials such as nutrients and pigments



### Cytosol

The liquid portion containing water, salts, and organic molecules

## Cytoskeleton

A network of fibers maintaining cell shape and aiding in movement

## **Organelles**

Structures performing specific functions like energy production and protein synthesis



## **Cytoplasm Composition**

**Cytoplasm Composition** 



Other

20%

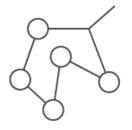
Water

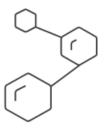
80%

Cytoplasm composition

lons, nutrients, molecules

## **Cytoplasm Composition**





Water

80%

composition

Cytoplasm I

Other

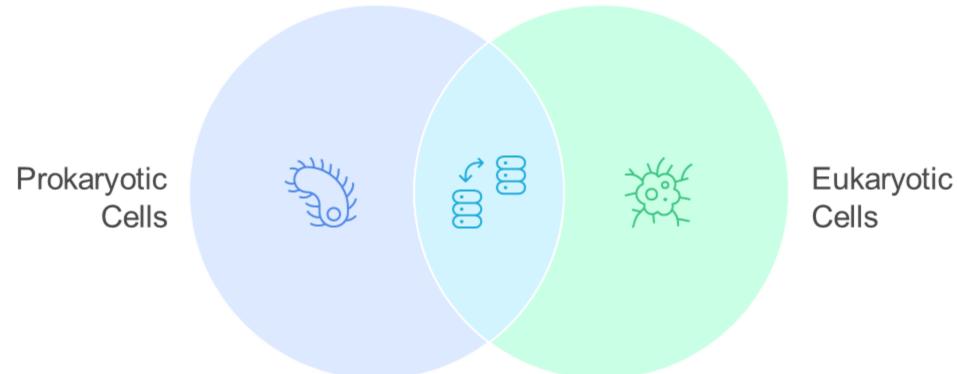
20%

lons, nutrients, molecules



# Shared Cellular Processes in Prokaryotes and Eukaryotes

## Core Cellular Functions





## **CYTOSOL**

The liquid part of the cytoplasm, primarily composed of water, salts, and organic molecules

## **ORGANELLES**

Membrane-bound structures that perform specific functions, such as mitochondria, endoplasmic reticulum, and ribosomes

**CYTOPLASM** 

## **INCLUSIONS**

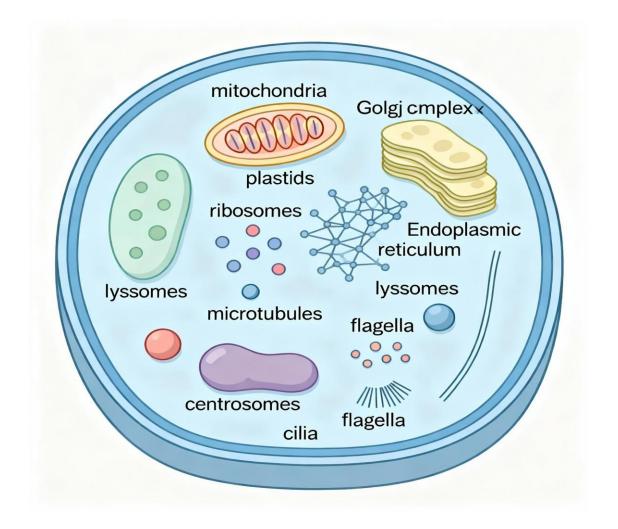
Insoluble particles that may store energy or other substances, such as starch granules

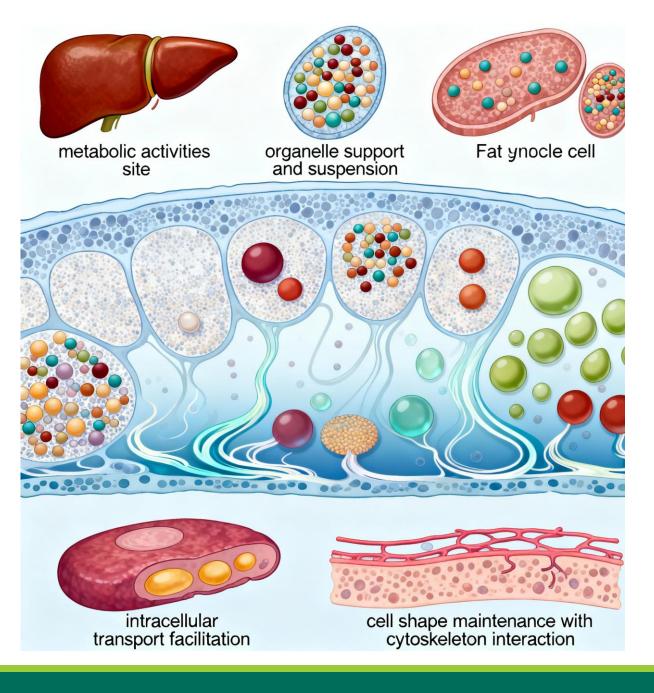
## **VACUOLES**

Organelles that store nutrients and waste products

The cytoplasm plays a crucial role in various cellular processes, including metabolism and intracellular transport

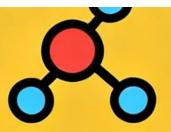












Glycolysis, ATP production

Cytoplasm

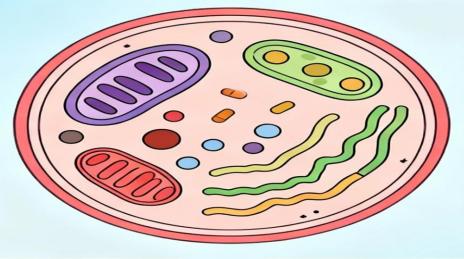
Holds organelles in place

Intracellular Transport Cell Shape Maintenance







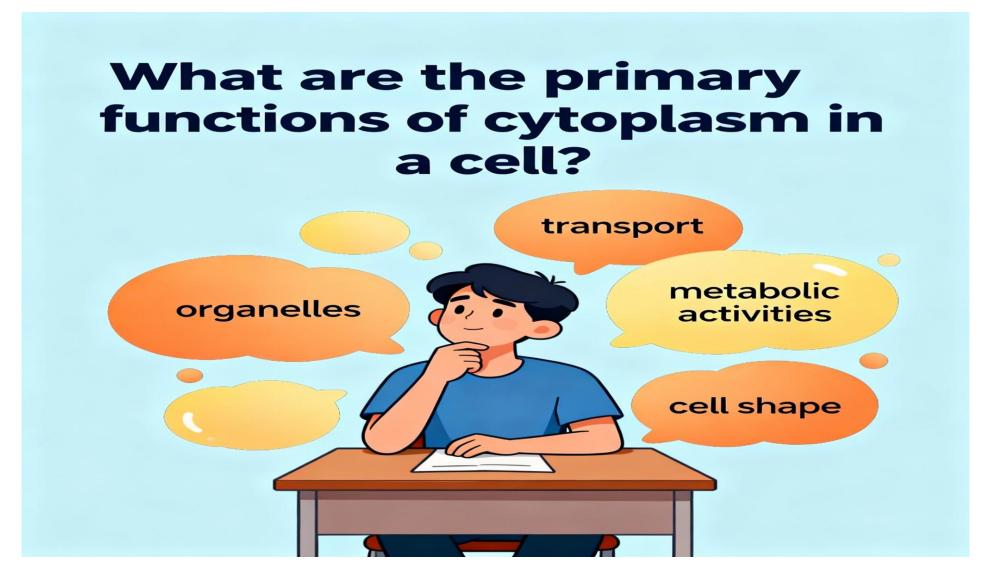


Which organelle is NOT found in cytoplasm?

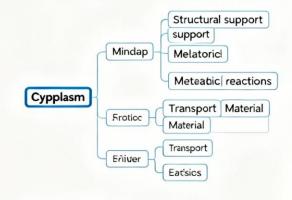
- A) Mitochondria
- B) Nucleus
- C) Ribosome
- D) Golgi apparatus

Describe the function of cytoplasm in a cell.









## **Questions:**





## Cytoplasm

HAP| CELL AND ITS COMPONENTS|DR.LEENA|AP|SNSCPHS 23-12-2025 14/23





# How does the cytoplasm support cellular functions and why is it essential for life?







- ✓ Ross And Wilson Anatomy And Physiology In Health And Illness, Anne Waugh & Allison Grant
- ✓ Essentials of Medical Physiology, K. Sembulingam & P. Sembulingam (Jaypee Brothers Medical Publishers)
- ✓ Human Anatomy & PhysiologyGerard J. Tortora & Bryan H. Derrickson (Wiley)
- ✓ A Textbook of Human Anatomy and Physiology-I, SIA Publishers



