

PYQ (CSS 2021)

Difference in structure and Functions of a Cell wall and Cell membrane.

INTRODUCTION

Both cell wall and cell membrane are important parts of cell in different organisms. Cell wall is present in animal cell however cell membrane is present in plant and animal cells both.

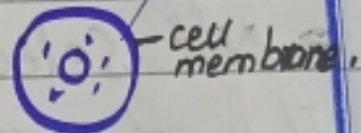
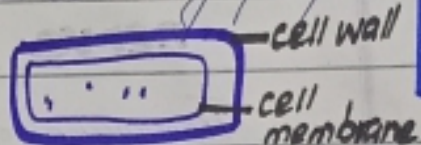
CELL WALL

CELL MEMBRANE

1. Definition

"The outermost boundary of a plant cell which is secreted by protoplasm"

"The outermost boundary of animal cell involves in cell transportation"



2. Composition

Has different composition in different organisms.

Bacteria: made up of peptidoglycan.

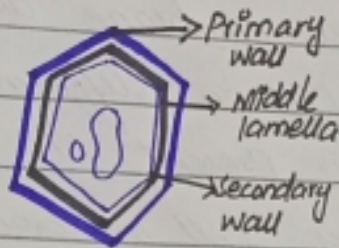
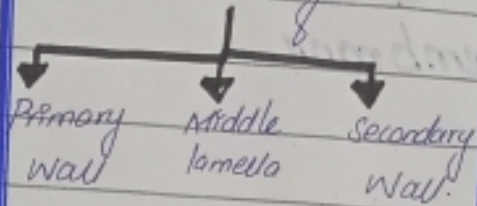
Made up of Proteins, Lipids and Carbohydrates

Proteins - 20-40%

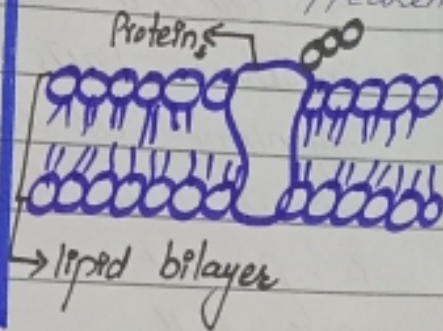
Lipids - 60-80%

3. STRUCTURE

Contains 3 layers:



Contains lipid bilayer in which protein molecules are embedded giving it a fluid mosaic appearance



4. FUNCTIONS

1. Shape to cell:

Due to its rigidity gives shape to the cell.

2. Transportation:

Transportation of all material takes place

through it.

3. Not Selective:

It is not selective allows the movement of all substances through the cell.

1. Semi-Permeable

• Selective in nature

allows only selective

components to pass through it.

2. Transmission of nerve impulse

• Transmission of impulse

and co-ordination

takes place through it.

3. Concentration Gradient

Maintains a concentration gradient of Ca^{2+} & Na^{+} ion across the cell.