Date: 2077/09/07

EXPERIMENT NO. 2

TO STUDY PLANT CELL FROM ONION SCALE LEAF

REQUIREMENTS

(a) APPARATUS

1) petridish
2) Watch glass
3) Slide
4) Coverslip
5) Needle
6) Brush
7) Forcep
8) Scissor
9) Dropper
10) Compound microscope

(b) CHEMICALS

1) Safranine
2) Glycerine
3) Water

(c) MATERIAL

1) An onion bulb

PROCEDURE

Peel out epidermal layer. Cut it into about 5mm short pieces. Dip the pieces into iodine solution for about 2 to 5 minutes to stain the nucleus. Wash with water. Transfer into a clean dry glass slide. Mount on glycerine. Then cover it with coverslip. Examine the prepared slide under low power magnification to see the mass of cell. Observe single cell under high power magnification and study the parts of cell of each plant in detail.

COMMENTS

1. The onion cells are rectangular in shape. They appear as brick wall under low power.
2. Each cell is bounded by thin non-living cell wall distinctly visible under high power.
3. The cells are filled with transparent faintly granular fluid called cytoplasm. The cytoplasm encloses large and small sized vacuoles. Each vacuole bounded by a thin covering wall, the tanoplast is filled with cell-sap.
4. A large prominent round nucleus lies at the centre or at the side of the cells. Nucleus contains densely viscous fluid called nucleoplasm bounded externally by thin nuclear membrane.
5. Stomata are entirely absent in the cells of onion peel.

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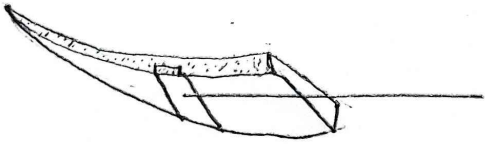


Fig. Onion Scale

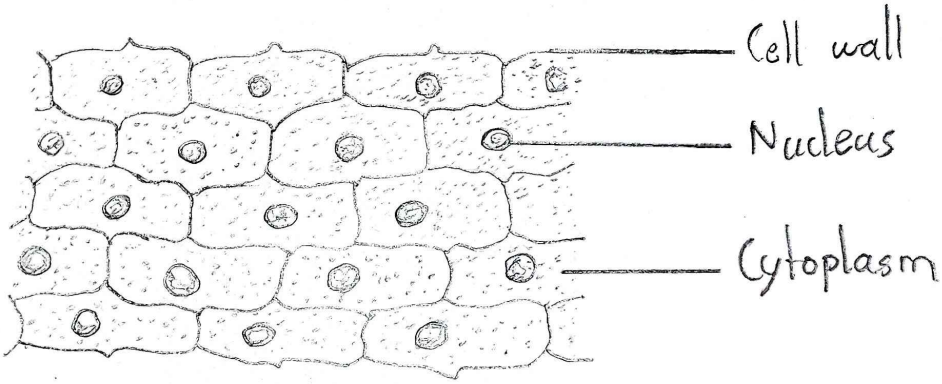
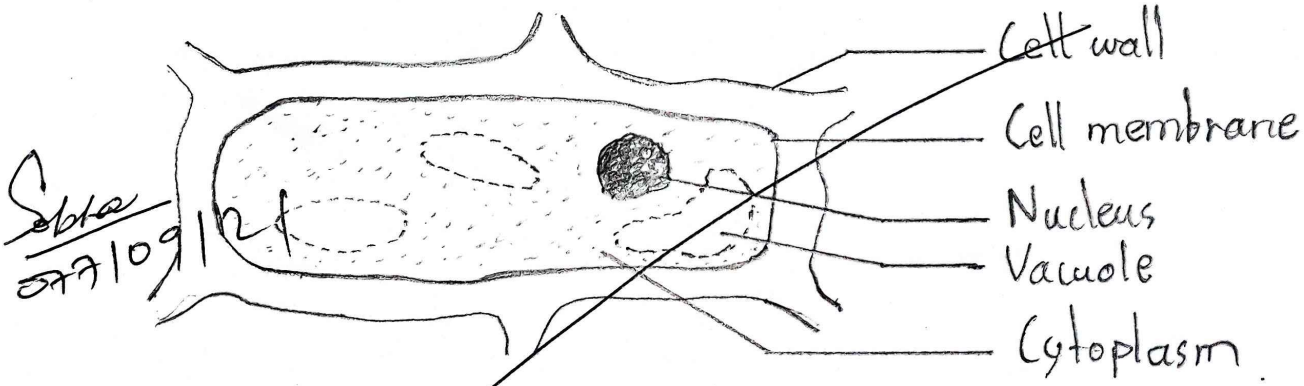


Fig. Onion cell under low power



Sabita
27/09/24

Fig. Single Onion Cell under high power