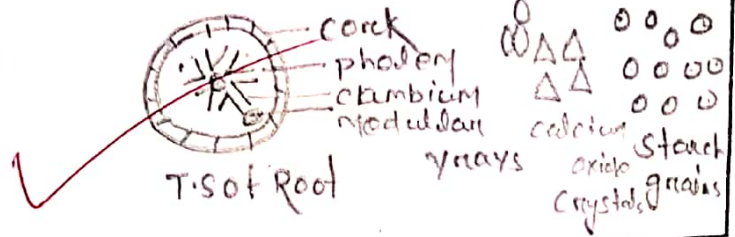
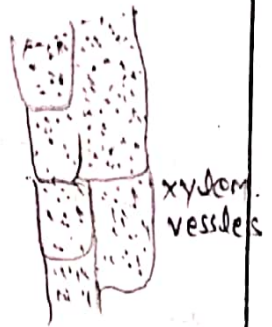
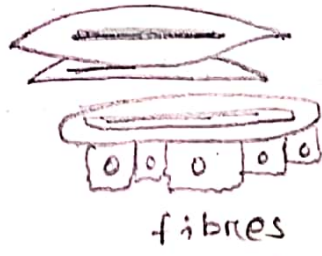
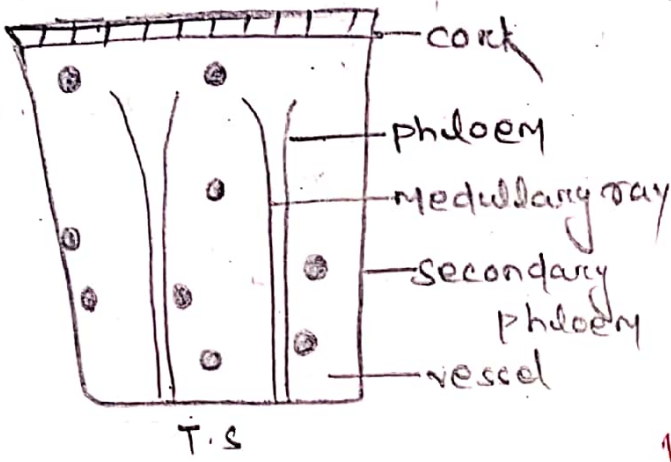


Name of the Experiment: To study about the microscopical T.S view of supplis crude drug liquorice

SKETCH



Material, Tools & Equipment Required (if any)

Sl.No.	Name	Specification	Qty.

PROCEDURE

Theory

Biological source

It consist of dried, peeled or unpeeled, roots and stolons of glycyrrhiza glabra belong to family leguminosae.

Chemical constituent

The chief constituents of liquorice is saponin glycosides: glycyrrhizic acid, glycyrrhizinic acid (aglycone), flavonoid glycoside. Isaliqueron and liqueritin, camphor derivative. Hemiradin, umbelliferone.

uses

used as an expectorant and demulcent, antiulcer, sweetening agent, for making understred flavour.

Application & Inference:

CONCLUSION
From the above observations, we concluded that the supplied sample is liquarice.

ASSESSMENT

MARKING PROCEDURE		Full Mark	Marks Obtained	Remarks
Accuracy & Process	Sketch	10		
	Sequence of Operation	10		
	Use of Tools & Equipment	10		
	Safety Observation	5		
Report	Observations, Calculations, Graph	25		
Inference		30		
Viva		10		
Total		100		

PERIDERM:-

Cork:- Ten to twenty or more layers of tabular cells. Outer layers contain reddish brown amorphous matter and the inner layers shows thick walled colourless cells.

Phellogen:- indistinct

Phellogen:- one to three layer of radially arranged parenchymatous cells containing prisms of calcium oxalate and few starch grains.

SECONDARY PHLOEM:-

Phloem fibres:- Thickened walls, cell in the inner part, lignified in outer part, concentrically arranged bundles of 4 to 50 fibres, each bundle PS surrounded by a parenchymatous sheath containing calcium oxalate crystals.

Phloem parenchyma:- Thin walled cells with starch grains and calcium oxalate.

Medullary rays:-

Distinct, 1- to multi-seriate parenchymatous cells, narrow in the xylem region and wider in the phloem region. Calcium oxalate crystals and starch grains are present in few cells.

Cambium:- Thin walled cells, three or more layered.

SECONDARY XYLEM

Vessels:- 80 to 200 μ in diameter with thick, yellow, pitted or reticulate thickened walls lignified.

Xylem parenchyma:- contains starch and calcium oxalate crystals (15 to 25 μ) lignified.

Xylem fibres:- Lignified, encased by a layer of parenchyma containing thickened calcium oxalate crystals (crystals sheath)

Medullary ray:- parenchymatous cells with intercellular spaces pitch absent in root, cells contain starch grains and calcium oxalate.

PITH:- parenchymatous cells with intercellular spaces.

Pitch absent in root, cells contain starch grains and calcium oxalate crystals.