Epithelial and Muscular Tissues

Experiment 1 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify epithelial and muscular tissues on prepared teaching slides.

Principle

Tissue identification links visible cellular organisation to function. Epithelium forms closely arranged sheets; muscle is specialised for contraction. Connective tissue is recognised by its matrix and supporting structures; nervous tissue contains neurons and supporting cells.

Requirements

- Labelled prepared tissue slides, microscope and drawing materials.

Procedure

1. Survey

Record the slide label and examine a broad field at low power.

2. Compare features

Examine epithelial layer number, surface-cell shape, muscle striations, branching and nuclear position. Compare with the instructor-labelled standard.

3. Draw and identify

Make a labelled sketch of the features actually visible. State two observations supporting the identification.

Observations and Record

Slide	Observed features	Identification
Slide 1	_____	_____
Slide 2	_____	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Total magnification = eyepiece magnification × objective magnification. Example: 10x × 40x = 400x.

Result

Record the completed observations, calculations and conclusion with units. State any limitation of the observation.

Precautions

- Use prepared slides and avoid confusing sectioning artefacts with tissue structures.
- Keep the lens clear of the slide and use fine focus at higher power.

Viva Questions and Answers

1. Why compare several fields?

Section angle and preparation artefacts may change the apparent shape.

2. What supports identification?

A consistent set of structural features, not staining colour alone.

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