

Anatomical Study of the Ear

Experiment 33 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify the main structures of the ear on models, charts or preserved teaching material.

Principle

External and middle-ear structures transmit sound; inner-ear structures support hearing and balance. Structural relationships help explain the physiological function.

Structures and Functional Link

- Pinna, canal, eardrum, malleus, incus, stapes, cochlea and semicircular canals.
- Sound → canal → tympanic membrane → ossicles → cochlea; vestibular structures provide balance information.
- Cochlear and vestibular structures have different sensory roles.

Requirements

- External, middle and inner ear model or chart
- Institution-approved preserved demonstration material if available
- Labelled drawing sheet

Procedure

1. Orient

Identify the anatomical position and major divisions of the model or chart.

2. Identify

Locate and label: Pinna, canal, eardrum, malleus, incus, stapes, cochlea and semicircular canals.

3. Trace function

Sound → canal → tympanic membrane → ossicles → cochlea; vestibular structures provide balance information.

4. Compare structures

Relate tissue or organ design to its major function.

5. Record

Draw a labelled schematic and explain the functional pathway in your own words.

Human Anatomy and Physiology

Observations and Record

Structure / pathway	Identification / function
Main structures	_____
Inlet / outlet or connections	_____
Labelled drawing	_____
Functional pathway	_____
Structure-function explanation	_____

Result

The main structures were identified and labelled as _____. The functional pathway was explained as _____.

Precautions

- Handle museum material only as authorised.
- Use the provided orientation rather than assuming left/right from the viewer's position.
- Do not infer a patient diagnosis from the teaching model.

Viva Questions and Answers

1. Which structures should be identified?

Pinna, canal, eardrum, malleus, incus, stapes, cochlea and semicircular canals.

2. What pathway should be traced?

Sound → canal → tympanic membrane → ossicles → cochlea; vestibular structures provide balance information.

3. What key concept is illustrated?

Cochlear and vestibular structures have different sensory roles.

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