First Hope

COMPLETE NOTES

Click here to visit our website

PHARMACY PRACTICAL NOTES

Complete subject and semesters are available on FirstHope app only.

Scan or click here

Click here to get the app >

Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram >

Scan or click here

@FirstHopeNotes

Instagram

@firsthope.official

Click here to follow >

YouTube channel

FirstHope-Pharmacy / Live streams

Click here to watch >

WhatsApp channel

Follow FirstHope on WhatsApp

Click here to join >

FirstHope website

firsthope.co.in

Click here to visit >

B.Pharm / D.Pharm / M.Pharm / Pharm.D

Complete subjects and semesters are available in the FirstHope app.

Study of the Respiratory System

Experiment 2 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify the major structures on an approved anatomical model and relate each structure to its physiological function.

Principle

Airways conduct and condition air; respiratory bronchioles and alveoli participate in gas exchange. Pressure changes produced by the diaphragm and chest wall move air, while diffusion moves gases across the alveolar-capillary interface.

Requirements

- Labelled and unlabelled teaching models or preserved institutional specimens; atlas supplied by the instructor.
- Pointer, notebook and a blank labelled-sketch sheet.

Procedure

1. Orient the model

Identify anterior/posterior and right/left using anatomical orientation. Record the organ system and the plane of the model.

2. Identify structures

Locate the structures in the table without reading the label first; then check your identification with the instructor.

3. Trace the pathway

Trace air from the nasal cavity through pharynx, larynx, trachea, main bronchi, smaller bronchi, bronchioles and alveoli. Distinguish this airflow route from the pulmonary blood-flow route.

4. Relate structure and function

Explain the function of each identified part and one consequence of disturbed function. Separate an observed structural feature from an inferred physiological effect.

5. Draw and label

Prepare a simple labelled sketch showing the pathway or relationships. Label arrows consistently and record one structure you initially confused.

Observations and Record

Structure	Identification cue	Function
Nasal cavity	Upper entry with internal passages	Filters, warms and humidifies air
Larynx / trachea	Airway below pharynx; cartilaginous support	Air conduction and voice / airway protection
Bronchi and bronchioles	Progressively branching airways	Distribute air; small-airway resistance
Alveoli	Terminal thin-walled air spaces	Gas exchange
Pleura	Membranes around lungs	Permits movement with mechanical coupling
Diaphragm	Muscle below thorax	Main inspiratory muscle

Worked Example

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

- Complete a recall check: cover the model labels and identify five structures. Record the number correctly located and explain the correction for any error; this is a classroom learning record.

Result

Record the identified structures, the traced pathway and the completed labelled sketch.

Precautions

- Use models and institution-approved teaching specimens; do not undertake dissection independently.
- Handle specimens as directed by the laboratory and avoid confusing the viewer's right with anatomical right.

Viva Questions and Answers

1. Why is alveolar surface thin?

A short diffusion distance facilitates gas exchange.

2. What happens to thoracic volume in quiet inspiration?

It increases as the diaphragm contracts.

3. Do all bronchioles exchange gases?

No. Conducting bronchioles differ from the respiratory region.

First Hope

COMPLETE NOTES

Click here to visit our website

PHARMACY PRACTICAL NOTES

Complete subject and semesters are available on FirstHope app only.

Scan or click here

Click here to get the app >

Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram >

Scan or click here

@FirstHopeNotes

Instagram

@firsthope.official

Click here to follow >

YouTube channel

FirstHope-Pharmacy / Live streams

Click here to watch >

WhatsApp channel

Follow FirstHope on WhatsApp

Click here to join >

FirstHope website

firsthope.co.in

Click here to visit >

B.Pharm / D.Pharm / M.Pharm / Pharm.D

Complete subjects and semesters are available in the FirstHope app.