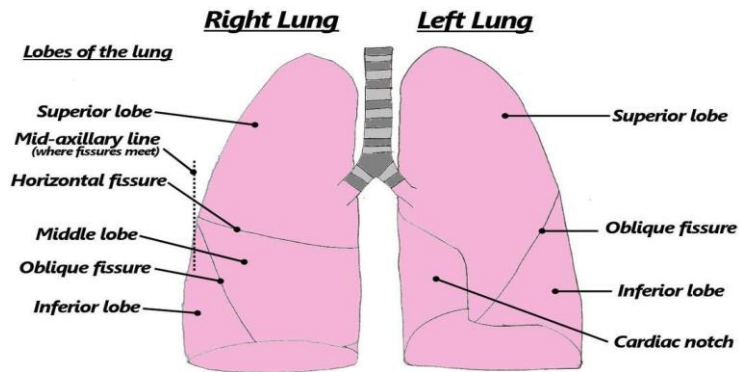




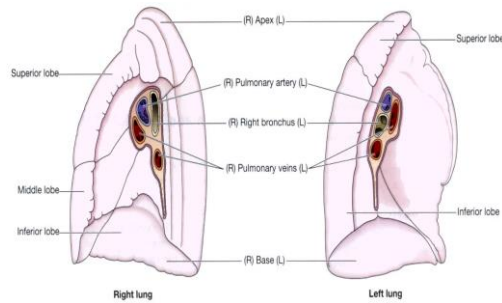
## UNIT-3 ANATOMY OF RESPIRATORY SYSTEM WITH SPECIAL REFERENCE TO ANATOMY OF LUNGS



There are **two lungs**, one lying on each side.

- **Shape:** cone
- **Weight:** 600-700gms
- **Length:** 20-24cm
- **Colour:** pinkish
- **Lobes:** three lobes in the **right lung**, two lobes in the **left lung**
- Lobes are **separate** by **the fissures**.
- The area between the lungs is the **mediastinum**. It is occupied by the heart, great vessels, trachea, right and left bronchi, oesophagus, lymph nodes, lymph vessels and nerves.

### SURFACES:



i. Apex

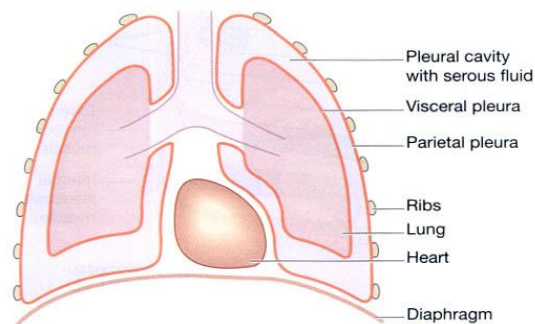
ii. A base

iii. Costal surface

iv. Medial surface

- **Apex** – rounded and rises into the root of the neck.
- **A base**-this is concave & semilunar in shape, lies on the thoracic surface of the diaphragm.
- **Costal surface**-this surface is convex & lies against the costal cartilages.
- **Medial surface**-this surface is concave & has a roughly triangular-shaped area, called the hilum. The pulmonary artery supplying the lung & two pulmonary veins draining it.

### PLEURA:



The **pleura** consists of a closed **sac** of serous membrane, one for each lung which contains a small amount of **serous fluid**.

- The lung is invaginated or pushed into this sac.

- It forms **two layers**:

(i)The **visceral** pleura (ii)The **parietal** pleura

(i)The **visceral** pleura:

This is **adherent to the lung**, covering each lobe & passing into the fissures that separate them.

(ii)The **parietal** pleura:

This is **adherent to** the inside of the **chest wall & the thoracic surface** of the diaphragm. It lines the inner wall of the rib cage.

**THE PLEURAL CAVITY:**

- Pleural cavity is the potential space.
- The two layers of pleura are separated by a thin film of serous fluid which allows them to glide over each other.
- **Preventing friction** between them during breathing.
- The **serous fluid** is secreted by the epithelial cells of **the membrane**

**RIGHT LUNG:**

- The right lung has more lobes and segments than the left.
- It is divided into **three lobes**:

(i)**Upper** or **superior** lobe

(ii)**Middle** lobe

(iii)**Lower** or **inferior** lobe

- They separate by **two fissures**

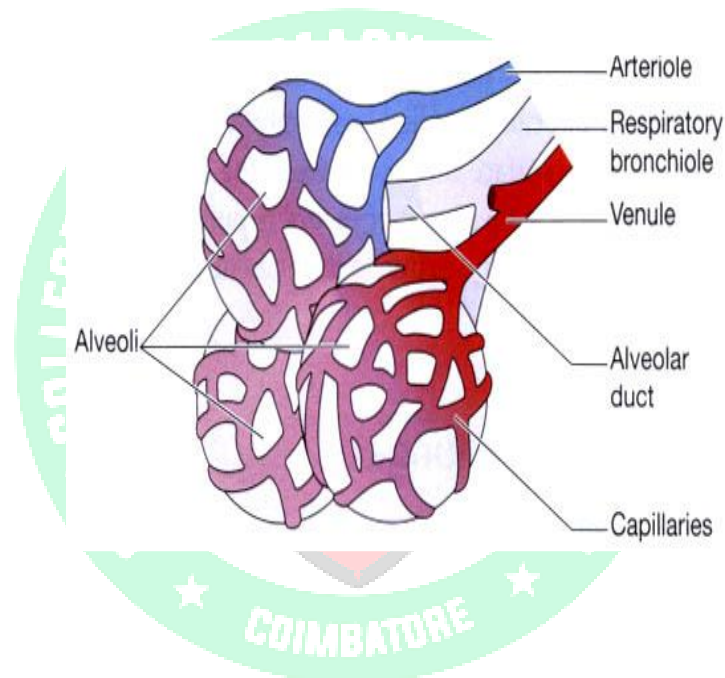
(i) **One oblique** fissure which separates **middle & lower** lobe

(ii) **One horizontal** fissure which separates **middle & upper** lobe

**LEFT LUNG:**

- The left lung is divided into two lobes
  - (i) **upper** lobe
  - (ii) **lower** lobe
- They separate by the **oblique fissure**
- Left lung does not have a **middle** lobe
- The mediastinal surface of the left lung has a large **cardiac impression** or **cardiac notch** where the heart sits.

### PULMONARY BLOOD SUPPLY:



- The pulmonary artery divides into two, one branch conveying deoxygenated blood to each lung.
- Within the lungs each pulmonary artery divides into many branches which eventually end in a dense capillary network around the walls of the alveoli.
- The walls of the alveoli and those of the capillaries each consist of only one layer of flattened epithelial cells.
- The exchange of gases between air in the alveoli and blood in the capillaries takes place across these two very fine membranes.

- The pulmonary capillaries join up, eventually becoming two pulmonary veins in each lung. They leave the lungs at the hilum and convey oxygenated blood to the left atrium of heart.
- The innumerable blood capillaries and blood vessels in the lungs are supported by connective tissue.

