

# WORKSHEET 1

## CHAPTER 14 – THE RESPIRATORY SYSTEM

### A. Name the following.

1. A respiratory tube supported by cartilaginous rings.
2. Double-layered membrane surrounding the lungs.
3. Volume of air remaining in the lungs even after a forcible expiration.
4. The maximum volume of air a person can breathe after a forced expiration.
5. Functional unit of lungs.

### B. Choose the correct option.

1. The amount of air that can be inspired/expired normally is called  
a. tidal volume.      b. vital capacity.      c. residual volume.      d. normal volume.
2. The chest cavity is separated from abdominal cavity by  
a. ribs.      b. intercoastal muscle.      c. diaphragm.      d. rings of cartilage.
3. The epithelium in the lung's alveoli is  
a. cuboidal.      b. columnar.      c. ciliated.      d. squamous.
4. The respiratory centre is present in  
a. hypothalamus.      b. medulla oblongata.      c. cerebellum.      d. pons varolii.
5. During expiration, the diaphragm  
a. relaxes.      b. contracts.      c. flattens.      d. gets folded.

### C. Fill in the blanks.

1. The total capacity of the lungs is \_\_\_\_\_ litres.
2. \_\_\_\_\_ prevents food from entering the trachea while swallowing.
3. During inspiration, diaphragm \_\_\_\_\_.
4. \_\_\_\_\_ carries oxygenated blood from lungs to the left atrium of the heart.
5. Gaseous exchange between alveoli and lung capillaries occurs through the process of \_\_\_\_\_

### D. State whether the following statements are True or False.

1. Pharynx is the common passage for both food and air.
2. The residual volume of air in human lungs is 3000 ml.
3. Left lung is bigger than right lung.
4. The concentration of haemoglobin decreases at high altitude.
5. Gaseous exchange takes place in all body cells.

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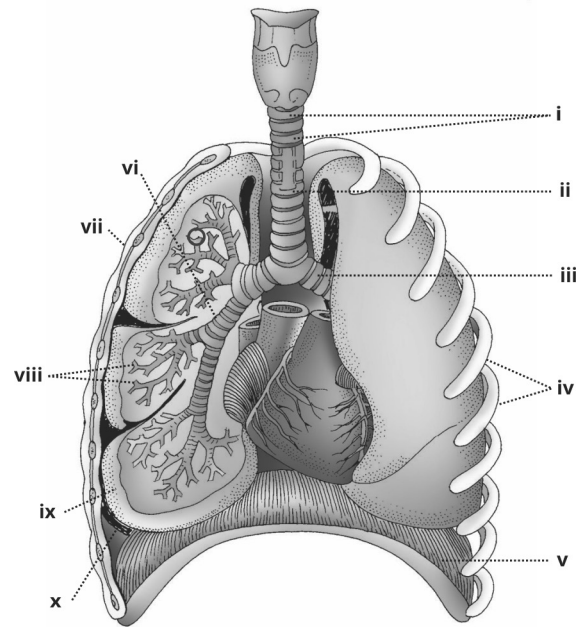
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**E. Study the given figure and answer the following questions.**

1. Label parts **i-x** in the given diagram of human respiratory system.
2. What will happen if part **ii** is removed?
3. Name the disease of lungs caused due to cigarette smoking. How does this disease affect part **viii** of lungs?
4. How is part **viii** specialized for exchange of gases?
5. Mention the function of parts **v** and **vii** during breathing.



# ANSWERS

## WORKSHEET 1

### A. Name the following.

1. Trachea
2. Pleural membrane
3. Residual volume
4. Vital capacity
5. Alveoli

### B. Choose the correct option.

1. a.                      2. c.                      3. d.                      4. a.                      5. a.

### C. Fill in the blanks.

1. 6
2. Epiglottis
3. flattens
4. Pulmonary vein
5. diffusion

### D. State whether the following statements are True or False.

1. True                      2. False                      3. False                      4. False                      5. True

### E. Study the given figure and answer the following questions.

1. **i.** Rings of cartilage    **ii.** Trachea                      **iii.** Bronchi                      **iv.** Ribs                      **v.** Diaphragm  
**vi.** Bronchiole                      **vii.** Intercostal muscle    **viii.** Alveoli                      **ix.** Pleural membrane    **x.** Pleural fluid
2. Removal of rings of cartilage will lead to the collapse of respiratory pathway and hence air cannot reach the lungs resulting in death of person.
  3. Emphysema: In a smoker, the walls of alveoli breakdown reducing the area for gaseous exchange in lungs.
  4. The alveoli offer a good respiratory surface for gaseous exchange.
    - a. The alveoli have thin walls, made of single layer epithelium which is readily permeable to gases.
    - b. Provide large surface area for gaseous exchange.
    - c. Richly supplied with blood capillaries.
  5. During inhalation, diaphragm and intercostal muscles contract resulting in increase in thoracic cavity volume and increase in lung volume. The air pressure in lung reduces and air rushes from atmosphere to the lungs.  
During exhalation, diaphragm and intercostal muscles relax resulting in decrease in lung volume and increase in pressure on lungs. Thus, air rushes out of the lungs.