

MBBS Respiratory System – Physiology Chapter Wise Previous Exam Questions conducted by KUHS (Kerala University of Health Sciences)

1. Explain the neural regulation of respiration/ Describe the neural control of respiration and add a note on cheyne-strokes breathing.
2. Describe the role of chemo-receptors in regulation of respiration/ Chemical regulation of respiration
3. Peripheral chemo receptors
4. Explain the transport of Carbondioxide in blood
5. Describe the transport of Oxygen in blood
6. Vital capacity and timed vital capacity as lung function tests
7. Surfactant
8. Hypoxia
9. Hypoxic hypoxia
10. Acclimatization
11. Lung compliance
12. Periodic breathing
13. Ventilation perfusion ratio.

Explain the Physiological basis

1. Polycythemia in high altitude/ Prolonged stay at high altitude increases the hematocrit
2. Lung alveoli are kept dry normally
3. Alveoli do not collapse during expiration
4. Cyanosis is not seen in anemic hypoxia
5. Caisson disease or decompression sickness
6. Dead space
7. Oxygen debt
8. Hemoglobin saturation in arterial blood is usually less than 100%
9. Increased incidence of Tuberculosis in the apex of the lung
10. Chloride shift

Draw and Label

1. Respiratory membrane
2. Baroreceptor reflex mechanism
3. Intrapleural pressure tracing
4. O₂ –Hb dissociation curve/ Oxygen dissociation curve
5. Effect of pH on the oxygen-hemoglobin dissociation curve
6. Draw and label diagram of lung volumes and capacities
7. Spirometric recording of lung volumes

Cases

1. A road traffic accident victim was found to be unconscious and breathing in an irregular rhythm. From your knowledge of physiology
 - Name two types of periodic breathing
 - Explain the neural regulation of respiration
 - What is the mechanism of function of medullary chemo receptors (1+5+4=10)

2. Oxygen delivery to tissues will be greatly reduced in a patient with carbon monoxide poisoning. Answer the following:

- What is the physiological basis for reduced oxygen delivery to the tissues?
- Describe the functional significance of oxygen-hemoglobin dissociation curve.
- Mention the factors which will shift oxygen dissociation curve to right and left (2.5+5+2.5=10)

3. A 30 years old lady presented with history of cough and breathlessness that got worse during the winter months every year. She also complained of occasional whistling sounds arising from the chest during breathing. Answer the following :

- What is the most likely clinical diagnosis of her condition
- What major findings would her pulmonary function tests show
- What kind of medication would she likely benefit from
- Depict the different lung volumes and capacities with the help of a neatly labeled diagram
- What is the significance of residual volume (1+2+1+4+2=10)

4. A 40 year old man was admitted to hospital with complaints of difficulty in breathing and shortness of breath following a head injury. Answer the following:

- With the help of a diagram describe two types of periodic breathing
- Explain the physiological basis for the changes in periodic breathing
- Describe the role of peripheral chemo receptors in regulation of normal respiration (3+2+5=10)

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