

Respiratory System – Practice Questions

Multiple Choice Questions (Choose the correct answer)

1. The main function of the respiratory system is to:
 - A) Produce hormones
 - B) Exchange oxygen and carbon dioxide
 - C) Regulate body temperature
 - D) Digest food
2. The upper respiratory system includes all of the following EXCEPT:
 - A) Nose
 - B) Pharynx
 - C) Larynx
 - D) Lungs
3. Pulmonary ventilation refers to:
 - A) Gas exchange between blood and tissues
 - B) Movement of air into and out of lungs
 - C) Transport of oxygen in blood
 - D) Cellular respiration
4. Air moves into the lungs when:
 - A) Alveolar pressure is greater than atmospheric pressure
 - B) Atmospheric pressure equals alveolar pressure
 - C) Alveolar pressure is less than atmospheric pressure
 - D) Lung volume decreases
5. Boyle's law explains the relationship between:
 - A) Temperature and pressure
 - B) Volume and pressure
 - C) Volume and density
 - D) Pressure and diffusion
6. Which muscle is primarily responsible for quiet inhalation?
 - A) Internal intercostals
 - B) Abdominal muscles
 - C) Diaphragm
 - D) Sternocleidomastoid
7. Normal quiet exhalation is considered:
 - A) Active
 - B) Passive
 - C) Forced
 - D) Voluntary
8. Surfactant reduces:
 - A) Lung compliance
 - B) Airway resistance
 - C) Surface tension in alveoli
 - D) Blood pH
9. Low lung compliance means the lungs:
 - A) Expand easily
 - B) Resist expansion
 - C) Have low elasticity
 - D) Have increased surfactant
10. Airway resistance increases when:
 - A) Bronchioles dilate
 - B) Lung volume increases
 - C) Bronchioles constrict
 - D) Sympathetic activity increases
11. Tidal volume in a normal adult is approximately:
 - A) 100 mL

- B) 250 mL
 - C) 500 mL
 - D) 1000 mL
12. The instrument used to measure lung volumes is called:
- A) Barometer
 - B) Spirometer
 - C) Manometer
 - D) Oximeter
13. Residual volume is the air that:
- A) Can be exhaled forcefully
 - B) Remains after maximal exhalation
 - C) Is inhaled during deep breathing
 - D) Moves during quiet breathing
14. Dalton's law relates to:
- A) Gas solubility
 - B) Partial pressures of gases
 - C) Gas diffusion rate
 - D) Gas temperature
15. Gas exchange in the lungs occurs mainly by:
- A) Active transport
 - B) Osmosis
 - C) Diffusion
 - D) Filtration
16. Most oxygen in blood is transported:
- A) Dissolved in plasma
 - B) Bound to hemoglobin
 - C) As bicarbonate
 - D) As carbaminohemoglobin
17. The Bohr effect describes the effect of:
- A) pH on oxygen binding to hemoglobin
 - B) Temperature on lung volume
 - C) Pressure on ventilation
 - D) CO₂ on surfactant
18. Most carbon dioxide is transported in blood as:
- A) Dissolved CO₂
 - B) Carbaminohemoglobin
 - C) Bicarbonate ions
 - D) Carbonic acid
19. External respiration occurs between:
- A) Blood and tissues
 - B) Alveoli and pulmonary capillaries
 - C) Cells and mitochondria
 - D) Blood and heart
20. The main respiratory control center is located in the:
- A) Cerebrum
 - B) Cerebellum
 - C) Brain stem
 - D) Spinal cord

True / False Questions

1. Inhalation is an active process. (T/F)
2. Exhalation during quiet breathing requires muscle contraction. (T/F)
3. Surfactant deficiency can cause alveolar collapse. (T/F)
4. Oxygen diffuses from areas of low partial pressure to high partial pressure. (T/F)
5. Carbon dioxide is more soluble in blood than oxygen. (T/F)

Answers

MCQs: 1-B, 2-D, 3-B, 4-C, 5-B, 6-C, 7-B, 8-C, 9-B, 10-C, 11-C, 12-B, 13-B, 14-B, 15-C, 16-B, 17-A, 18-C, 19-B, 20-C

True / False: 1-T, 2-F, 3-T, 4-F, 5-T