

**Para-17.1****Introduction and Respiratory Organs**

1. In which of the following gaseous exchange between  $O_2$  and  $CO_2$  occurs through general body surface? **[Pg-268,E]**  
 (A) Sponges (B) Coelenterates  
 (C) Flatworms (D) All

2. Match the followings correctly. **[Pg-268,E]**

	Animals		Respiratory Organs
A.	Earthworms	1.	Lungs
B.	Most aquatic arthropods	2.	Trachea
C.	Fishes	3.	Gills
D.	Birds/Reptiles	4.	Moist cuticle
E.	Insects		

- (A) A-IV, B and C-III, D-I, E-II  
 (B) A- IV, B - III C and D -I, E - III  
 (C) A-II, B and C - III, D - I, E - IV  
 (D) A-III, B and C-I, D-II, E-IV

3. Amphibians e.g. frogs respire – **[Pg-268,E]**  
 (A) Through moist skin  
 (B) Lungs  
 (C) Both a and b  
 (D) Trachea

**Para-17.1.1****Human Respiratory System**

4. Which is the correct sequence of air passages in man? **[Pg-269,E]**  
 (A) External Nostril→ Nasal passage→ Internal nostril→ Pharynx →Larynx→ Trachea → Bronchi → Bronchioles → Alveoli  
 (B) Nose→ Larynx→ Pharynx→ Bronchioles→ Bronchi → Alveoli  
 (C) Nose→ Pharynx →Trachea→ Larynx→ Bronchi → Bronchioles→ Alveoli  
 (D) Nose → Larynx→ Bronchi→ Pharynx→ Trachea→ Bronchioles →Alveoli
5. Which is correct about nasopharynx? **[Pg-269,E]**  
 (A) Internal nostrils open into nasopharynx  
 (B) It is the common passage for both air and food  
 (C) It opens through gullet of the larynx region into the trachea

(D) All

6. Which of the following options is wrong about the larynx (sound box)? **[Pg-269,E]**

- (A) It is a bony box  
 (B) Glottis is the opening into the larynx  
 (C) During swallowing of food glottis is covered by epiglottis to prevent food entry into the larynx  
 (D) All

7. Trachea divides into right and left primary bronchi at \_\_\_\_\_ thoracic vertebra. **[Pg-269,E]**

- (A) 4 (B) 5  
 (C) 6 (D) 9

8. Incomplete cartilaginous rings support all of the following except- **[Pg-269,E]**

- (A) Trachea  
 (B) Primary, secondary and tertiary bronchi  
 (C) Respiratory bronchioles  
 (D) Initial bronchioles

9. Which of the following has the smallest diameter? **[Pg-269,E]**

- (A) Trachea  
 (B) Terminal bronchiole  
 (C) Tertiary bronchus  
 (D) Secondary bronchus

10. Lungs are comprised by – **[Pg-269,E]**

- (A) Only alveoli  
 (C) Pleura  
 (C) Different types of bronchi  
 (D) Network of bronchi, bronchioles and alveoli

11. Sites of gaseous exchange in lungs are – **[Pg-270,E]**

- (A) Alveoli (B) Tracheoles  
 (C) Bronchioles (D) Pleura

12. **[Pg-269,M]**

- I. It is double layered and covers the lungs  
 II. Fluid between the layers reduces friction on lung-surface  
 III. Outer layer is in contact with thoracic wall

IV. Inner layer is in contact with lungs  
 The above features refer to –

- (A) Pericardium (B) Peritoneum  
 (C) Pleura (D) None

13. The part starting with the external nostrils upto the terminal bronchioles constitute the - **[Pg-270,E]**

- (A) Respiratory or exchange part of respiratory system
- (B) Inspiratory part
- (C) Conducting part
- (D) Expiratory part

14. Respiratory or exchange part of the respiratory system consists of- **[Pg-270,E]**

- (A) The parts starting with external nostrils upto terminal bronchioles
- (B) Alveoli and their ducts
- (C) All bronchi and terminal bronchioles
- (D) All bronchioles

15. The conducting part of the respiratory system has functions. **[Pg-270,E]**

- (A) Filter, warm and moisten the air
- (B) Gaseous exchange
- (C) Filtering the air only
- (D) Warm the air

16. The chamber formed dorsally by the vertebral column, ventrally by sternum, laterally by ribs and on the lower side by dome-shaped diaphragm is -**[Pg-270,M]**

- (A) Abdominal cavity (B) Thoracic cavity
- (C) Pelvic cavity (D) Cranial cavity

17. Respiration involves following steps -

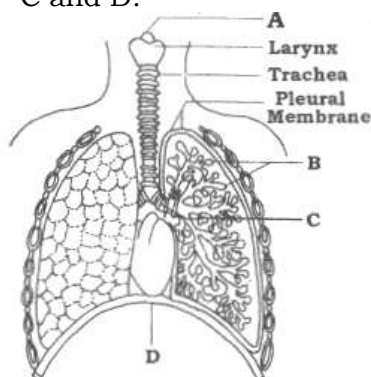
**[Pg-270,M]**

- I) Diffusion of gases  $O_2$  and  $CO_2$  across alveolar membrane
- II) Transport of gases by blood
- III) Utilization of  $O_2$  by cell for catabolic reactions and resultant release of  $CO_2$
- IV) Pulmonary ventilation by which atmospheric air is drawn in and  $CO_2$  rich alveolar air is released out
- V) Diffusion of  $O_2$  and  $CO_2$  between blood and tissues.

The correct sequence of steps is -

- (A) I)→ II)→III)→ IV)→V)
- (B) V)→ IV)→III)→ II)→I)
- (C) IV)→ I)→II)→ V)→III)
- (D) III)→II)→ V)→I)→ IV)

18. Study the given diagram and identify A, B, C and D. **[Pg-269,E]**



- (A) A- Epiglottis, B -Alveoli, C- Bronchus, D - Diaphragm

- (B) A- Epiglottis, B -Alveoli, C - Bronchioles, D - Diaphragm

- (C) A- Sound box, B -Alveoli, C - Bronchus, D - Diaphragm

- (D) A-Sound box, B-Alveoli, C- Bronchioles, D - Diaphragm

## **Para- 17.2 Mechanism of Breathing**

19. The lungs expand in inspiration/inhalation because -

**[Pg-270,E]**

- (A) Diaphragm contracts upward
- (B) The volume of thoracic cavity increases
- (C) External intercostal muscles relax
- (D) Diaphragm relaxes

20. The process of exhalation / expiration is begun mainly due to - **[Pg-271,E]**

- (A) The contraction of intercostal muscles
- (B) The contraction of the diaphragm
- (C) The relaxation of muscles
- (D) Low pressure in thoracic cavity

21. Which of the following statements about the mechanism of ventilation/breathing is false? **[Pg-271,M]**

- (A) As the diaphragm relaxes, air is expelled from the respiratory system
- (B) During inspiration the lungs act as suction pump
- (C) Inspiration is a passive and expiration is an active process.
- (D) For quiet breathing external intercostal muscles and diaphragm play an important role.

22. Inspiration occurs when there is a negative pressure in the lungs with respect to atmospheric pressure. This negative pressure is achieved when - **[Pg-271,M]**

- (A) Intrapulmonary pressure is less than the atmospheric pressure
- (B) Intra pulmonary pressure is greater than the atmospheric pressure
- (C) Intrapulmonary pressure is equal to the atmospheric pressure
- (D) Intrapleural pressure becomes more than the intra-alveolar pressure

23. Expiration takes place when the intrapulmonary pressure is - **[Pg-271,E]**

- (A) Greater than the atmospheric pressure
- (B) Lesser than the atmospheric pressure
- (C) Equal to atmospheric pressure
- (D) Equal to intrapleural pressure

24. Which of the following sequences is correct to initiate inspiration? **[Pg-270,271,M]**

- I. The contraction of external intercostal muscles raises the ribs and sternum

- II. Volume of thorax increases in the dorso-ventral axis  
 III. Intrapulmonary pressure decreases  
 IV. Diaphragm contraction  
 V. Air rushes into lungs  
 VI. Volume of thorax increases in the antero-posterior axis

(A) I, II, IV, V, III, VI (B) I, II, III, IV, V  
 (C) I, II, IV, VI, III, V (D) VI, I, II, III, V

25. Which of the following sequences is correct to initiate expiration? **[Pg-270,271M]**

- I. Relaxation of external intercostal muscles and return of diaphragm and sternum to their normal position  
 II. Air expelled from lungs  
 III. Volume of thorax decreases  
 IV. Intrapulmonary pressure increases  
 (A) I, III, IV, II (B) II, IV, III, I  
 (C) IV, III, II, I (D) I, II, III, IV

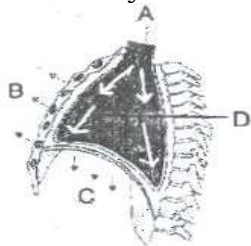
26. On an average, a healthy human breathes \_\_\_\_\_ times /minute- **[Pg-271,E]**

(A) 20 - 40 (B) 1-6  
 (C) 12-16 (D) 16-25

27. Additional muscles for forceful breathing are – **[Pg-270,E]**

- (A) Diaphragm and external intercostal muscles  
 (B) Abdominal muscles and internal intercostal muscles  
 (C) Diaphragm and abdominal muscles  
 (D) External and internal intercostal muscles

28. Following illustration depicts the mechanism of breathing. In which of the following option all the parts A, B, C and D are correctly labelled? **[Pg-271,E]**



- (A) A-Air entering into lungs; B- Ribs and sternum raised; C- Diaphragm contracted; D-Volume of thorax raised  
 (B) A - Air expelled from lungs; B - Ribs and sternum return to original position; C - Diaphragm relaxed; D - Volume of thorax decreased  
 (C) A-Air expelled from lungs; B- Ribs and sternum raised; C - Diaphragm relaxed; D -Volume of thorax decreased  
 (D) A-Air expelled from lungs; B- Ribs and sternum raised; C- Diaphragm

contracted; D-Volume of thorax decreased

### Para-17.2.1 Respiratory Volumes and Capacities

29. Match the following – **[Pg-271,272,M]**

	Column A		Column B
1.	Tidal Volume	A.	Tidal volume and inspiratory reserve volume and expiratory reserve volume
2.	Residual Volume	B.	Additional amount of air inhaled beyond tidal volume when taking a very deep breath
3.	Expiratory reserve volume	C.	Amount of air remaining in lungs after expiratory reserve volume is expelled
4.	Inspiratory reserve volume	D.	Tidal volume and inspiratory reserve volume
5.	Inspiratory Capacity	E.	Volume of air in one breath
6.	Vital Capacity	F.	Amount of air exhaled in forced exhalation

- (A) 1 - C, 2 - E, 3 - B, 4 - F, 5 - D, 6 - A  
 (B) 1 - E, 2 - F, 3 - C, 4 - B, 5 - A, 6 - D  
 (C) 1 - E, 2 - C, 3 - F, 4 - B, 5 - D, 6 - A  
 (D) 1 - E, 2 - C, 3 - B, 4 - F, 5 - A, 6 - D

30. Match the following - **[Pg-271,272,M]**

	Column A		Column B
1.	Tidal Volume	A.	2500-3000 mL of air
2.	Inspiratory reserve volume	B.	1000 mL of air
3.	Expiratory reserve volume	C.	500 mL of air
4.	Residual volume	D.	3400-4800 mL of air
5.	Vital Capacity	E.	1200 mL of air

- (A) 1 - C, 2 - D, 3 - B, 4 - A, 5 - E  
 (B) 1 - C, 2 - A, 3 - B, 4 - E, 5 - D  
 (C) 1 - C, 2 - A, 3 - D, 4 - E, 5 - B  
 (D) 1 - E, 2 - A, 3 - B, 4 - E, 5 - D

31. Arrange the following in order of increasing volume – **[Pg-271,272,E]**

1. Tidal volume  
 2. Residual volume  
 3. Expiratory reserve volume  
 4. Vital capacity

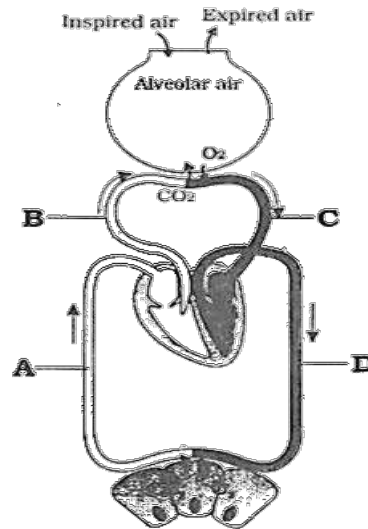
(A) 1 < 2 < 3 < 4 (B) 1 < 4 < 3 < 2

- (C)  $1 < 3 < 2 < 4$  (D)  $1 < 4 < 2 < 3$
32. Different respiratory volumes are given below- **[Pg-272,M]**  
 I. Tidal Volume= 500 ml  
 II. Residual Volume= 1000 ml  
 III. Inspiratory Reserve Volume= 2500 ml  
 IV. Expiratory Reserve Volume = 1000 ml  
 The functional residual capacity (FRC) is-  
 (A) 3500 ml (B) 2000 ml  
 (C) 600 ml (D) 3000 ml
33. Expiratory capacity is equal to - **[Pg-272,E]**  
 (A) TV+ ERV (B) ERV+ IRV  
 (C) ERV+ RV (D) ERV+ RV
34. A spirometer cannot be used to measure - **[Pg-272,E]**  
 (A) IC (B) RV  
 (C) ERV (D) IRV
35. The maximum volume of air you can forcefully exhale after taking the deepest possible breath is called **[Pg-272,E]**  
 (A) Tidal volume  
 (B) Total respiratory volume  
 (C) Residual volume  
 (D) Vital capacity

### Para- 17.3 Exchange of Gases

36. Exchange of gases - **[Pg-272,E]**  
 (A) Occurs between the alveoli and pulmonary blood capillary  
 (B) Occurs between blood and tissues  
 (C) By diffusion  
 (D) All
37. Which of the following factors affect the diffusion of gases? **[Pg-272,E]**  
 (A) Partial pressure of diffusing gases  
 (C) Solubility of gases  
 (C) The thickness of diffusion membrane  
 (D) All
38. Which of the following statements about the partial pressure of  $\text{CO}_2$  is true? **[Pg-273,M]**  
 (A) It is higher in alveoli than in pulmonary artery  
 (B) It is higher in the systemic arteries than in tissues  
 (C) It is higher in systemic veins than in systemic arteries  
 (D) It is higher in the pulmonary veins than in pulmonary arteries
39. The partial pressure of  $\text{CO}_2$  in the venous blood is - **[Pg-273,E]**  
 (A) Greater than in the tissue spaces

- (B) Lesser than in the tissue spaces  
 (C) Lesser than in the arterial blood  
 (D) Less than in alveoli
40. A section of an alveolus with a pulmonary capillary indicates the presence of major layers constituting diffusion membrane- **[Pg-273,E]**  
 (A) 3 (B) 2  
 (C) 6 (D) 10
41. Partial pressures (in mmHg) of  $\text{O}_2$  in atmospheric air, alveoli deoxygenated blood, oxygenated blood and tissues are- **[Pg-273,M]**  
 (A) 40, 95, 40, 104, 159  
 (B) 104, 40, 40, 95, 159  
 (C) 159, 104, 40, 95, 40  
 (D) 195, 104, 95, 40, 40
42. Partial pressure (in mm Hg) of  $\text{CO}_2$  in atmospheric air, alveoli, deoxygenated blood, oxygenated blood and tissues are- **[Pg-273,M]**  
 (A) 0.3, 40, 45, 40, 45  
 (B) 40, 45, 40, 45, 0.3  
 (C) 40, 40, 45, 45, 0.3  
 (D) 0.3, 45, 45, 40, 40
43. Name the blood vessels A to D- **[Pg-273,M]**

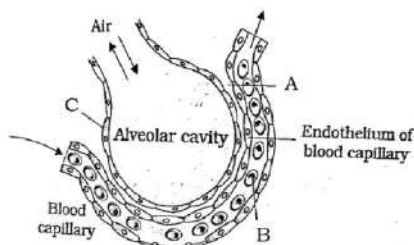


	A	B	C	D
A	Systemic vein	Pulmonary artery	Pulmonary vein	Systemic artery
B	Systemic artery	Pulmonary artery	Pulmonary vein	Systemic vein
C	Pulmonary artery	Systemic vein	Pulmonary vein	Systemic artery
D	Systemic vein	Pulmonary vein	Pulmonary artery	Systemic artery



44. In comparison to solubility of  $O_2$  in blood the solubility of  $CO_2$  is – **[Pg-273,E]**  
 (A) 20 - 25 times lesser  
 (B) Slightly higher  
 (C) Slightly greater  
 (D) 20 - 25 times higher

45. Study the given figure and identify A to C. **[Pg-273,M]**



	A	B	C
(A)	Basement membrane	RBC	Alveolar wall
(B)	$O_2$	$CO_2$	Alveolar $O_2$
(C)	Pleura	RBC	Pericardium
(D)	Pleura	WBC	Pulmonary vein

46. The barrier between the air in alveolus and blood in pulmonary capillary consists of 3 layers and its total thickness is- **[Pg-273,E]**

- (A) 1 mm  
 (B) more than 1 mm  
 (C) much less than 1 mm  
 (D) 2 mm

#### **Para-17.4, 17.4.1 and 17.4.2**

#### **Transport of Gases( Transport of Oxygen and Transport of Carbon dioxide)**

47. Total percentage of  $O_2$  transported by haemoglobin or RBC is – **[Pg-274,E]**  
 (A) 3% (B) 97%  
 (C) 49% (D) 100%
48. Besides RBC blood plasma also carries  $O_2$  in solution. The percentage is – **[Pg-274,E]**  
 (A) 3% (B) 97%  
 (C) 49% (D) 25%
49.  $CO_2$  is transported – **[Pg-274,E]**  
 (A) By RBC  
 (B) As bicarbonates  
 (C) In a dissolved state through plasma  
 (D) All
50. The majority of  $CO_2$  is transported as – **[Pg-274,E]**  
 (A) Carbonates  
 (B) Bicarbonates  
 (C) Carbamino haemoglobin  
 (D) Dissolved state in blood

51. Blood carries the  $CO_2$  in 3 forms. The correct percentages of  $CO_2$  in these forms are- **[Pg-274,M]**

	As carbamino haemoglobin in RBC	As bicarbonates	Dissolved form in plasma
A	20 -25%	70%	7%
B	70%	20 -25%	7%
C	20 -25%	7%	70%
D	7%	20 -25%	70%

52. Each molecule of haemoglobin when fully saturated carries how many molecules of  $O_2$  – **[Pg-274,E]**

- (A) 1 (B) 2  
 (C) 4 (D) 20

53. Dissociation curve is associated with – **[Pg-274,E]**

- (A) Carbonic anhydrase  
 (B) CO  
 (C)  $CHCl_3$   
 (D) Oxyhaemoglobin

54. Binding of  $O_2$  with haemoglobin is primarily related to – **[Pg-274,E]**

- (A)  $pO_2$  (B)  $pCO_2$   
 (C)  $H^+$  conc. (D) None

55. Besides  $pO_2$  the other factor(s) affecting the binding of  $O_2$  with haemoglobin is/are – **[Pg-274,E]**

- (A)  $pCO_2$  (B)  $H^+$  conc.

- (C) Temperature (D) All

56. Oxygen dissociation curve is – **[Pg-274,E]**

- (A) J-shaped (B) S-shaped  
 (C) L-shaped (D) Zig-zag

57. Which of the following statements is wrong? **[Pg-274,M]**

- (A)  $O_2$  binds with haemoglobin in a reversible manner to form oxyhaemoglobin.  
 (B) Every 100 mL of oxygenated blood can deliver around 5 ml of  $O_2$  to the tissue  
 (C) Occupational respiratory disorder are characterised by fibrosis (proliferation of fibrous tissues)  
 (D) None

58. What will be the  $pO_2$  and  $pCO_2$  in the atmospheric air compared to those in the alveolar? **[Pg-274,M]**

- (A)  $pO_2$  lesser,  $pCO_2$  higher  
 (B)  $pO_2$  higher,  $pCO_2$  lesser  
 (C)  $pO_2$  higher,  $pCO_2$  higher  
 (D)  $pO_2$  lesser,  $pCO_2$  lesser

59. Which of the following would have the same  $O_2$  content? **[Pg-274]**

- (A) Blood entering the lungs - blood leaving the lungs  
 (B) Blood entering the right side of the heart - blood leaving the right side of the heart  
 (C) Blood entering the right side of the heart- blood leaving the left side of the heart  
 (D) Blood entering the tissue capillaries - blood leaving the tissue capillaries
60.  $\text{CO}_2$  dissociates from carbaminohaemoglobin when -

[Pg-274,M]

- (A)  $\text{pO}_2 \downarrow$ ,  $\text{pCO}_2 \downarrow$  (B)  $\text{pO}_2 \uparrow$ ,  $\text{pCO}_2 \uparrow$   
 (C)  $\text{pO}_2 \downarrow$ ,  $\text{pCO}_2 \uparrow$  (D)  $\text{pO}_2 \uparrow$ ,  $\text{pCO}_2 \downarrow$
61. Which of the following situations would result in the greatest degree of  $\text{O}_2$  saturation for haemoglobin, assuming  $\text{pO}_2$  remains constant -
- [Pg-275,M]
- (A) Increased  $\text{CO}_2$  levels, decreased temperature  
 (B) Increased  $\text{CO}_2$  levels, increased temperature  
 (C) Decreased  $\text{CO}_2$  levels, decreased temperature  
 (D) Decreased  $\text{CO}_2$  levels, increased temperature
62. Which of the following factors favour the formation of oxyhaemoglobin in lungs?

[Pg-274,E]

- (A)  $\text{pO}_2 \downarrow$ ,  $\text{pCO}_2 \uparrow$ ,  $\text{H}^+ \uparrow$ , Temperature  $\uparrow$   
 (B)  $\text{pO}_2 \uparrow$ ,  $\text{pCO}_2 \uparrow$ ,  $\text{H}^+ \downarrow$ , Temperature  $\uparrow$   
 (C)  $\text{pO}_2 \uparrow$ ,  $\text{pCO}_2 \downarrow$ ,  $\text{H}^+ \downarrow$ , Temperature  $\downarrow$   
 (D)  $\text{pO}_2 \downarrow$ ,  $\text{pCO}_2 \uparrow$ ,  $\text{pH} \uparrow$ , Temperature  $\downarrow$
63. All of the following favour the dissociation of oxyhaemoglobin to deliver  $\text{O}_2$  to tissues except-
- [Pg-274,M]
- (A)  $\text{pO}_2 \uparrow$  (B)  $\text{pCO}_2 \uparrow$  OR  $\text{H}^+ \uparrow$   
 (C) Temperature  $\uparrow$  (D)  $\text{pO}_2 \downarrow$
64. The transport of  $\text{CO}_2$  by the blood is primarily dependent on -

[Pg-274,M]

- (A) The solubility of  $\text{CO}_2$  in blood  
 (B) The presence of carbonic anhydrase in RBCs  
 (C) The ability of haemoglobin to bind and transport  $\text{CO}_2$   
 (D) The ability of other blood proteins

65. Which of the following statements is false?
- [Pg-274,275,M]

- (A)  $\text{pO}_2$  is the major factor which affects the binding of  $\text{CO}_2$  with haemoglobin  
 (B)  $\text{pCO}_2$  is low and  $\text{pO}_2$  is high as in the tissues, more binding of  $\text{CO}_2$  with Hb occurs

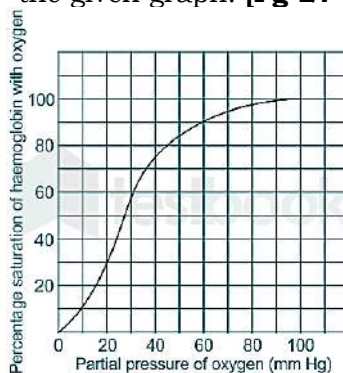
- (C) RBC contains a very high conc. of carbonic anhydrase and minute quantities of the same in the plasma  
 (D) Every 100 mL of deoxygenated blood delivers approximately 4 mL of  $\text{CO}_2$  to the alveoli.

66. Which of the following equation is correct?

[Pg-275,E]

- A)  $\text{CO}_2 \rightarrow \text{H}_2\text{CO}_3 \rightarrow \text{HCO}_3^- + \text{H}^+$   
 B)  $\text{CO}_2 \rightarrow \text{H}_2\text{O} \xrightleftharpoons{\text{Carbonic anhydrase}} \text{H}_2\text{CO}_3$   
 $\xrightleftharpoons{\text{Carbonic anhydrase}} \text{H}^+ + \text{HCO}_3^-$   
 C)  $\text{CO}_2 \rightarrow \text{H}_2\text{O} \rightarrow \text{CH}_4 + 2\text{O}_2$   
 D)  $\text{CO}_2 \rightarrow \text{H}_2\text{O} \rightleftharpoons \text{CO} + \text{H}_2\text{O}_2$

67. Which of the following is incorrect about the given graph. [Pg-274,E]



- (A) Increase in partial pressure of  $\text{CO}_2$  shift the curve to right.  
 (B) At low temperature the curve shifts to left.  
 (C) At high pH the curve shifts to right.  
 (D) Decrease in partial pressure of oxygen shifts the curve to right.
68. Assertion- The maximum  $\text{pO}_2$  in alveoli is considerably less than in the atmosphere. Reason- Lungs in mammals do not completely empty with each breath and inhalation occurs through the same airways as exhalation, so each inhalation mixes fresh air with oxygen depleted residual air.
- [Pg-274,H]
- A) Both assertion and reason are true and reason is correct explanation of assertion.  
 B) Both assertion and reason are true and reason is not correct explanation of assertion.  
 C) Assertion is true but reason is false.  
 D) Both assertion and reason are false.

69. How does an increase in the  $\text{CO}_2$  concentration in the blood affect the pH of CSF? **[Pg-275,E]**  
 (A)  $\text{pH}\uparrow$   
 (B)  $\text{pH}\downarrow$   
 (C) pH remains same.  
 (D) pH may increase or decrease.
70. Assertion - A drop in the blood pH causes an increase in heart rate.  
 Reason- Increased Heart Rate increases the rate at which  $\text{CO}_2$  is delivered to the lungs, where  $\text{CO}_2$  is removed. **[Pg-275,H]**  
 A) Both assertion and reason are true and reason is correct explanation of assertion.  
 B) Both assertion and reason are true and reason is not correct explanation of assertion.  
 C) Assertion is true but reason is false.  
 D) Both assertion and reason are false.

### Para-17.5

#### Regulation of Respiration

71. Respiratory process is regulated by certain specialized centres in the brain. One of the following listed centres can reduce the inspiratory duration upon stimulation – **[Pg-275,E]**  
 (A) Medullary inspiratory centre  
 (B) Pneumotaxic centre  
 (C) Chemosynthetic centre  
 (D) Apneustic centre
72. Pneumotaxic centre is present in – **[Pg-275,E]**  
 (A) Pons (B) Medulla oblongata  
 (C) Cerebrum (D) Cerebellum
73. The breathing centre initiates ventilation in response to – **[Pg-275,E]**  
 (A) A decrease in air pressure  
 (B) A decrease in  $\text{O}_2$   
 (C) An increase in  $\text{CO}_2$   
 (D) The rate of gas exchange in the alveoli
74. All of the following factors play role in the regulation of respiratory rhythm except – **[Pg-275,E]**  
 (A)  $\text{CO}_2$   
 (B)  $\text{H}^+$  conc.  
 (C)  $\text{O}_2$   
 (D) None of the above is correct
75. Receptors associated with aortic arch and carotid artery can recognise changes in \_\_\_\_\_ and \_\_\_\_\_ conc. and send necessary signal to \_\_\_\_\_ for remedial action. **[Pg-275,E]**

- (A)  $\text{O}_2$ ,  $\text{CO}_2$ , Pneumothorax  
 (B)  $\text{CO}_2$ ,  $\text{H}^+$ , rhythm centre  
 (C)  $\text{CO}_2$ ,  $\text{H}^+$ , apneustic centre  
 (D)  $\text{O}_2$ ,  $\text{H}^+$ , Pneumothorax

76. Respiratory centre of brain is stimulated by- **[Pg-275,E]**  
 (A)  $\text{CO}_2$  content in venous blood  
 (B)  $\text{CO}_2$  content in arterial blood  
 (C)  $\text{O}_2$  content in arterial blood  
 (D)  $\text{O}_2$  content in venous blood

### Para-17.6

#### Disorders of Respiratory System-

77. Asthma is caused by – **[Pg-275,E]**  
 (A) Infections of lungs  
 (B) Infection of trachea  
 (C) Spasm in bronchial muscles  
 (D) Infection in nose
78. One reason for emphysema is – **[Pg-275,E]**  
 (A) Cigarette smoking  
 (B) Drug addiction  
 (C) Wine consumption  
 (D) Heavy exercise
79. Emphysema is characterised by – **[Pg-275,E]**  
 (A) Permanent enlargement and destruction of alveolar area leading to reduction in respiratory surface  
 (B) Inhibition of respiratory centre  
 (C) Accumulation of fluid in lungs  
 (D) Spasm of muscles of trachea
80. Why do human beings have difficulty breathing at high elevations? **[Pg-276,M]**  
 (A)  $\text{O}_2$  makes up lower percentage of air there  
 (B) The temperature is lower there  
 (C) The barometric pressure is higher there  
 (D)  $\text{pO}_2$  is lower there
81. Which of the following diseases are occupational respiratory disorder? **[Pg-276,M]**  
 (A) Silicosis, Fibrosis and asbestosis  
 (B) Emphysema and mountain sickness  
 (C) Asthma and Emphysema  
 (D) Asthma and Hepatitis
82. If an injury tore a small hole in the membrane surrounding lungs, what effect on lung function would you expect? **[Pg-276,M]**  
 (A) Pneumothorax with lung collapse  
 (B) Pneumothorax without lung collapse  
 (C) Silicosis with lung collapse  
 (D) Silicosis without lung collapse

**Answer Key**  
**BREATHING AND EXCHANGE OF GASES**

Q	01	02	03	04	05	06	07	08	09	10
Ans	D	A	A	A	A	C	B	C	B	D
Q	11	12	13	14	15	16	17	18	19	20
Ans	A	C	A	A	A	B	C	A	B	C
Q	21	22	23	24	25	26	27	28	29	30
Ans	C	A	A	A	A	C	B	A	C	B
Q	31	32	33	34	35	36	37	38	39	40
Ans	C	A	A	B	D	D	D	D	C	A
Q	41	42	43	44	45	46	47	48	49	50
Ans	C	C	A	D	A	A	B	A	D	B
Q	51	52	53	54	55	56	57	58	59	60
Ans	A	C	D	A	D	B	D	B	B	C
Q	61	62	63	64	65	66	67	68	69	70
Ans	D	C	A	A	B	B	D	B	B	A
Q	71	72	73	74	75	76	77	78	79	80
Ans	B	A	C	C	B	A	C	A	A	D
Q	81	82								
Ans	A	A								

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