

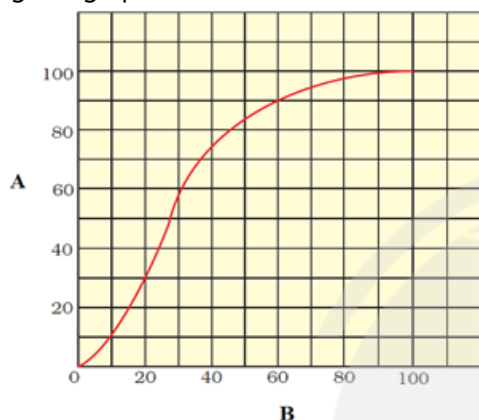
Yakeen NEET 2.0 2026

Practice Sheet

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Breathing and Exchange of Gases

Q1 Which of the following is **incorrect** about the given graph?



- (A) The curve is called oxygen dissociation curve
- (B) The part 'A' represents percentage saturation of haemoglobin with oxygen
- (C) The part 'B' represents partial pressure of carbon dioxide.
- (D) This curve is highly useful in studying the effect of factors like $p\text{CO}_2$, H^+ concentration, etc.

Q2 Match **List-I** with **List-II** to find out the **correct** option.

	List - I		List - II
A.	Tidal volume	(I)	2500-3000 ml of air
B.	Inspiratory reserve volume	(II)	1000-1100 ml of air
C.	Expiratory reserve volume	(III)	500 ml of air

D.	Residual volume	(IV)	4000-4600 ml of air
E.	Vital capacity	(V)	1200 ml of air

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

Q3 What is **incorrect** about regulation of respiration?

- (A) Medulla oblongata of the brain is called respiratory rhythm center.
- (B) Pneumotaxic center situated at pons checks the duration of inspiration.
- (C) Oxygen plays very significant role in regulation of respiratory rhythm.
- (D) Receptors associated with aortic arch & carotid artery also recognize changes in CO_2 concentration & thereby affect respiration.

Q4 The solubility of carbon dioxide is about times higher than that of oxygen across the respiratory membrane.

- (A) 20-25
- (B) 25-50
- (C) 125-150
- (D) 200-250

Q5 Lungs are enclosed in:

- (A) periosteum.
- (B) perichondrium.
- (C) pericardium.
- (D) pleural membrane.

Q6 **Statement I:** All the factors in our body are favourable for diffusion of O_2 from alveoli to

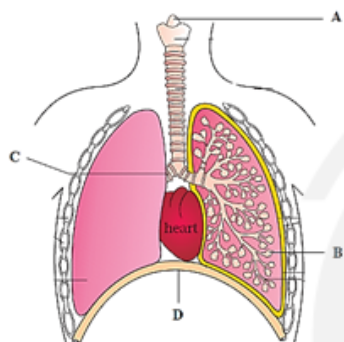


tissues and that of CO_2 from tissues to blood.

Statement II: The role of oxygen in the regulation of respiratory rhythm is quite significant.

- (A) Statement I and Statement II both are correct.
- (B) Statement I is correct, but Statement II is incorrect.
- (C) Statement I is incorrect, but Statement II is correct.
- (D) Statement I and Statement II both are incorrect.

Q7 The given figure shows the diagrammatic view of human respiratory system. Identify A, B, C and D.



- (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

Q8 Which of the following given statements is **incorrect**?

- (A) Respiratory part is provided with cuboidal epithelium.
- (B) The alveoli and their ducts form the respiratory or exchange part of the respiratory system.
- (C) The part starting with the external nostrils up to the terminal bronchioles constitute the conducting part.

(D) Conducting part acts as filtering & air conditioning region.

- Q9** What impact does a high concentration of hydrogen ions (H^+) have on the binding of oxygen to hemoglobin?
- (A) Enhances oxygen binding affinity
 - (B) Diminishes oxygen binding affinity
 - (C) No effect
 - (D) Helps in the formation of stable complex

- Q10** Oxygen is transported.
- (A) 97% by Hb & 3% dissolved in plasma.
 - (B) 3% by Hb & 97% dissolved in plasma.
 - (C) 50% by Hb & 50% dissolved in plasma.
 - (D) only in the form of oxyhemoglobin.

- Q11** The total lung capacity is represented by;
- (A) tidal volume + vital capacity
 - (B) tidal volume + residual volume
 - (C) vital capacity + residual volume
 - (D) inspiratory and expiratory reserve volumes

- Q12** Diffusion of oxygen across alveoli occurs through;
- (A) basement layer → endothelium of alveolar capillary → squamous epithelium of alveoli
 - (B) squamous epithelium of alveoli → basement layer → endothelium of blood capillary
 - (C) endothelium of alveolar capillaries → basement layer → squamous epithelium of alveoli
 - (D) endothelium of alveolar capillaries → squamous epithelium of alveoli → basement layer

- Q13** Which of the given statements is **correct** regarding mechanism of breathing.
- (A) We do not have ability to increase the strength of inhalation and exhalation.
 - (B) There is an increase in intrapulmonary and interalveolar pressure during expiration.
 - (C)



Relaxation of the diaphragm and the intercostal muscles returns the diaphragm and sternum to their normal positions and reduce the thoracic volume and thereby the pulmonary volume.

(D) All of these

Q14 The overall increase in thoracic volume causes;

- (A) increase in pulmonary volume.
- (B) decrease in pulmonary volume.
- (C) increase in intra pulmonary pressure.
- (D) All of these

Q15 Which of the following options **correctly** represents the lung conditions in asthma and emphysema, respectively?

- (A) Increased respiratory surface; Inflammation of bronchioles
- (B) Increased number of bronchioles; increased respiratory surface
- (C) Inflammation of bronchioles; Decreased respiratory surface
- (D) Decreased respiratory surface; Inflammation of bronchioles

Q16 Forced deep breathing during rest can sometimes lead to temporary stoppage of breathing due to;

- (A) little carbon dioxide in the blood.
- (B) high carbon dioxide content in the blood.
- (C) high CO content in the blood.
- (D) little oxygen content in the blood.

Q17 **Statement I:** Workers in grinding and stone breaking industries may suffer from fibrosis.

Statement II: One of the major causes of emphysema is cigarette smoking.

- (A) Statement I and Statement II both are correct.
- (B) Statement I is correct, but Statement II is incorrect.
- (C) Statement I is incorrect, but Statement II is correct.
- (D)

Statement I and Statement II both are incorrect.

Q18 Spirometer is useful in assessment of all the following pulmonary functions except;

- (A) Vital Capacity (VC).
- (B) Residual volume.
- (C) Inspiratory Capacity (IC).
- (D) Expiratory Capacity (EC).

Q19 About seven percent of carbon dioxide is transported to the lungs;

- (A) as carbamino compounds through RBC.
- (B) in a dissolved state through the plasma.
- (C) as bicarbonate ions through RBC.
- (D) as bicarbonate ions through the plasma.

Q20 Which part of the brain have respiratory rhythm centre?

- (A) Cerebellum region
- (B) Brain stem region
- (C) Medulla region
- (D) Temporal region

Q21 Which of the following statements are **correct**?

- I. Diffusion membrane is made up of 3 layers.
 - II. Solubility of CO_2 in blood is higher than O_2 by 25 times.
 - III. Breathing volumes are estimated by spirometer.
 - IV. High H^+ in blood favours oxygen dissociation.
- Choose the **correct** option.

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

Q22 In man and mammals, air passes from outside into the lungs through;

- (A) nasal cavity, larynx, pharynx, trachea, bronchi, alveoli.
- (B) nasal cavity, pharynx, larynx, trachea bronchioles, bronchi, alveoli.



- (C) nasal cavity, larynx, pharynx, trachea, bronchioles, alveoli.
 (D) nasal cavity, pharynx, larynx, trachea, bronchi, bronchioles, alveoli.

Q23 Identify the **correct** statement with reference to transport of respiratory gases by blood.
 (A) Haemoglobin is necessary for the transport of carbon dioxide, and carbonic anhydrase is necessary for the transport of oxygen.
 (B) Haemoglobin is necessary for the transport of oxygen and carbonic anhydrase for transport of carbon dioxide.
 (C) Only oxygen is transported by blood.
 (D) Only carbon dioxide is transported by blood.

Q24 After forceful inspiration, the amount of air that can be breathed out by maximum forced expiration is equal to;
 (A) IRV + ERV + TV + RV
 (B) IRV+RV+ERV
 (C) IRV+TV+ERV
 (D) TV+RV+ERV

Q25 Which of the following changes occur in diaphragm and intercostals muscles when expiration of air takes place?
 (A) External intercostals muscles relax and diaphragm contracts
 (B) External intercostals muscles contract and diaphragm relax
 (C) External intercostals muscles and diaphragm relax
 (D) External intercostal muscles and diaphragm contract

Q26 Blood carries the CO_2 in three forms. The **correct** percentages of CO_2 in these forms are;

	As carbaminohaemoglobin in RBC	As bicarbonates	Dissolved form in plasma
(1)	20-25%	70%	7%

(2)	70%	20-25%	7%
(3)	20-25%	7%	7%
(4)	7%	20-25%	70%

- (A) 1 (B) 2
 (C) 3 (D) 4

Q27 Occupational respiratory disorder leads to;
 (A) damage of nose cartilage.
 (B) inflammation in brain.
 (C) proliferation of fibrous tissue.
 (D) Both (A) and (B)

Q28 Select the **incorrect** statement.
 (A) In normal man, resting breathing rate is 12-16/min.
 (B) Larynx is a cartilaginous box which helps in sound production and hence called the sound box.
 (C) The anatomical arrangement of the lungs within the thorax is such that changes in the volume of the thoracic cavity do not directly affect the volume of the lung (pulmonary) cavity.
 (D) Pharynx is common passage to both air and food.

Q29 After diffusion of gases (O_2 and CO_2) across the alveolar membrane and transport of gases by blood, diffusion of O_2 and CO_2 takes place between **X** and **Y**.
 (A) **X**- blood, **Y**- tissues
 (B) **X**- alveoli, **Y**- lungs
 (C) **X**- pons, **Y**- medulla
 (D) All of these

Q30 Residual volume is;
 (A) greater than vital capacity.
 (B) greater than tidal volume.



- (C) lesser than tidal volume.
(D) greater than IRV.

Q31 Statement I: Asthma is a difficulty in breathing causing wheezing.

Statement II: Asthma is due to inflammation of bronchi and bronchioles.

- (A) Statement I and Statement II both are correct.
(B) Statement I is correct, but Statement II is incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I and Statement II both are incorrect.

Q32 Assertion (A): Chemo sensitive area is situated adjacent to the rhythm center which is highly sensitive to CO_2 and hydrogen ions.

Reason (R): Receptors associated with aortic arch and carotid artery can recognize changes in O_2 and H^+ concentration and send necessary signals to the rhythm center.

- (A) Both **Assertion (A)** and **Reason (R)** are the true, and **Reason (R)** is a correct explanation of **Assertion (A)**.
(B) Both **Assertion (A)** and **Reason (R)** are the true, but **Reason (R)** is not a correct explanation of **Assertion (A)**.
(C) **Assertion (A)** is true, and **Reason (R)** is false.
(D) **Assertion (A)** is false, and **Reason (R)** is true.

Q33 Statement I: Inspiration is initiated by the contraction of diaphragm which decreases the volume of thoracic chamber in the antero-posterior axis.

Statement II: The overall increase in the thoracic volume causes a similar increase in pulmonary volume.

- (A) Statement I and Statement II both are correct.
(B) Statement I is correct, but Statement II is incorrect.

(C) Statement I is incorrect, but Statement II is correct.

(D) Statement I and Statement II both are incorrect.

Q34 Match List-I with List-II to find out the correct option.

List-I		List-II	
I.	Fishes	(A)	Moist skin
II.	Reptiles	(B)	Lungs
III	Coelenterates	(C)	Entire body surface
IV.	Insects	(D)	Gills
V.	Some amphibians	(E)	Tracheal tubes

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

Q35 Which of the following conditions promotes the formation of oxyhemoglobin in blood?

- (A) Decreased pO_2 , increased pCO_2 , elevated H^+ , and elevated temperature
(B) Increased pO_2 , increased pCO_2 , decreased H^+ , and elevated temperature
(C) Increased pO_2 , decreased pCO_2 , decreased H^+ , and decreased temperature
(D) Decreased pO_2 , increased pCO_2 , increased pH, and decreased temperature

Q36 Receptors linked with the aortic arch and carotid artery can detect alterations in _____ and _____ concentrations and transmit appropriate signals to the _____ for corrective measures.

- (A) O_2 , CO_2 , pneumothorax
(B) CO_2 , H^+ , rhythm center
(C) CO_2 , H^+ , apneustic center
(D) O_2 , H^+ , pneumothorax

Q37 Reduction in pH of blood will;

- (A) reduce the rate of heart beat.

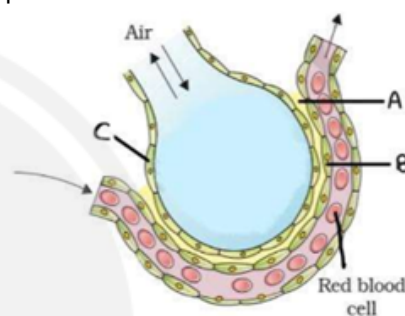


- (B) reduce the blood supply to the brain.
 (C) decrease the affinity of hemoglobin with oxygen.
 (D) release bicarbonate ions by the liver.
- Q38** Oxygen (O_2) is utilized by an organism to;
 (A) directly breakdown the nutrient molecules.
 (B) obtain nourishment from the food.
 (C) indirectly breakdown the nutrient molecules.
 (D) burn the organic compounds indirectly.
- Q39** Due to increasing air-borne allergens and pollutants, many people in urban areas are suffering from respiratory disorder causing wheezing due to;
 (A) benign growth on mucous lining of nasal cavity
 (B) inflammation of bronchi and bronchioles.
 (C) proliferation of fibrous tissues and damage of the alveolar walls.
 (D) reduction in the secretion of surfactants by pneumocytes.
- Q40** Partial pressure for oxygen and carbon dioxide is represented as;
 (A) pO and pCO (B) pO and pCO_2
 (C) pO_2 and pCO_2 (D) O_2p and CO_2p
- Q41** Arrange the following in the order of increasing volume.
 (1) Tidal volume
 (2) Residual volume
 (3) Inspiratory reserve volume
 (4) Vital capacity
 (5) Total lung capacity
 (A) $1 < 2 < 3 < 4 < 5$
 (B) $1 < 3 < 2 < 4 < 5$
 (C) $1 < 4 < 3 < 2 < 5$
 (D) $1 < 4 < 2 < 3 < 5$
- Q42** **Statement-I:** Lungs are covered by double layered pleural membranes, with pleural fluid between them.

Statement-II: This reduces friction on the lung surface.

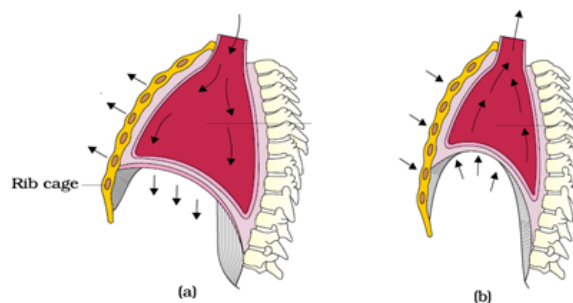
- (A) Both Statement-I and Statement-II are Correct.
 (B) Both Statement-I and Statement-II are incorrect.
 (C) Statement-I is correct, but Statement-II is incorrect.
 (D) Statement-I is incorrect, but Statement-II is correct.

- Q43** The diffusion membrane is formed of three layers. Identify A, B, C and mark the **correct** option.



- (A) A-Fat layer, B-Endothelium of artery, C-Columnar epithelium of alveolar wall
 (B) A-Basement substance, B-Endothelium of vein, C-Squamous epithelium of alveolar wall
 (C) A-Fat layer, B-Basement substance, C-Alveolar wall
 (D) A-Basement substance, B-Endothelium of blood capillary, C-Squamous epithelium of alveolar wall

- Q44** Recognise the figure and find out the **correct** match.



- (A) a–inspiration, b–expiration
- (B) a–expiration, b–inspiration
- (C) a–inspiration, b–inspiration
- (D) a–expiration, b–expiration

Q45 The lungs are situated in a thoracic chamber which is formed dorsally by thea....., ventrally by the ...b..., laterally by the ...c.... and on lower side by the ...d..... .

- (A) b–sternum, c–diaphragm, a–vertebral column, d–ribs
- (B) a–sternum, c–diaphragm, b–vertebral column, d–ribs
- (C) b–sternum, c–ribs, a–vertebral column, d–diaphragm
- (D) d–sternum, c–diaphragm, a–vertebral column, b–ribs



Answer Key

Q1 (C)
Q2 (B)
Q3 (C)
Q4 (A)
Q5 (D)
Q6 (B)
Q7 (A)
Q8 (A)
Q9 (B)
Q10 (A)
Q11 (C)
Q12 (B)
Q13 (C)
Q14 (A)
Q15 (C)
Q16 (A)
Q17 (A)
Q18 (B)
Q19 (B)
Q20 (C)
Q21 (D)
Q22 (D)
Q23 (B)

Q24 (C)
Q25 (C)
Q26 (A)
Q27 (C)
Q28 (C)
Q29 (A)
Q30 (B)
Q31 (A)
Q32 (C)
Q33 (C)
Q34 (D)
Q35 (C)
Q36 (B)
Q37 (C)
Q38 (C)
Q39 (B)
Q40 (C)
Q41 (A)
Q42 (A)
Q43 (D)
Q44 (A)
Q45 (C)



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