

Breathing and Exchange of Gases

NEET previous year questions · Biology

5 questions from the official papers: NEET 2026 (2), Re-NEET 2026 (1), NEET 2020 (2). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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1. NEET 2026 · Q138

In humans, respiration occurs in the following steps. Arrange these steps in the correct order.

Statement I: Diffusion of O_2 and CO_2 between blood and tissues

Statement II: Diffusion of O_2 and CO_2 across alveolar membrane

Statement III: Pulmonary ventilation by which atmospheric air is drawn in and CO_2 rich alveolar air is released out

Statement IV: Cellular respiration

Statement V: Transport of gases by the blood

- (1) I, II, III, IV, V (2) V, I, III, IV, II
(3) III, II, V, I, IV (4) III, I, II, V, IV

Answer (3)

Sol. Respiration begins with pulmonary ventilation drawing in atmospheric air and expelling CO_2 -rich alveolar air (Statement III), followed by diffusion of gases across the alveolar membrane (Statement II). Gases are then transported by the blood (Statement V), diffuse between blood and tissues (Statement I), and finally the cells utilise O_2 in cellular respiration releasing CO_2 (Statement IV). The correct order is III, II, V, I, IV.

2. NEET 2026 · Q144

Match List-I with List-II.

List I (Respiratory Volume)	List II (Capacity in mL)
P) ERV (Expiratory Reserve Volume)	I) 2500 - 3000 mL
Q) RV (Residual Volume)	II) 500 mL
R) IRV (Inspiratory Reserve Volume)	III) 1000 - 1100 mL
S) TV (Tidal Volume)	IV) 1100 - 1200 mL

Choose the correct answer from the options given below :

- (1) P-III, Q-IV, R-I, S-II (2) P-III, Q-I, R-IV, S-II
(3) P-I, Q-III, R-II, S-IV (4) P-I, Q-II, R-III, S-IV

Answer (1)

Sol. Standard respiratory values: Expiratory Reserve Volume (ERV) is about 1000-1100 mL (III), Residual Volume (RV) is about 1100-1200 mL (IV), Inspiratory Reserve Volume (IRV) is about 2500-3000 mL (I), and Tidal Volume (TV) is about 500 mL (II). Hence P-III, Q-IV, R-I, S-II.

3. Re-NEET 2026 · Q150

Sponges exchange O_2 with CO_2 by _____.

- (1) simple diffusion over their entire body surfaces
(2) moist cuticle
(3) tracheal tubes
(4) gills

Answer (1)

Sol. Lower invertebrates such as sponges, coelenterates and flatworms have no specialised respiratory organs at all. Their bodies are thin enough and their cells close enough to the surrounding water that simple DIFFUSION across the whole body surface suffices

for gas exchange. NCERT Class 11, Breathing and Exchange of Gases.

4. NEET 2020 · Q14

Select the correct events that occur during inspiration.

Statement I: Contraction of diaphragm

Statement II: Contraction of external inter-costal muscles

Statement III: Pulmonary volume decreases

Statement IV: Intra pulmonary pressure increases

- (1) (III) and (IV) (2) (I), (II) and (IV)
(3) only (IV) (4) (I) and (II)

Answer (4)

Sol. Inspiration requires contraction of the diaphragm and external intercostal muscles. Thoracic and pulmonary volume increase while intrapulmonary pressure falls, so only statements (I) and (II) are correct. Chapter: Breathing and Exchange of Gases.

5. NEET 2020 · Q86

Identify the wrong statement with reference to transport of oxygen.

- (1) Partial pressure of CO_2 can interfere with O_2 binding with haemoglobin
(2) Higher H^+ conc. in alveoli favours the formation of oxyhaemoglobin
(3) Low pCO_2 in alveoli favours the formation of oxyhaemoglobin
(4) Binding of oxygen with haemoglobin is mainly related to partial pressure of O_2

Answer (2)

Sol. Higher H^+ concentration in the alveoli does not favour the formation of oxyhaemoglobin; instead, it promotes the release of O_2 from haemoglobin. Chapter: Breathing and Exchange of Gases.

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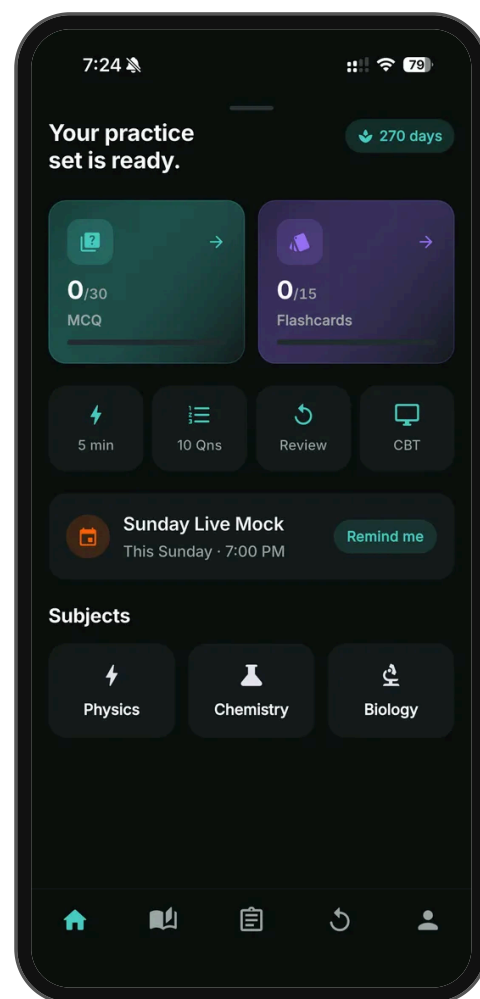
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