

NEET BREATHING AND EXCHANGE OF GASES — TRANSPORT OF GASES, OXYGEN DISSOCIATION CURVE — PYQS

Max. Marks: 56

Questions: 14

Section A (MCQ) — 14 questions

Q.1 Which of the following factors are favourable for the formation of oxyhaemoglobin in alveoli?

[NEET (UG) 2024]

- (1) High pO_2 and High pCO_2
- (2) High pO_2 and Lesser H^+ concentration
- (3) Low pCO_2 and High H^+ concentration
- (4) Low pCO_2 and High temperature

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Q.2 Given below are two statements: One is labelled as **Assertion A** and the other is labelled as **Reason R**. **Assertion (A):** During the transportation of gases, about 20-25 percent of CO_2 is carried by Haemoglobin as carbamino-haemoglobin.

Reason (R): This binding is related to high pCO_2 and low pO_2 in tissues.

In the light of the above statements, choose the correct answer from the options given below.

[RE-NEET (UG) 2024]

- (1) A is true but R is false.
- (2) A is false but R is true.
- (3) Both A and R are true and R is the correct explanation of A.
- (4) Both A and R are true but R is NOT the correct explanation of A

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Q.3 Under normal physiological conditions in human beings every 100 ml of oxygenated blood can deliver _____ ml of O_2 to the tissues.

[NEET (UG) 2022]

- (1) 2 ml (2) 5 ml (3) 4 ml (4) 10 ml

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Q.4 Select the favourable conditions required for the formation of oxyhaemoglobin at the alveoli.

[NEET (UG) 2021]

- (1) Low pO_2 , low pCO_2 , more H^+ , higher temperature
- (2) High pO_2 , low pCO_2 , less H^+ , lower temperature
- (3) Low pO_2 , high pCO_2 , more H^+ , higher temperature
- (4) High pO_2 , high pCO_2 , less H^+ , higher temperature.

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Q.5 Identify the wrong statement with reference to transport of oxygen.

[NEET (UG) 2020]

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

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Q.6 Reduction in pH of blood will [NEET 2016 (Phase 1)]

- (1) decrease the affinity of haemoglobin with oxygen
- (2) release bicarbonate ions by the liver
- (3) reduce the rate of heart beat
- (4) reduce the blood supply to the brain.

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Q.7 Approximately seventy percent of carbon dioxide absorbed by the blood will be transported to the lungs [AIPMT 2014]

- (1) as bicarbonate ions
- (2) in the form of dissolved gas molecules
- (3) by binding to R.B.C.
- (4) as carbamino-haemoglobin.

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Q.8 Bulk of carbon dioxide (CO_2) released from body tissues into the blood is present as

[AIPMT 2011 (Mains)]

- (1) bicarbonate in blood plasma and RBCs
- (2) free CO_2 in blood plasma
- (3) 70% carbamino-haemoglobin and 30% as bicarbonate
- (4) carbamino-haemoglobin in RBCs.

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Q.9 A large proportion of oxygen remains unused in the human blood even after its uptake by the body tissues. This O_2 [AIPMT 2011 (Prelims)]

- (1) acts as a reserve during muscular exercise
- (2) raises the pCO_2 of blood to 75 mm of Hg.
- (3) is enough to keep oxyhaemoglobin saturation at 96%
- (4) helps in releasing more O_2 to the epithelial tissues.

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Q.10 What is true about RBCs in humans?

[AIPMT 2010 (Prelims)]

- (1) They carry about 20-25 percent of CO_2 .
- (2) They transport 99.5 percent of O_2 .
- (3) They transport about 80 percent oxygen only and the rest 20 percent of it is transported in dissolved state in blood plasma.
- (4) They do not carry CO_2 at all.

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Q.11 The haemoglobin of a human foetus [AIPMT 2009]

- (1) has only 2 protein subunits instead of 4
- (2) has a higher affinity for oxygen than that of an adult
- (3) has a lower affinity for oxygen than that of the adult
- (4) its affinity for oxygen is the same as that of an adult.

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Q.12 The majority of carbon dioxide produced by our body cells is transported to the lungs as

[AIPMT 2006]

- (1) attached to haemoglobin
- (2) dissolved in the blood
- (3) bicarbonates
- (4) carbonates.

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Q.13 People living at sea level have around 5 million RBC per cubic millimetre of their blood whereas those living at an altitude of 5400 metres have around 8 million. This is because at high altitude

[AIPMT 2006]

- (1) people eat more nutritive food, therefore more RBCs are formed
- (2) people get pollution-free air to breathe and more oxygen is available
- (3) atmospheric O_2 level is less and hence more RBCs are needed to absorb the required amount of O_2 to survive
- (4) there is more UV radiation which enhances RBC production.

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Q.14 Blood analysis of a patient reveals an unusually high quantity of carboxyhaemoglobin content. Which of the following conclusions is most likely to be correct?

The patient has been inhaling polluted air containing unusually high content of [AIPMT 2004]

- (1) carbon disulphide
- (2) chloroform
- (3) carbon dioxide
- (4) carbon monoxide.

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	2	3	2	2	3	1	1	1	1	1	2
Ques.	12	13	14								
Ans.	3	3	4								