



# BIOLOGY

## BOOKS - ARIHANT NEET BIOLOGY (HINGLISH)

### BREATHING AND EXCHANGE OF GASES

#### Check Point 24 1

1. Respiration can be defined as

A. a catabolic process by which animal cells utilise carbon dioxide , produce oxygen and convert the reeased energy to ATP.

B. a catabolic process by which animal cells utilise oxygen , produces carbon dixoxide and convert the released energy to ATP

C. an anabolic process by which animal cells utilise oxygen and carbon dioxide to from ATP.

D. an anabolic process by which animal cells utilise oxygen, produce carbon dioxide and convert the released energy to ATP

**Answer: B**



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**2. Respiration system in human comprises of**

A. lungs

B. gills

C. respiratory tract

D. both (a) and (c)

**Answer: D**



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**3.** Which of the following characters is exclusive to mammalian respiratory system ?

A. Presence of nose

B. Presence of glottis

C. Respiration by lungs

D. None of the above

**Answer: D**



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**4. Which of the following is a paired cartilage ?**

A. Thyroid cartilage

B. Epiglottis cartilage

C. Cricoid cartilage

D. Arytenoid cartilage

**Answer: D**



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5. Adam's apple corresponds to

A. epiglottis

B. trachea

C. larynx

D. thyroid

**Answer: C**



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**6. Which of the following prevents collapsing of Trachea**

A. Muscles

B. Diaphragm

C. Ribs

D. Cartilaginous rings

**Answer: D**



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7. Trachea is present in

A. respiratory zone

B. conductive zone

C. alveolar zone

D. respiratory cum conducting zone



**Answer: B**



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**8. which features distinguish bronchioles from bronchi ?**

A. Bronchioles are less in diameter than bronchi

B. Bronchioles do not have cartilage in their walls

C. Larger bronchioles are supported by connective tissue alone, which extend from the interlobular septa.

D. Both (a) and (b)

**Answer: A**



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**9. Gaseous exchange for respiratory process occurs in**

A. bronchi

B. trachea

C. alveoli

D. None of the above

**Answer: C**



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**10.** Mammalian lungs have an enormous number of minute alveoli (air sacs). This is to allow

- A. more space for increasing the volume of inspired air
- B. more surface area for diffusion of gases
- C. more spongy texture for keeping lungs in proper shape
- D. more nerve supply to keep the lungs working

**Answer: B**



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11. Lipid surfactant called dipalmitoyl phosphatidylcholine is secreted by

- A. flat squamous cell of alveoli
- B. granular pneumocytes of alveoli
- C. both (a) and (b)
- D. None of the above

**Answer: B**



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12. Pleura is a double membrane sac which

- A. envelop the kidney
- B. envelop the brain
- C. envelop the lung
- D. lines the nasal passage

**Answer: C**



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13. in human beings, lungs are divided into

A. 3 right and 2 left lobes

B. 2 right and 3 left lobes

C. 2 right and 2 left lobes

D. none of these

**Answer: A**



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**14.** The difference between right and left lung is

A. right lung has two fissures and left has one

B. right lung is longer than the left lung

C. right lung a pink in colour and left lung is transparent

D. None of the above

**Answer: A**



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15. The organ of sound production in birds is

A. larynx

B. syrinx

C. buccopharyngeal cavity

D. none of these

**Answer: B**



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1. Which structures are responsible for breathing process ?

A. Trachea and alveoli

B. Larynx and bronchi

C. Ribs and intercostal muscles

D. Intercostal muscles and diaphragm

**Answer: D**



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2. In human beings, rib cage and sternum move upwardly and outwardly during

A. exercise

B. sudden back injury

C. expiration

D. inspiration

**Answer: D**



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### 3. Expiration involves

A. relaxation of diaphragm and intercostal muscles

B. contraction of diaphragm and intercostal muscles

C. contraction of diaphragm muscles

D. contraction of intercostal muscles

**Answer: A**



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4. During normal respiration, without any effort, the volume of air inspired or expired is called

A. tidal volume

B. reserve volume

C. residual volume

D. none of these

**Answer: A**



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5. After a forceful expiration, some air is left in the lungs, which is

A. residual volume

B. vital capacity

C. total capacity

D. tidal volume

**Answer: A**



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6. After deep inspiration, capacity of maximum expiration of lung is called : —

A. total lung capacity

B. functional residual capacity

C. vital capacity

D. respiratory capacity

**Answer: C**



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7. The respiratory center , which regulates respiration, is located in

A. cerebral peduncle

B. vagus nerve

C. cerebellum

D. medulla oblongata

**Answer: D**



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8. Pneumotaxis centre is associated with

A. breathing

B. respiration

C. movement

D. closure of glottis

**Answer: A**



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9. Medullary inspiratory centre is under

A. nervous control

B. physical control

C. chemical control

D. electric control

**Answer: C**



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**10. Respiratory centre of brain is sensitive to**

A. more  $O_2$  conc, in blood

B. more  $CO_2$  conc in blood

C. accumulation of blood in brain

D. All of the above

**Answer: B**



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**Check Point 24 3**

1. Exchange of gases in lungs is by

A. simple diffusion

B. active transport

C. passive transport

D. osmosis

**Answer: A**



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2. The limity of exchange of gases between alveoli and pulmonary blood is called

A. respiratory capacity

B. exchange capacity

C. breathing capacity

D. diffusing capacity

**Answer: D**



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**3. Partial pressure of oxygen in the inspired and expired air is respectively**

A. 159 and 104 mm Hg

B. 158 and 40 mm Hg

C. 100 and 95 mm Hg

D. 40 and 95 mm Hg

**Answer: A**



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**4. what is true for  $CO_2$  concentration ?**

A. more in alveolar air than in atmospheric air

B. more in atmospheric air than in alveolar air

C. more in atmospheric air than in deoxygenated blood

D. more in atmospheric air than in deoxygenated blood

**Answer: A**



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5. Factors determining the extent to which oxygen will combine with haemoglobin are

A.  $pCO_2$  in blood

B. body temperature

C. blood  $H^+$  concentration

D. All of the preceding

**Answer: D**



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6. When studying transport of gases in the body the 'Dissociation curve' is connected with

A. carbonic anhydrase

B. carbon dioxide

C. oxygen

D. oxyhaemoglobin

**Answer: D**



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7. Dissociation curve shifts to the right when

A.  $CO_2$  concentration decreases

B.  $CO_2$  concentration increases

C.  $O_2$  concentration increases

D.  $Cl^-$  concentration increases

**Answer: B**



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8. Under a given concentration in blood, dissociation of oxygaemoglobin will increase if

A. pH of blood falls

B. pH of blood rises

C.  $CO_2$  concentration in blood falls

D. free fatty acid concentration in blood falls

**Answer: A**



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9. The shape of oxygen dissociation curve is

A. completely sigmoid in the presence of strong electrolyte

B. hyperbolic in the presence of weak electrolyte

C. straight in the presence of strong electrolyte

D. both (a) and (b)

**Answer: D**



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**10. Haemoglobin most strongly combines with**

A. carbon monoxide

B. oxygen

C. carbon dioxide

D. ozone

**Answer: A**



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11. Oxygen dissociation curve of myoglobin with

A. hypobolic

B. hyperbolic

C. linear

D. sigmoid

**Answer: B**



12. which among the following has the maximum affinity to combine with oxygen ?

- A. Adult haemoglobin
- B. Myoglobin
- C. Foetal haemoglobin
- D. Hemocyanin

**Answer: B**



**13.** The carbon dioxide is transported via blood to lungs mostly

A. in the form of carbonic acid only

B. as bicarbonates

C. in combination with haemoglobin only

D. dissolved in blood plasma

**Answer: B**



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14. The process by which chloride ions pass into R.B.C. and bicarbonate ions pass out is called

A. bicarbonate shift

B. chloride shift

C. buffer shift

D. enezyme shift

**Answer: B**



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15. Blood contains  $CO_2$  in which of the following forms

A.  $NaHCO_3$

B. carbonic acid

C.  $Hb - CO_2$

D.  $Hb - CO_2$  and  $CO$

**Answer: A**



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**16.** Carbonic anhydrase is found in

A. RBCs

B. WBCs

C. blood plasma

D. blood platelets

**Answer: A**



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**17.** Asthma is a respiratory disease caused by:

- A. infection of trachea
- B. infection of lungs
- C. bleeding into pleural cavity
- D. spasm in bronchial muscles

**Answer: D**



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**18. One main reason for emphysema is**

- A. dysphnoea

B. tobacco ( cigarette) smoking

C. eupnooa

D. heavy exercise

**Answer: B**



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**19.** The state during which the respiratory centre is inhibited is termed as

A. asphyxia

B. choking

C. anoxia

D. suffocation

**Answer: A**



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**20.** Brochitis is related with

A. inflammation of the bronchi and  
bronchioles

B. discolouration of skin

C. allergic reaction in nasal lining

D. excess of oxygenated Hb

**Answer: A**



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**Chapter Exercises A Taking It Together Assorted  
Questions Of The Chapter Of Advanced Level  
Practice**

1. The portion inside the nose, which contains mucous lining and hair epithelium is

A. larynx

B. vestibule

C. gullet

D. glottis

**Answer: B**



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2. Aerobic respiration does not

A. take place under normal conditions

B. take place in animals

C. utilise molecular oxygen

D. take place at oxygen deficient situations

**Answer: D**



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**3. Common factors in the trachea of mammals and insects is**

- A. ciliated inner lining
- B. non-collapsible wall
- C. paired nature
- D. origin from head region

**Answer: B**



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4. A characteristic feature of purely conducting zone of trachea is

A. it has alveoli

B. there is maximum exchange of gases

C. there is no gaseous exchange

D. it has respiratory bronchioles

**Answer: C**



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5. which one of the following has the smallest diameter

A. Right primary bronchus

B. Left primary bronchus

C. Trachea

D. Respiratory bronchiole

**Answer: D**



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6. Schneiderian membrane is present at

A. upper part of nasal passage

B. larynx

C. wall of trachea

D. None of the above

**Answer: A**



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7. In the nasal chamber, the processes of three bones are seen to increase the surface area of this chamber. These bones are

- A. nasal, hyoid, maxilla
- B. stapes, amxilla, mandible
- C. nasals, ethomids, maxila
- D. malleus, incus, stapes

**Answer: C**



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**8.** The position of larynx is

A. at the level of 3rd to 6th cervical vertebrae

B. below the level of 2nd to 5th cervical vertebrae.

C. at the level of 6th to 8th cervical vertebrae.

D. below the level of 6th to 8th cervical vertebrae

**Answer: A**



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**9.** In mammals, the body cavity is partitioned into thoracic and abdominal parts by

A. liver

B. lungs

C. ribs

D. diaphragm



**Answer: D**



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**10.** The ventilation movements of the lungs in mammals are governed by

- A. diaphragm
- B. costal muscles
- C. both (a) and (b)
- D. muscular wall of lung

**Answer: C**



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**11. which structure is not related to respiration in frog ?**

A. diaphragm

B. skin

C. Buccal cavity

D. Lungs

**Answer: A**



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**12.** Expiratory muscles contract at the time of

A. deep inspiration

B. normal inspiration and expiration

C. forcelful expiration

D. normal expiration

**Answer: C**



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**13.** the most important function of diaphragm of the mammals is

- A. divide the body cavity into compartment
- B. protect lungs
- C. aid in respiration
- D. aid in ventilation

**Answer: D**



14. During forced expiration , actively contracting muscles

A. diaphragm

B. external intercostals

C. abdominal muscles

D. diaphragm and intestinal muscles

**Answer: C**



**15.** Mark the correct pair of muscles involved in the normal breathing in humans.

A. External and internal intercostal muscles

B. Diaphragm and abdominal muscles

C. Diaphragm and external intercostal muscles

D. diaphragm and intestinal muscles

**Answer: C**



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16. A person suffers punctures in his chest cavity in an accident, without any damage to the lungs its effect could be

- A. reduced brathing rate
- B. rapid increases n berathing rate
- C. no change in respiration
- D. cessation of breathing

**Answer: D**



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17. A person breathes in some volume of air by forced inspiration after having a forced expiration. This quantity of air taken in is

- A. total lung capacity
- B. tidal volume
- C. vital capacity
- D. inspiratory capacity

**Answer: A**





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**18.** During inspiration , air passes into lungs due to

- A. Increases in volume of thoracic cavity and fall in lung pressure
- B. fall in pressure inside the lungs
- C. increased volume of thoracic cavity
- D. muscular expansion of lungs

**Answer: A**



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**19.** The largest quantity of air that can be expired in a single respiration after a maximal inspiratory effort is called

- A. residual volume
- B. tidal volume
- C. expiratory reserve volume
- D. total lung volume

**Answer: C**



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**20. Vital capacity of lung is**

A. Inspiratory Reserve Volume (IRV) +

Expiratory Reserve Volume (ERV) + Tidal

volume (TV) + Residual Volume (RV)

B. IRV + ERV + TV

C. IRV + ERV

$$D. IRV + ERV + TV - RV$$

**Answer: B**



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21. Maximum amount of air that can exchanged per minute is

A. inhale capacity and reserved volume

B. tidal volume and reserved volume

C. vital capacity

D. exhale capacity and reserved volume

**Answer: C**



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**22.** In breathing movements, air volume can be estimated by

A. stethoscope

B. hygrometer

C. sphygmomanometer

D. spirometer

**Answer: D**



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**23.** Respiratory process is regulated by certain specialized centres in the brain. One of the following listed centres can reduce the inspiratory duration upon stimulation

A. Medullary inspiratory

B. Pneumotaxic centre

C. Apneustic centre

D. Chemosensitive centre

**Answer: B**



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24. which of the following conditions is responsible for increase in ventilation rate of lungs ?

A. Increases of  $CO_2$  content in inhaled air

B. Increase of  $CO_2$  content in exhaled air

C. Decrease of  $O_2$  content in inhaled air

D. Decrease of  $O_2$  content in exhaled air

**Answer: A**



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**25.** Respiration mechanism is controlled by

A. Central nervous system



B. autonomic nervous system

C. Sympathetic nervous system

D. parasympathetic nervous system

**Answer: A**



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**26.** Inspiratory centre is located in

A. cerebellum

B. cerebrum

C. hypothalamus

D. medulla oblongata

**Answer: D**



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**27.** The impulse for voluntary forced breathing starts in

A. medulla

B. vagus

C. cerebral hemisphere

D. spinal cord

**Answer: A**



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**28.** Rate of breathing is controlled by

A. the amount of freely available oxygen

B. carbon dioxide

C. muscular function of the body

D. stress

**Answer: B**



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**29.** A person with high fever may be breathing faster than normal. This faster breathing may be due to

A. additional requirement of oxygen for germs

B. high temperature of the body

C. mental worry of patient

D. loss of appetite

**Answer: B**



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**30.** Ventilation rate may be expressed as

A. inspiratory reserve volume  $\times$  frequency  
of respiration

B. expiratory reserve volume  $\times$  frequency  
of respiration

C. tidal volume  $\times$  frequency of respiration

D. vital capacity  $\times$  frequency of  
respiration

**Answer: C**



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**31.** Dead space air is the

A. amount of air remaining in the alveoli

B. amount of air left behind lungs at the  
end of deep expiration

C. amount of air taken and out

D. air left in the bronchial tree

**Answer: D**



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**32.** Mark the true statement among the following with reference to normal breathing.

A. Inspiration is a passive process whereas

expiration is active

B. Inspiration is an active process whereas

expiration is passive

C. Inspiration and expiration are active

processes



D. Inspiration and expiration are passive processes

**Answer: B**



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**33.** Division of mammalian lungs into a very large number of tiny alveoli around alveolar ducts opening into bronchioles, is

A. an inefficient system of ventilation of alveoli through with very little residual air in the lungs

B. an inefficient system of ventilation of alveoli resulting in very high percentage of residual air in the lungs

C. a very efficient system of ventilation of alveoli with no residual air in the lungs

D. an efficient system of ventilation of alveoli with little or no residual in the

lungs.

**Answer: D**



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**34.**  $CO_2$  is carried in blood in physical solution, in the form of carbaminohemoglobin and in the form of  $HCO_3^-$ , the proportion of  $CO_2$  in different forms respectively is

A. 5% , 10% , 85 %

B. 7%, 75%, 23%

C. 85% , 5% , 10%

D. 10%, 85%, 5%

**Answer: A**



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**35.** Body tissues obtain oxygen from haemoglobin because of its dissociation in tissues caused by

A. low oxygen concentratio

B. high carbon dioxide concentration

C. low carbon dioxide concentration

D. low oxygen and high carbon dioxide  
concentration

**Answer: D**



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**36.** Combination of haemoglobin with  $O_2$  in lungs can be promoted by

A. increasing carbon dioxide concentration in blood

B. increasing oxygen concentration in blood

C. decreasing oxygen concentration in blood

D. introducing carbon monoxide in blood

**Answer: C**



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**37.** Blood analysis of a patient reveals an unusually high quantity of carboxyhemoglobin content. Which of the following conclusion is the most likely to be correct? The patient has been inhaling polluted air containing unusually high content of

A. carbon disulphide

B. chloroform

C. carbon dioxide

D. carbon monoxide

**Answer: D**



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**38.** It is known that exposure to carbon monoxide is harmful to animals because

A. it reduces  $CO_2$  transport



B. it reduces  $O_2$  transport

C. it increases  $CO_2$  transport

D. It increases  $O_2$  transport

**Answer: B**



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**39.** The oxygen - haemoglobin dissociation curve will show a right shift in case of

A. high  $pCO_2$

B. high  $pO_2$

C. low  $pCO_2$

D. less  $H^+$  concentration

**Answer: A**



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**40.** mark the incorrect statement in context to  $CO_2$  binding to Hb.

A. Higher pH

B. lower temperature

C. Lower  $PCO_2$

D. Low  $pO_2$

**Answer: D**



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**41.**  $CO_2$  dissociated from carbamino haemoglobin when

A.  $pCO_2$  in high and  $pO_2$  is low

B.  $pO_2$  is high and  $pCO_2$  is low

C.  $pCO_2$  is high and  $pO_2$  are equal

D.

**Answer: B**



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**42. what is true about haemoglobin**

A. It is a dipeptide and present in red blood corpuscles in warm blood

B. It is dipeptide in mammals and localised  
in red blood corpuscles

C. it is present in the dissolved state in  
blood plasma in scorpions

D. It is present in dissolved state in blood  
plasma in scorpions

**Answer: C**



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43. Most abundant, harmful and universal waste product of metabolism is

A.  $CO_2$

B. uric acid

C.  $H_2O$

D. none of these

**Answer: A**



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44. oxyhaemoglobin is an unstable compound because

A.  $O_2$  and haemoglobin reaction depends upon partial pressure

B. Haemoglobin is a conjugated protein

C. Haemoglobin is contained within RBC

D. one haemoglobin binds with four molecules of  $O_2$

**Answer: A**



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**45.** Persons living at high altitude will have

A. high alveolar capacity

B. more number of erythrocytes

C. haemoglobin curve shift towards right

D. All of the above

**Answer: D**



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**46.** What would happen when blood is acidic

A. Binding of oxygen with heamoglobin  
increases

B. Red blood corpuscles are formed in  
higher number

C. Binding of oxygen with haemoglobin  
decreases

D. there is no change in oxygen binding  
nor in number of RBCs

**Answer: C**



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**47.** For proper transport of  $O_2$  and  $CO_2$  blood should be

- A. slightly acidic
- B. strongly , acidic
- C. strongly alkaline
- D. slightly alkaline

**Answer: D**



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**48.** Carbon dioxide is transported from tissues to respiratory surface by only

- A. plasma and erythrocytes
- B. plasma
- C. erythrocytes
- D. erythrocytes and leucocytes

**Answer: A**



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**49.** The majority of carbon dioxide produced by our body cells is transported to the lungs -

- A. dissolved in the blood
- B. as bicarbonates
- C. as carbonates
- D. attached to haemoglobin

**Answer: B**



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**50.** Diffusion of gases along the respiratory surface occurs because

- A.  $pCO_2$  is more in alveoli than blood
- B.  $pO_2$  is more in alveoli than blood
- C.  $pCO_2$  is more in blood than in tissues
- D.  $pO_2$  is more in blood than in tissue

**Answer: B**



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51. in man and mammals , air passes from outside into the lungs through

A. nasal cavity , larynx, pharynx, trachea, bronchi, alveoli

B. nasal cavity, larynx, pharynx, trachea, bronchioles , alveoli

C. nasal cavity , pharynx, larynx, trachea,  
bronchioles, bronchi , alvoli

D. nasal cavity, pharynx, larynx, trachea,  
bronchioles, alveoli

**Answer: D**



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**52. Why is CO poisonous for man ?**

A. CO affects the nerves of the lungs

B. CO affects the diaphragm and intercostal muscles

C. CO reacts with oxygen reducing percentage of  $O_2$  in air

D. Haemoglobin combines with CO instead  $O_2$  and the product cannot dissociate

**Answer: D**



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53. mark the incorrect statement

A. Respiratory centres are found in medulla oblongata

B. Near lungs  $Cl^-$  moves out of RBC

C. RBCs of deoxygenated blood are slightly bigger than that of oxygenated blood

D. None of the above

**Answer: D**



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**54.** A person met with an accident and died instantly without any injury to heart, brain, stomach and kidney. One of the following is a reason for his death.

- A. Intestine got twisted
- B. RBCs became coagulated
- C. Stomach stopped digestion
- D. Diaphragm got punctured

**Answer: D**



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55. what is incorrect about oxygen binding with haemoglobin ?

A. the bond between oxygen and Hb is very loose bond

B. Oxygen becomes ionic when it binds to Hb

C. Hb and oxygen is readily reversible combinations

D. None of the above

**Answer: B**



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**56.** Which of the following statements correctly defines Bohr's effect ?

A. Rise in  $p_{50}$  with an increase in  $CO_2$  concentration

B. fall in  $P_{50}$  with a decrease in pH

C. Rise in  $P_{50}$  with an increase in pH

D. No effect on  $P_{50}$  with a decrease in pH

**Answer: A**



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**57.** when blood  $CO_2$  level rises

A. only the rate of breathing decreases

B. respiratory acidosis may occur

C. peripheral pressure receptors respond

D. both the rate and depth of breathing  
decreases

**Answer: B**



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**58.** As carbon dioxide produced in the tissues  
combines with water in the blood

A. carbonic in the blood

B.  $Cl^-$  enters in the RBCs

C. most of the  $\text{HCO}_3^-$  from the carbonic acid leaves the RBCs for the blood plasma

D. All of the precedings occur

**Answer: D**



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**59.** After fast running, man has fast heart beat, slow pulse and shallow breathing, in such conditions he has

A. oxygen debt

B. poisoning due to lactic acid

C. no pulmonary pressure

D. weak heart

**Answer: A**



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**60.** After taking a long deep breath we do not respire for some seconds due to



A. more  $CO_2$  in blood

B. more  $O_2$  in blood

C. less  $CO_2$  in blood

D. less  $O_2$  blood

**Answer: C**



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**61.** Which one of the following statements is correct about blood constituents and transport of most accurate respiratory gases ?

- A. RBCs transport oxygen, whereas plasma transports only carbon dioxide
- B. RBCs as well as WBCs transport both oxygen and carbon dioxide
- C. RBCs transport oxygen, whereas, WBCs transport carbon dioxide
- D. RBCs as well as plasma transport both oxygen and carbon dioxide

**Answer: D**



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62. Reduction in respiratory surface of lungs due to breakdown of partition in the alveoli is known as

A. asphyxia

B. bronchitis

C. asthma

D. emphysema

**Answer: D**



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63. A stage when lung collapsed, specially the alveoli is

- A. atelectasis
- B. poliomyelities
- C. asthma
- D. epistaxis

**Answer: A**



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64. which of the following can cause atelectasis ?

A. Blockage of small bronchi with mucus

B. Obstruction of a major bronchus

C. Lack of surfactant in fluids lining the alveoli

D. All of the above

**Answer: D**



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65. Inflammation of the lung covering causing severe chest pain is

A. emphysema

B. pleurisy

C. asphyxia

D. hypoxia

**Answer: B**



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**66.** Apnoea is

- A. absence of breathing
- B. decreased ventilation
- C. increased ventilation
- D. laboured breathing

**Answer: A**



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67. The decompression sickness is

A. respiration under depression

B. sickness develops after coming the sea surface from a great depth

C. sickness develops after attaining a high altitude

D. sickness develops after coming on earth surface from the mines

**Answer: B**

---





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**68.** Increased asthmatic attacks in certain seasons are related to

- A. hot and humid environment
- B. eating fruits preserved in tin containers
- C. inhalation of seasonal pollen
- D. low temperature

**Answer: C**



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69. All are the disease of lungs except

A. asthma

B. bronchitis

C. encephalitis

D. pneumonia

**Answer: C**



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**70.** Incidence of Emphysema - a respiratory disorder is high in cigarette smokers. In such cases

A. the bronchioles are found damaged

B. The alveolar are found damaged

C. the plasma mamebrane is found  
damaged

D. the respiratory muscles are found  
damaged.

**Answer: B**



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**71.** Respiration in insects is called direct because

A. the cells exchange  $O_2/CO_2$  directly

with the air in the tubes

B. The tissues exchange  $O_2/CO_2$  directly

with coelomic fluid

C. the tissues exchange  $O_2 / CO_2$  directly with the air outside through body surface

D. tracheal tubes exchange  $O_2 / CO_2$  directly with the haemocoel which then exchange with tissues.

**Answer: D**



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72. Which combination of muscles contractin causes inspiration ?

A. Internal intercostals - Diaphragm

B. Diaphragm - Abdominal complex

C. External intercostals - Diaphragm

D. External - Internal intercostals

**Answer: C**



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73. One of the following is a difference between pulmonary respiration of frog and human.

A. Diaphragm and ribs play role in respiration

B. Lungs are respiratory organs

C. Respiration occurs due to pressure gradient

D. None of the above

**Answer: A**



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74. If  $O_2$  concentration in tissue was almost as high as at the respiratory surface then

A. oxyhaemoglobin would dissociate to supply to the tissue

B. haemoglobin would combine with more  $O_2$  at respiratory surface

C. oxyhaemoglobin would not dissociate to supply  $O_2$  to the tissue



D.

**Answer: C**



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**75.** 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 for the transport of oxygen

B. Hemoglobin is necessary for the transport of oxygen and carbonic anhydrase for the transport of carbon dioxide.

C. only oxygen is transported blood

D. only carbon dioxide is transported by blood.

**Answer: B**



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**76.** 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.

A. people get pollution free air to breathe and more oxygen is available

B. atmospheric  $O_2$  level is less and hence, more RBCs are needed to absorb the required amount of  $O_2$  to survive

C. There is more UV radiation, which enhances RBC production.

D. people eat more nutritive food, therefore, more RBCs are formed

**Answer: B**



**Watch Video Solution**

77. Air moves into the lungs when atmospheric pressure is

- A. less than pressure within the lungs
- B. greater than pressure within the lungs
- C. equal to the pressure within the lungs
- D. None of the above

**Answer: B**



**Watch Video Solution**

78. Artificial respiration at the rate of 10-15 times per minute is being given to a man saved from drowning. This is because .

A. the water in the respiratory passage is cleared fast at this rate

B. it is the normal rate of breathing

C. choking is least at this rate

D. the lungs are ventilated best at this rate

**Answer: A**



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79. I. The  $pO_2$  in alveolar air is about ...A... Mm Hg and in arterial capillaries is ....B..... mm Hg. Therefore, oxygen from alveoli diffuses into blood capillaries.

II.  $pCO_2$  in blood reaching alveolar capillaries is ....C.... Mm Hg and in alveolar air is ....D.... mm Hg. thus,  $CO_2$  leaves capillaries and reaches alveoli.

Identify A,B,C and D in the above two statements .

A. 104, 40, 45, 40

B. 40 , 104, 40, 45

C. 40, 45, 104, 40

D. 45, 104, 45, 40

**Answer: A**



**Watch Video Solution**

**80.** Read the following statemens with regard to oxyhaemoglobin dissociation curve.

I. The curve is ....A.... Shaped under normal



conditions.

II. ....B...has an affinity to bind with deoxygenated . Haemoglobin by producing conformational changes in it.

III. HTe curve is ....C....in the presence of weak electrolytes. Identify A, B and C.

A. sigmoid, Carbon monoxide, sigmoid

B. Sigmoid, 2,3 - DPG, hyperbolic

C. Sigmoid , Oxygen, hyperbolic

D. Sigmoid, Carbon monoxide , straight

**Answer: B**



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**81.** Identify the correctly matched option from below :

- A. Eupnoea - Increased breathing rate
- B. Dyspnea - Normal breathing rate
- C. Tachypnea - Rapid shallow breathing
- D. Hypercapnia - painful breathing

**Answer: C**



**82.** Given in the box are certain disorders of human body.

Asthma, Cyanosis, Blue baby syndrome, Atelectasis , jaundice , Anthracosis , Epilepsy , Asbestosis

How many disorders from above are associated with human respiratory system ?

A. Three

B. Four

C. Five

D. Six

**Answer: C**



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**83.** Read the following statements and identify the one which is incorrect.

A. The upper part of larynx, i.e, glottis is covered by epiglottis during swallowing

of food.

B. Apart from diaphragm and intercostal muscles, transversus abdominis and rectus abdominis also aid in respiration

C. The pons have two centres for regulation breathing . I.e pneumotaxic an apnustic centre.

D. Pncumtaxic centre releases neural signal, which reduces the expiration process thereby regulating respiratory rate

**Answer: D**



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**84.** Select the correct option with regard to the mode of respiration in various animals.

A. Gills- Crustaceans

B. Skin- Insects

C. Trachea- Annelids

D. Lungs - Arachnids

**Answer: A**



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**85.** granular pneumocytes secrete dipalmitoyl phosphatidyl choline, these are specialised lipids, which perform many functions. Choose the false statement with regard to the functions.

A. Prevent oedema

B. Formation of Adam's apple

C. Prevents accumulation of lymph on  
alveoli

D. Preventing alveoli from collapse

**Answer: B**



**View Text Solution**

**86.** Primary inspiratory muscles are/is

A. diaphragm

B. Internal intercostal muscles



C. External intercostal muscles

D. Abdominal muscles

**Answer: A**



**Watch Video Solution**

**87.** Given below are some factors which may affect the oxyhaemoglobin dissociation curve.

Carbon monoxide, Foetal haemoglobin, Oxygen, water , Myoglobin, Temperature.

Choose the correct options

A. Oxyge, water and temperature

B. Oxygen, carbon monoxide and  
myoglobin

C. Temperation , foctal heamoglobin and  
myoglobin

D.

**Answer: D**



**View Text Solution**

# Chapter Exercises B Medical Entrances Special Format Questions

1. The diffusion of bicarbonate ions from RBC into plasma and of chloride ions from plasma into RBC to maintain ionic balance between RBC and plasma is known as

I. Henry's law

II. Chloride shift

III. Charlc's law

IV. Hamburger's phenomenon

A. I and II are correct

B. II , III and IV are correct

C. II and IV are correct

D. III and IV are correct

**Answer: C**



**View Text Solution**

2. The mucus produced by the goblet cells

(a) moistens the incoming air

(b) trap the fine dust particles

(c) filter out large dust particles

(d) warms the incoming air .

A. I and II

B. II and III

C. Only IV

D. All of these

**Answer: A**



**Watch Video Solution**

3. The lobes of left lung in human is divided into

I. left superior III. Anterior azygous

II. Left inferior IV. Posterior azygous

A. I and III

B. I and II

C. II and III

D. III and IV

**Answer: B**



**View Text Solution**

4. The respiratory system in humans and other lung-breathing vertebrates can be divided into

I. conducting portion

II. Respiratory portion

III. Upper portion

IV. Lower portion

A. Only I

B. III and IV

C. Only II

D. I and II

**Answer: D**



**Watch Video Solution**

**5. Certain bacteria that cause bronchitis are**

I. *Streptococcus pneumoniae*

II. *Haemophilus influenzae*

III. *Yersinia pestis*

IV. *Clostridium tetani*

A. I and II



B. III and IV

C. Only IV

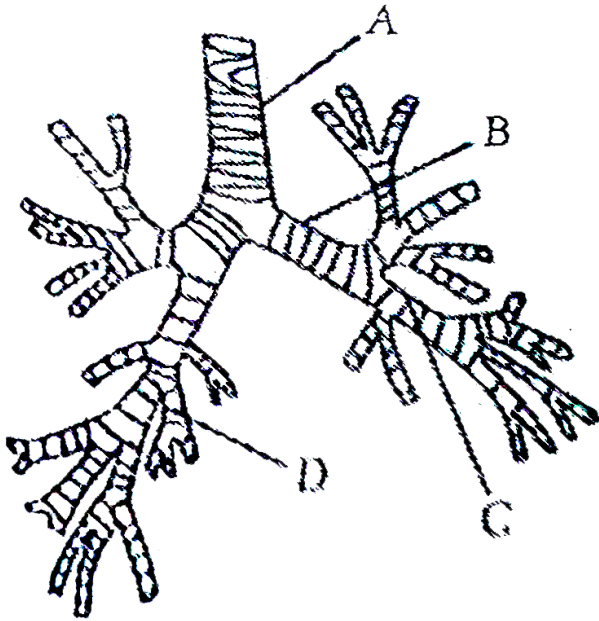
D. Only I

**Answer: A**



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**6.** Study the following diagram and consider the statements following in regard to the labels .



I. A is lined by pseudostratified ciliated columnar epithelium bearing glandular cells and cartilaginous ring.

II. B is the part of lung where major exchange of gases takes place.

III. C decreases both in diameter and thickness as it gets take place.

IV. D is part of lung where exchange of gases do not take place.

Choose the correct set of statements.

A. I , II and III

B. II, III and IV

C. I and III

D. II and IV

**Answer: C**



**Watch Video Solution**

7. The air that enters our lungs is characterised as

I. It is warm.

II. It is filtered .

III. Some oxygen is extracted from it.

IV. Some carbon dioxide is added to it.

A. I, II, III and IV

B. I and II

C. II and IV

D. III and IV

**Answer: A**



**Watch Video Solution**

**8.** Which of the following statements are true/false

A. The blood transports  $CO_2$  comparatively easily because of its higher solubility

B. Approximately 8.9% of  $CO_2$  is transported being dissolved in the plasma of blood

C. The carbon dioxide produced by the tissues, diffuses passively into the blood stream and

passes into red blood corpuscles and react with water to form  $H_2CO_3$

D. The chloride ions diffuse from plasma into the erythrocytes to maintain ionic balance

A. I, III and V II and V

B. II and IV I, III and V

C. III and V I, II and IV

D.

**Answer: A**



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9. From the following relationship between respiration volumes and capacities, mark the correct option.

(i) Inspiratory Capacity (IC) = Tidal Volume + Residual Volume

(ii) Vital Capacity (VC) = Tidal Volume (TV) + Inspiratory Reserve Volume (IRV) + Expiratory Reserve Volume (ERV)

(iii) Residual Volume (RV) = Vital Capacity (VC) - Inspiratory Reserve Volume (IRV)

(iv) Tidal Volume (TV) = Inspiratory Capacity (IC) - Inspiratory Reserve Volume (IRV)

A. I, II and III are incorrect, IV is correct

B. I and III are incorrect, II and IV are correct

C. I, II and IV are correct and III is incorrect

D. I and III are correct, II and IV are incorrect

**Answer: B**



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## 10. Match the following columns.

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

A. 3,4,4,2,15

B. 3,1,2,5,4

C. 3,1,4,5,4

D. 5,4,2,1,2

**Answer: B**



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## 11. Match the following columns .

Column I	Column II
A. Tiny air sacs in the lungs	1. Internal respiration
B. Gas diffusion between alveoli and blood in lungs	2. Haemoglobin
C. Gas exchange between blood and interstitial fluid	3. Alveoli
D. Molecule specialised for oxygen transport	4. External respiration

A. 3,4,1,2

B. 1,2,3,4

C. 4,3,2,1

D. 2,1,4,3

**Answer: A**



## 12. Match the following columns.

Column I	Column II
A. Bronchial tree	1. Passage way for air from nasal cavity to larynx and for food from mouth cavity to oesophagus
B. Larynx	2. Conducts air from trachea to the alveoli to its mucous lining continues to filter air
C. Trachea	3. Passage way for air, prevents foreign objects from entering trachea and houses vocal cords
D. Pharynx	4. Flexible tube, which connects larynx with bronchial tree

A. 1,2,3,4

B. 2,3,4,1

C. 4,3,2,1

D. 3,2,1,4

**Answer: B**



**Watch Video Solution**

**13. Match the following columns :**

<b>Column I</b> (Animal)	<b>Column II</b> (Respiratory organ)
A. Earthworm	1. Moist cuticle
B. Aquatic Arthropods	2. Gills
C. Fishes	3. Lungs
D. Birds/Reptiles	4. Trachea

A. 2,1,4,3

B. 1,4,2,3

C. 1,3,2,4

D. 1,2,4,3

**Answer: B**



**Watch Video Solution**

**14.** Assertion The vital capacity is higher in athletes.

Reason . Vital capacity is the amount of air, which one can inhale and exhale with maximum effort.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. both Assertion and Reason are false.

**Answer: B**



**Watch Video Solution**

**15. Assertion.** Tidal volume is the volume of air inspired or expired with the normal breath .

Reason Adult person contains 500 ml expired or inspired volumes of air with each normal breath.

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Assertion and Reason are true,  
but Reason is not the correct  
explanation of Assertion

C. Assertion is true, but Reason is true

D. both Assertion and Reason are false.

**Answer: B**



**Watch Video Solution**



**16.** Assertion.  $CO_2$  is carried in the plasma mainly as  $HCO_3^-$  ions

Reason. Zinc -containing enzyme carbonic anhydrase of RBCs catalyses the formations fo  $HCO_3^-$  ions that enter plasma.

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Asssertion and Reason are true,

but Reason is not the correct

## explanation of Assertion

C. Assertion is true, but Reason is true

D. both Assertion and Reason are false.

**Answer: A**



**Watch Video Solution**

**17.** Assertion Insects have a complex system of air tubes called trachea for respiratory purpose .

Insects do not respire through body surface.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. both Assertion and Reason are false.

**Answer: A**



**Watch Video Solution**

**18.** Assertion Fishes respire through gills.

Reason Counter-current flow occurs in gills

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Assertion and Reason are true,

but Reason is not the correct

explanation of Assertion

C. Assertion is true, but Reason is true

D. both Assertion and Reason are false.

**Answer: A**



**Watch Video Solution**

**19.** Assertion : Inspiration occurs due to muscular relaxation.

Reason : During inspiration, the diaphragm and external intercostal muscle contract simultaneously.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. both Assertion and Reason are false.

**Answer: D**



**Watch Video Solution**

**20.** Assertion A quatic organisms such as protozoans respire through simple diffusion process.

Reason their outermost covering remains moist.

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Asssertion and Reason are true,  
but Reason is not the correct  
explanation of Assertion

C. Assertion is true, but Reason is true

D. both Asssertion and Reason are flase.

**Answer: A**



**Watch Video Solution**



21. Assertion Cutaneous respiration occurs in earthworm.

Reason Lungs are absent in earthworm.

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Asssertion and Reason are true,

but Reason is not the correct

explanation of Assertion

C. Assertion is true, but Reason is true

D. both Assertion and Reason are false.

**Answer: B**



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## Chapter Exercise C Medical Entrances Gallery

1. Match the following columns :

Column I	Column II
A. $pO_2$ of alveoli lungs	1. 40 mm Hg
B. $pO_2$ of atmospheric air	2. 95 mm Hg
C. $pO_2$ of deoxygenated blood	3. 104 mm Hg
D. $pO_2$ of oxygenated blood	4. 159 mm Hg

A. 2,4,1,3

B. 3,4,1,2

C. 3,2,1,4

D. 2,4,3,1

**Answer: B**



**Watch Video Solution**

2. The partial pressure of oxygen in the alveoli of the lungs is

A. equal to that in the blood

B. more than that in blood

C. less than in the blood

D. less than than of carbon dioxide

**Answer: B**



**Watch Video Solution**

**3.** Lungs do not collapse between breaths and some air always remains in the lungs which can never be expelled because

- A. there is a negative pressure in the lungs
- B. there is a negative intrapleural pressure pulling at the lungs walls
- C. there is a positive intrapleural pressure
- D. pressure in the lungs is higher than the atmospheric pressure

**Answer: B**



**Watch Video Solution**

4. Name the pulmonary disease in which alveolar surface area involved in gas exchange is drastically reduced due to damage in the alveolar walls

A. Pleurisy

B. Emphysema

C. Pneumonia

D. Asthma

**Answer: B**



Watch Video Solution

5. The volume of air that will remain in the lungs after a normal expiration is called

- A. Vital capacity
- B. Functional residual capacity
- C. Residual volume
- D. Total lung capacity

**Answer: B**



**Watch Video Solution**

6. Which of the following is the most appropriate in normal circumstances ?

A. During inspiration, the intrapulmonary pressure is less than atmospheric pressure

B. During expiration, the intrapulmonary pressure is less than atmospheric pressure



C. During expiration, the intrapulmonary pressure is equal to atmospheric pressure.

D.

**Answer: A**



**Watch Video Solution**

7. The pneumotaxic and respiratory rhythm centres respectively present in

A. pons and medulla oblongata

B. corpus callosum and pons

C. medulla oblongata and hypothalamus

D. diencephalon and pons

**Answer: A**



**Watch Video Solution**

**8.** Which of the following sets of conditions promotes the dissociation of oxygen from haemoglobin ?

A. Low  $pO_2$ , high  $pCO_2$ , high  $H^+$

B. High  $pO_2$ , high  $pCO_2$ , low  $H^+$

C. High  $pO_2$  low  $pCO_2$  low  $H^+$

D. Low  $pO_2$ , low  $pCO_2$ , low  $H^+$

**Answer: A**



**Watch Video Solution**

9. Assertion (A) In brain stem, pons is called pneumotaxic centre with the ability to moderate the function of the ' respiratory

rhythm' centre.

Reason ( R) Neural signals from the centre can reduce the duration of expiration, thereby alter the respiratory rate

A. Both A and R are correct, but R is not the correct explanation of A .

B. Both A and R are correct , but R is the correct explanation of A

C. A is incorrect, but R correct

D. A is correct , but R is incorrect

**Answer: D**



**Watch Video Solution**

**10.** When percentage saturation of haemoglobin with  $O_2$  is plotted against  $pO_2$ , the curve obtained is

- A. J-shaped
- B. hyperbola
- C. sigmoid
- D. U-shaped

**Answer: C**



**Watch Video Solution**

**11.** The process of exchange of  $O_2$  from the atmosphere with  $CO_2$  produced by the cells is called

- A. biological respiration
- B. photosynthesis
- C. biological assimilations
- D. gaseous exchange

**Answer: D**



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**12. Inspiratory capacity of human is equal to**

A.  $TV + ERV$

B.  $TV + ERV + IRV$

C.  $TV + IRV$

D.  $ERV + IRV$

**Answer: C**



**Watch Video Solution**

**13.** Approximately seventy percent of carbon dioxide absorbed by the blood will be transported to the lungs

A. as bicarbonate ions

B. in the form of dissolved gas molecules

C. by binding to RBC

D. as carbaminohaemoglobin

**Answer: A**





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14. The volume of air that can be breathed in by maximum forced inspiration over and above the normal inspiration is called

- A. expiratory reserve volume
- B. inspiratory reserve volume
- C. vital capacity
- D. inspiratory capacity

**Answer: B**



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15. The serous membrane which covers the lungs is called

- A. preicardium
- B. peritoneum
- C. perichondrium
- D. pleura

**Answer: D**



16. what is the  $pO_2$  and  $pCO_2$  in the systemic arteries ?

- A.  $pO_2$  40mm Hg,  $pCO_2$ . 45 mm Hg
- B.  $pO_2$ 95mmHg,  $pCO_2$  40 mm Hg
- C.  $pO_2$  40mm Hg,  $pCO_2$ . 40 mm Hg
- D.  $pO_2$  45 mm Hg,  $pCO_2$ . 40 mm Hg

**Answer: B**



17. Choose the wrong statement .

A. Solubility of  $CO_2$  in blood is 20-25 times higher than that of  $O_2$

B. The total volume of air accommodated in the lungs at the end of a forced inspiration is called the vital capacity.

C.  $O_2$  can bind with haemoglobin in a reversible manner to form oxyhaemoglobin

D. Every 100 mL of deoxygenated blood delivers approximately 4 mL of  $CO_2$  to the alveoli.

**Answer: B**



**Watch Video Solution**

**18.** To generate pressure gradients to facilitate expiration and inspiration the human body uses the intercostal muscles and

A. alveolar air

B. bronchi

C. primart, secondary and tertiary  
bronchioles

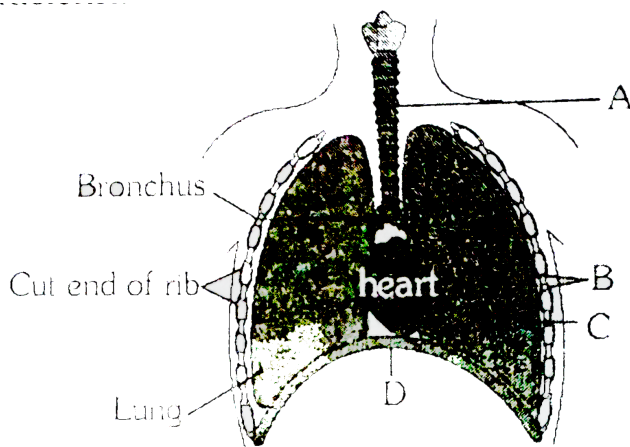
D. diaphragm

**Answer: D**



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19. the figure shows a diagrammatic view of human respiratory system with labels A, B , C and D . Select the option which given correct identification and main function and / or characteristic



A. A- Trachea-long tube supported by complete cartilaginous rings for

conducting inspired air

B. B- Pleural membrane - surround ribs on both sides to provide cushion against rubbing

C. C-Alveoli-thin-walled vascular bag-like structure for exchange of gases

D. D-Lower end of lungs - diaphragm pulls it down during inspiration.

**Answer: C**



**Watch Video Solution**



20. Oxygen dissociation curve is

A. sigmoid

B. parabolic

C. hyperbolic

D. straight line

**Answer: A**



**Watch Video Solution**

21. Haemoglobin is having maximum affinity with

A.  $CO_2$

B. CO

C.  $O_2$

D.  $NH_3$

**Answer: B**



**Watch Video Solution**

22. During inspiration the diaphragm

A. expands

B. shows no change

C. contracts and fattens

D. relaxes to become dome-shaped

**Answer: C**



**Watch Video Solution**

**23.** The oxygen toxicity is related with

A. blood poisoning

B. collapse of alveolar walls

C. both (a) and (b)

D. Failure of ventilation of lungs

**Answer: D**



**Watch Video Solution**

24. Skin is an accessory organ of respiration in

A. human

B. frog

C. rabbit

D. lizard

**Answer: B**



**Watch Video Solution**

25. When oxygen supply to tissues is inadequate, the condition

A. dyspnea

B. hypoxia

C. asphyxia

D. apnea

**Answer: B**



**Watch Video Solution**

26. Large volume of air that a person can expire after a forceful inspiration is called

A. tidal volume

B. vital capacity

C. IRV

D. ERV

**Answer: B**



**Watch Video Solution**

27. People who have migrated from the plains to an area adjoining Rohtang pass about six months back

A. have more RBCs and their haemoglobin has a lower binding affinity to  $O_2$

B. are not physically fit to play games like football

C. suffer from altitude sickness with symptoms like nausea, fatigue, etc.

D.



**Answer: A**



**Watch Video Solution**

**28.** Which one of the following is the correct statement for respiration in humans ?

A. Cigarette smoking may lead to

inflammation of bronchi

B. Neural signals from pneumotaxic centre

in pons region of brain can increase the

duration of inspiration.

C. Workers in grinding and stone breaking

industries may suffer, from lung fibrosis

D. About 90% of carbon dioxide ( $CO_2$ ) is

carried by haemoglobin as

carbaminohaemoglobin

**Answer: C**



**Watch Video Solution**

**29.** After forceful inspiration, the amount of air that can be breathed out by maximum forced expiration is equal to

A. Inspiratory Reserve Volume (IRV) +  
Expiratory Reserve Volume (ERV) + Tidal  
volume (TV) + Residual Volume (RV)

B. IRV + RV + ERV

C. IRV + TV + ERV

D. TV + RV + ERV

**Answer: C**



**Watch Video Solution**

**30.** Amount of oxygen supplied by  $100\text{ml}$  arterial blood while passing through the tissues is

A. 0.4 - 0.6 mL

B. 4-6 mL

C. 14-15 mL

D. 19-20 mL

**Answer: D**



**Watch Video Solution**

**31.** the volume of ' anatomical dead space ' air is normally

A. 230 mL

B. 210 mL

C. 190 mL

D. 150 mL

**Answer: D**



**Watch Video Solution**

**32.** Two friends are eating together on a dining table. One of them suddenly starts coughing while swallowing some food. This coughing would have been due to improper movement of

A. diaphragm

B. neck

C. tongue

D. epiglottis

**Answer: D**



**Watch Video Solution**

**33.** A large proportion of oxygen is left unused the human blood even after its uptake by the body tissue. This  $O_2$

- A. raises the  $pCO_2$  of blood to 75 mm of Hg
- B. Is enough to keep oxyhaemoglobin
- C. helps in relasing more  $O_2$  to the epithelial tissues
- D. acts as a reserve during muscular exercises

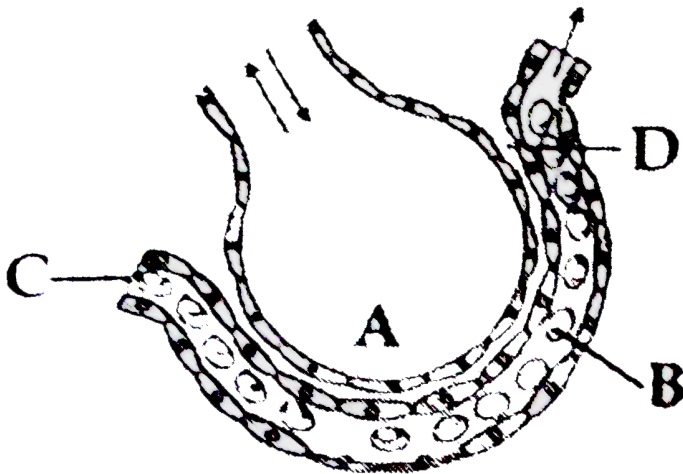
**Answer: D**



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34. The figure given below shows a small part of human lung where exchange of gases takes place. In which one of the option given below, the one part A, B, C or D is correctly identified along with its functions



A. A-Alveolar cavity -Main site of exdchange  
of respiratory gases

B. D - Capillary wall - Exchange of gases

takes place here

C. B-Red blood cell- Transport of mainly

haemoglobin

D. G - Arterial capillary - passes oxygen to

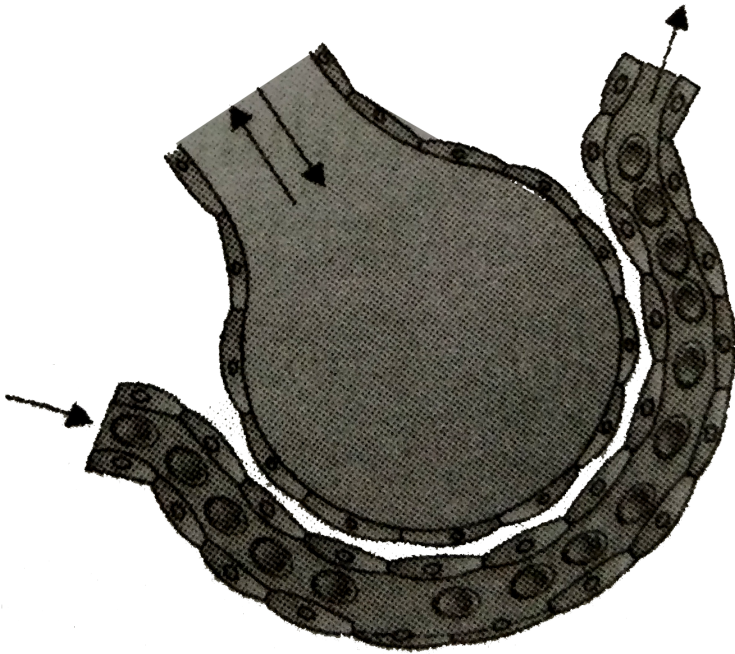
tissues

**Answer: B**



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35. The factor which does not affect the rate of alveolar diffusion is



A. solubility of gases

B. thickness of the membrane

C. pressure gradient

D. concentration gradient

**Answer: D**



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**36.** Haemoglobin of the human blood forms a stable complex compound with with of the following gas leading to death ?

A. Oxygen

B. carbon dioxide

C. carbon monoxide

D. Nitrogen

**Answer: C**



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**37.** If a large number of people are enclosed in a room then

A. oxygen decreases and carbon dioxide increases

B. oxygen increases and carbon dioxide decreases

C. both oxygen and carbon dioxide decreases

D. both oxygen and carbon dioxide increases

**Answer: A**



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**38.** The expiratory reserve volume will be

A. 1000 mL

B. 2000 mL

C. 4000 mL

D. 500 ml

**Answer: A**



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**39.** Assertion  $CO_2$  transport occurs very fast through RBCs.

Reason : Enzyme carbonic anhydrase is absent in blood plasma.

A. Both Assertion and Reason are true and

Reason is the correct explanation of

Assertion

B. Both Assertion and Reason are true, but

Reason is not the correct explanation of

Assertion



C. Assertion is true, but Reason is true

D. Assertion is false and Reason is true.

**Answer: C**



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**40.** Hiccups can be best described as

A. forceful sudden expiration

B. jerky incomplete inspiration

C. vibration of the soft palate during breathing

D. sigh of indigestion

**Answer: B**



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**41.** Dead space air in man is

A. 500 mL

B. 150 mL

C. 250 mL

D. 1.5 mL

**Answer: B**



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**42.** Amount of  $CO_2$  in expired air is about

A. 0.0004

B. 0.0003

C. 0.045

D. 0.021

**Answer: C**



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**43.** Which two of the following changes (A-B) usually tend to occur in the plain dwellers when they move to high altitudes (3500 m or more )

(A) Increase in red blood cell size

(B) Increase in red blood cell production

( C) Increased breathing rate

(D) Increase in thrombocyte count

A. Increases in red blood cell size.

B. Increase in red blood cell production

C. Increased breathing rate .

D.

**Answer: A**



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**44.** The volume of air, inspired or expired during normal respiration is called.

- A. tidal volume
- B. inspiratory reserve volume
- C. expiratory rescrve volume
- D. residual volume

**Answer: A**



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45. Between breaths, the intrapleural pressure is approximately ..... Mm Hg less than atmospheric pressure.

A. 1

B. 4

C. 8

D. 10

**Answer: B**



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**46.** Which of the following is a respiratory disease ?

A. Polio

B. Arthritis

C. Asthma

D. Cancer

**Answer: C**



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47. How many molecules of oxygen are bound to one molecule of haemoglobin?

A. Two

B. Three

C. Four

D. Six

**Answer: C**



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**48.** After deep inspiration, capacity of maximum expiration of lung is called : —

A. Vital capacity

B. tidal volume

C. IRV

D. ERV

**Answer: A**



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49. Oxy-haemoglobin dissociates into oxygen and deoxy-haemoglobin at

A. low  $O_2$  pressure in tissue

B. high  $O_2$  pressure in tissue

C. equal  $O_2$  pressure inside and outside tissue

D. all times irrespective of  $O_2$  pressure

**Answer: A**



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**50.** Arrange the following in the order of increasing volume

1) Tidal volume

2) Residual volume

3) Expiratory reserve volume

4) Vital capacity

A. I It II It III It IV

B. I It III It II It IV

C. I It IV It III It II

D. I It IV It II It III

**Answer: B**



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**51. The vital capacity of human being is about**

A. 1200 mL

B. 4800 mL

C. 2400 mL

D. 3600mL

**Answer: B**



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52. With decrease in temperature, oxyhaemoglobin curve will become

- A. more steep
- B. straight
- C. parabola
- D. none of these

**Answer: A**



53. CO is more toxic than  $CO_2$  because it :

A. affects the nervous system

B. damages lungs

C. reduces the oxyge carrying capacity of  
haemoglobin

D. Forms acid with water

**Answer: C**



54. Total lung capacity is

A. 1200 mL

B. 2400 mL

C. 500 mL

D. 5800 mL

**Answer: D**



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