



# BIOLOGY

## BOOKS - TRUEMAN BIOLOGY

### BREATHING AND EXCHANGE OF GASES

#### Multiple Choice Questions

1. If the thoracic wall but not lungs is punctured

A. the lungs get inflated

B. the man dies as the lungs get collapsed

C. the breathing rate decreases

D. the breathing rate increases

**Answer: B**



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

A. 1)emphysema

B. 2)pleurisy

C. 3)asphyxia

D. 4)hypoxia

**Answer: B**



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**3.** In human beings, the number of lobes in right and left lungs are

A. 2 and 3

B. 2 and 2

C. 3 and 2

D. 4 and 2

**Answer: C**



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

- A. binding oxygen with haemoglobin increases
- B. red blood corpuscles are formed in higher number
- C. binding of oxygen with haemoglobin
- D. there is no change in oxygen binding nor number of RBC

**Answer: C**



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5. Residual air mostly occurs in

A. alveoli

B. bronchus

C. nostrils

D. trachea

**Answer: A**



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6. One common feature of the trachea of cockroach and the trachea of mammals is that

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

**Answer: B**



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7. What is usually present at the time of asphyxiation ?

A. oxyhaemoglobin

B. methaemoglobin

C. carbaminohaemoglobin

D. carboxyhaemoglobin

**Answer: C**



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8. Trachea is lined with incomplete rings of

A. fibrous cartilage

B. calcified cartilage

C. elastic cartilage

D. hyaline cartilage

**Answer: D**



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9. Amount of oxygen present in one gram of haemoglobin is

A. 20 ml

B. 1.36 ml

C. 13.4 ml

D. none of the above

**Answer: B**



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10. Total oxygen that can be carried by blood is

A. A)1000-1200 ml

B. B)2000-3000 ml

C. C)200 ml

D. D)100 ml

**Answer: A**



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11. Oxygen carried by blood is liberated in

A. arteries

B. capillaries of body

C. veins

D. heart

**Answer: B**



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**12.** The respiratory centre in the brain is stimulated by

- A. carbon dioxide content in venous blood
- B. carbon dioxide content in arterial blood
- C. oxygen content in venous blood
- D. oxygen content in arterial blood

**Answer: B**



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**13.** Gases diffuse over the respiratory surface because of  $PO_2$

A. is more in alveoli than in blood

B. is more in blood than in tissues

C. is less in alveoli than in blood

D. is less in blood than in tissues

**Answer: C**



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**14. Dead space is**

A. respiratory tract

B. nasal chambers only

C. alveolar space

D. pleural cavity

**Answer: A**



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**15.** In lungs there is definite exchange of ions between RBC and plasma. Removal of  $CO_2$  from blood involves

A. influx of  $\text{Cl}^-$  ions into RBC

B. Efflux of  $\text{Cl}$  form plasma

C. Influx of  $\text{HCO}_3$  ions Into RCB

D. Efflux of  $\text{HCO}_3$  ions from RBC

**Answer: C**



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

A.The blood transports  $\text{CO}_2$  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 oxyhaemoglobin ( $HbO_2$ ) of the erythrocytes is basic. E. The chloride ions diffuse from plasma into the erythrocytes to maintain ionic balance.

A. A)(i) , (iii) and (v) are true (ii) and (iv) are false

B. B)(i) , (iii) and (v) are false (ii) and (iv) are true

C. C)(i) , (ii) and (iv) are true (iii) and (v) are false

D. D)(i) ,(ii) and (iv) are false (iii) and (v) are true

**Answer: A**



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17. Which is true ?

A.  $P_{cO_2}$  of deoxygenated blood is 95 mm hg

B.  $P_{CO_2}$  of alveolar air is 40 mm Hg

C.  $P_{CO_2}$  of oxygenated blood is 95 mm Hg

D.  $P_{CO_2}$  of deoxygenated blood is 40 mm Hg

**Answer: B**



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18. With decrease in temperature, oxyhaemoglobin curve will become

A. straight

B. more steep

C. parabolic

D. none of these

**Answer: B**



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19. Which is true?

A.  $H^+$  ions released from carbonic acid combine with haemoglobin to form haemoglobinic acid

B. oxyhamoglobin of ertyhrocytes is alkaline

C. more than 70% of carbon dioxide is trnsferred form tissure to lungs as

carbam in to compounds

D. in healthy person haemoglobin content

is more than  $25 \frac{g}{100} \text{ ml}$

**Answer: A**



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**20.** Which is the correct sequence of air passage during inhalation ?

A. 1) nasal cavity → pharynx → trachea

→ larynx → bronchi → bronchioles

→ alveoli

B. 2) nasal cavity → pharynx → larynx

→ trachea → bronchi →

bronchioles → alveoli

C. 3) nasal cavity → larynx → pharynx

→ trachea → bronchi →

bronchioles → alveoli

D. 4) nasal cavity → larynx → bronchi

→ pharynx → trachea →

bronchioles → alveoli

**Answer: B**



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**21.** Food and air pathways are divided at

A. larynx

B. pharynx



C. stomach

D. oesophagus

**Answer: B**



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**22.** Glottis is a opening in the floor of

A. mouth

B. trachea

C. pharynx

D. diaphragm

**Answer: C**



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**23.** Thyroid cartilage and arytenoid cartilage are found in

A. throid gland

B. pharynx

C. Larynx

D. Ear pinna

**Answer: C**



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**24. Adam's Apple represents**

A. cirocid carilage

B. thyroid cartilage

C. pharynx

D. none of these

**Answer: B**



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**25.** The structure which does not contribute to the breathing movements in mammals

A. rib

B. larynx

C. diaphragm

D. intercostal muscles

**Answer: B**



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**26.** In human, oblique fissure is present in

- A. right lung
- B. left lung
- C. both lungs
- D. diaphragm

**Answer: C**



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27. Even when there is no air in it, human trachea does not collapse due to the presence of

- A. bony rings
- B. turgid pressure
- C. chitinous rings
- D. cartilaginous rings

**Answer: D**



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28. Lining of trachea is made up of

- A. stratified ciliated epithelium
- B. pseudostratified ciliated epithelium
- C. simple squamous epithelium
- D. stratified cuboidal epithelium

**Answer: B**



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29. The narrowest and most numerous tubes of lungs are termed as

A. hillum

B. alveoli

C. tracheae

D. bronchioles

**Answer: D**



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**30.** Terminal bronchioles branch to form

A. alveoli

B. bronchioles

C. alveolar duct

D. respiratory bronchiole

**Answer: D**



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31. Which one of the following has the smallest diameter?

A. trachea

B. secondary bronchiole

C. respiratory bronchiole

D. left primary bronchus

**Answer: C**



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**32.** Lungs alveoli of mammals have a thin wall composed of

- A. simple cuboidal epithelium
- B. simple squamous epithelium
- C. stratified cuboidal epithelium
- D. stratified squamous epithelium

**Answer: B**



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**33.** The alveolar epithelium in the lung is

- A. ciliated columnar
- B. ciliated squamous
- C. nonciliated squamous
- D. nonciliated columnar

**Answer: C**



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**34.** Presence of large number of alveoli around alveolar ducts opening in to bronchioles in mammalian lungs is

A. an efficient system of ventilation with no residual air

B. an efficient system of ventilation with little residual air

C. inefficient system of ventilation with little of residual air

D. inefficient system of ventilation with high percentage of residual air

**Answer: B**



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**35.** Which structure are responsible for breathing process?

A. 1) larynx and bronchi

B. 2) tracheae and alveoli

C. 3) intercostal muscles and diaphragm

D. 4)Diaphragm

**Answer: D**



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**36.** Which of the following statements is correct ?

A. inspiration is an active process

B. inspiratin is a passive process

C. expiration is an active process

D. both expiration and inspiration are passive processes

**Answer: A**



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**37. During expiration, the diaphragm becomes**

A. normal

B. oblique



C. flatttened

D. dome shapped

**Answer: D**



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**38.** During inspiration the diaphragm

A. relaxes to become dome shaped

B. contracts and flattens

C. shows no change

D. expands

**Answer: B**



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**39.** Which one o the following is called inspiratory muscle in mammals?

A. pleural muscle

B. external intercostal muscle

C. internal intercostal muscle

D. abdominal muscles

**Answer: B**



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**40.** During inspiration in mammals the sternum moves

A. forward and upward

B. backward and upward

C. forward and downward

D. backward and downward

**Answer: A**



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**41. Which is correct ?**

A. a human lung has 1000 alveoli

B. respiratory centers are not affected by

$CO_2$

C. during inspiration the lungs act as suction pump

D. in human vital capacity is just double the expiratory volume

**Answer: C**



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**42.** The contraction of internal intercostal muscles in man causes

A. normal expiration

B. inspiration

C. forced expiration

D. normal respiration

**Answer: C**



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**43.** During forced expiration , actively contracting muscles

A. diaphragm

B. external intercostals

C. abdominal muscles

D. all of these

**Answer: C**



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**44.** With reference to human respiration which is correct ?

A. pulmonary ventilation is equal to alveolar ventilation

B. alveolar ventilation is more than pulmonary ventilation

C. pulmonary ventilation is less than alveolar ventilation

D. alveolar ventilation is less than pulmonary ventilation

**Answer: D**



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**45.** Rate of breathing in an adult human is

A. 10-12/ min

B. 12-18 / min

C. 20-25 / min

D. 30-35 / min

**Answer: B**



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**46.** The breathing rate in a baby is

A. more than in an adult man

B. less than in an adult man

C. same as in an adult man

D. none of the above

**Answer: A**



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47. Which of the following statements best summarises the relationship between respiratory rate and body size in related animals ?

A. larger the animal higher the respiration rate

B. smaller the animal lower the respiration rate

C. smaller than animals higher the respiratory rate

D. size and respiratory rate are not related  
in any fashion

**Answer: C**



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

A. increase in  $O_2$  content of inhaled air

B. decrease in  $O_2$  content of exhaled air

C. increase of  $CO_2$  content in inhaled air

D. increase of  $CO_2$  content in exhaled air

**Answer: C**



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**49.** The exchange of gases between blood capillaries and alveoli in the lung is through

A. active transport

B. simple diffusion

C. osmosis

D. all of these

**Answer: B**



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**50.** Volume of air breathed in and out during normal breathing is called

A. tidal volume

B. vital capacity

C. residual volume

D. inspiratory reserve volume

**Answer: A**



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**51. Tidal volume in human being is**

A. 500 mL

B. 800 mL

C. 1000 mL

D. 1200 mL

**Answer: A**



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52. About 1200 mL of air is always known to remain inside the human lungs it is described as

A. 1)functional residual capacity



B. 2)residual volume

C. 3)expiratory reserve volume

D. 4)inspiratory reserve volume

**Answer: B**



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**53.** The amount of air remaining in the air passages and alveoli at the end of quiet respiration is

A. tidal volume

B. residual volume

C. inspiriting reserve volume

D. functin residual capacity

**Answer: D**



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

A. vital capacity

B. total lung capacity

C. inspiratory capacity

D. functional residual capacity

**Answer: B**



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**55. Vital capacity of lungs is**

A. 1)IRV+ERV

B. 2)  $IRV+ERV+TV$

C. 3)  $IRV+ERV+TV-RV$

D. 4)  $IRV+ERV+TV+RV$

**Answer: B**



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**56.** vital capacity of lungs of an average human is

A. 1200 ml

B. 2400 MI

C. 4000 MI

D. 6000 MI

**Answer: C**



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**57.** After the expiration of a normal tidal volume a person breathes in as much as air possible the volume of air inspired is the

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

**Answer: B**



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**58.** The maximum amount of air that our lung can normally hold is

A. vital capacity

B. tidal capacity

C. total lung capacity

D. pulmonary capacity

**Answer: C**



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**59.** The total lung capacity is represented by

A. 1)tidal volume + vital capacity

B. 2)tidal volume + functional residual capacity

C. 3)vital capacity + residual volume

D. 4) inspiratory and expiratory reserve volumes

**Answer: C**



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

1) Tidal volume

2) Residual volume

3) Expiratory reserve volume

4) Vital capacity

A. A=1, B=3, D=2, E=4

B. A=3 B=1 C=4 D=5 E=2

C. A=5 B=4 C=2 D=1 E=2

D. A=3 B=1 C=2 D=5 E=4

**Answer: B**



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**61. Match the items in column I with column II**

<b>Column I</b>	<b>Column II</b>
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



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62. Given these lung volumes . Choose which one is correct

A. 3500 mL -Expiratory Reserve Volume  
(ERV)

B. 1000 mL - Inspiratory Reserve Volume  
(IRV)

C. 6000 mL - Tidal Volume (TV):

D. 3000 mL - Residual Volume (RV)

**Answer: B**





**63.** The alveolar ventilation is the

- A. amount of air available for gas exchange  
in the lungs
- B. vital capacity divided by the respiratory  
rate
- C. tidal volume times the respiratory rate
- D. minute ventilation plus the dead space

**Answer: A**



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**64.** the partial pressure of oxygen in the alveolar air is

A. 1)104 mmHg

B. 2)120 mmHg

C. 3)40 mmHg

D. 4)90 mmHg

**Answer: A**



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**65.** Which of these statements about the partial pressure of  $CO_2$  is true ?

- A. more in inspired air than in expired air
- B. more in alveolar air than in expired air
- C. more in expired air than in alveolar air
- D. more in inspired air than in alveolar air

**Answer: B**



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**66.** How the transport of  $O_2$  and  $CO_2$  by blood happens?

- A. with the help of rbc's and wbc's
- B. with the help of wbc's and blood serum
- C. with the help of platelets and plasma

D. with the help of rbc's and the blood plasma

**Answer: D**



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**67.** Oxygen is transported in blood mainly by

- A. 1)leucocytes
- B. 2)erythrocytes
- C. 3)thrombocyte



D. 4)blood plasma

**Answer: B**



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**68.** Which form of iron is found in haemoglobin ?

A. 1)  $fe^{2+}$

B. 2)  $fe^{3+}$

C. 3)in the form of molecule

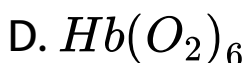
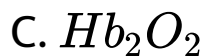
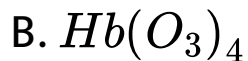
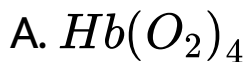
D. 4)in the form of feO

**Answer: A**



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**69.** The chemical formula of oxyhaemoglobin is



**Answer: A**



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**70.** how many molecules of oxygen are bound to one molecule of haemoglobin

A. one

B. two

C. three

D. four

**Answer: D**



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**71.** The most important physiological feature of haemoglobin is

- A. its red colour
- B. presence of iron
- C. presence of basic protein globi

D. its ability to combine reversibly with oxygen

**Answer: D**



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**72.** Percentage of oxygen supplied by haemoglobin is

A. A) 0.03

B. B) 0.7

C. C)0.97

D. D)1

**Answer: C**



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**73.** The percentage of haemoglobin saturated with oxygen will increase if the

A. arterial pH is decreased

B. temperature is increased

C. arterial  $PaO_2$  is increased

D.  $CO_2$  concentration is increased

**Answer: C**



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**74.** Which of the following increases the oxygen affinity of Hb?

A. decrease in pH

B. decrease in acidity

C. decrease in temperature

D. decrease in  $CO_2$  concentration

**Answer: B**



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**75.** In which condition oxygen dissociation curve of haemoglobin shift to right of normal curve ?

A. decrease in pH



B. decrease in acidity

C. decrease in temperature

D. decrease in  $CO_2$  concentration

**Answer: A**



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**76.** Dissociation of oxyhaemoglobin can be promoted by

A. low  $pO_2$

B. high  $p_{CO_2}$

C. high blood pH

D. low body temperature

**Answer: B**



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77. What would happen if human blood becomes acidic ( low pH ) ?

A. WBC count increases

B. RBC count decreases

C. oxygen carrying capacity of haemoglobin  
increases

D. oxygen carrying capacity of haemoglobin  
decreases

**Answer: D**



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78. When partial pressure of  $CO_2$  ( $pCO_2$ ) rises the oxygen dissociation curve of haemoglobin will

1. shift towards left
2. become irregular
3. remain unchanged
4. shift towards right

A. shift towards left

B. become irregular

C. remain unchanged

D. shift towards right

**Answer: D**



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**79.** An increase in the  $P_{50}$  of an oxyhaemoglobin curve would result from a decrease in

A. pH

B. carbon dioxide

C. metabolism

D. temperature

**Answer: A**



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**80.** Bohr effect is the effect of

A.  $CO_2$  on RBCs

B.  $O_2$  on the hemoglobin

C.  $CO_2$  on haemoglobin

D.  $CO_2$  on oxyhaemoglobin

**Answer: D**



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**81.** Which of the following statement correctly defines "Bohr effects"

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

B. rise in  $P_{50}$  with a decrease in  $CO_2$   
concentration

C. Rise in  $P_{50}$  with an increase in  $CO_2$  concentration

D. Rise in  $P_{50}$  with an increase in pH and decrease in  $P_{CO_2}$

**Answer: C**



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**82.** Which of the following factors raise the  $P_{50}$  value and shifts the  $HbO_2$  dissociation curve to the right? 1. Rise in  $P_{CO_2}$  2. Fall in



temperature 3. Rise in  $H^+$  (=fall in pH) 4. Fall in diphosphoglyceric acid

A. 1 and 2 are correct

B. 2 and 4 are correct

C. 1 and 3 are correct

D. 1,2 and 3 are correct

**Answer: C**



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83.  $CO_2$  is carried in blood as

A. sodium bicarbonate

B. sodium carbonate

C. potassium carbonate

D. magnesium carbonate

**Answer: A**



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**84.** Bicarbonate ions are generated in

A. RBCs

B. basophil

C. neutrophil

D. lymphocytes

**Answer: A**



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

- A. plasma only
- B. RBCs and WBCs
- C. plasma and RBCs
- D. Red blood corpuscles only

**Answer: C**



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86. Enzyme involved in  $CO_2$  transport blood is

- A. carboxylase
- B. carboxykinase
- C. carbonic anhydrase
- D. none of these

**Answer: C**



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**87.** In lungs there is definite exchanged of ions between RBC and plasma Removal of  $CO_2$  form blood involves

- A. influx of  $Cl^-$  ions into RBC
- B. efflux of  $Cl^-$  ions from RBC
- C. influx of  $Na^+$  ions into RBC
- D. efflux of ions from RBC

**Answer: B**



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88. Hamburger phenomenon explains

A. chloride shift

B. formation of  $HCO_3$

C. breathing mechanism

D. oxygen saturation of Hb

**Answer: A**



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89. Chloride shift occurs in response to



**Answer: D**



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90. In the process of transport of  $CO_2$ , which phenomenon occurs between RBCs and plasma ?

- A. osmosis
- B. adsorption
- C. absorption
- D. chloride shift

**Answer: D**



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91. Let's find if the following statements are true or false.

The diagonals of any rectangular figure are equal.

A. a ,c and e are true b and d are false

B. a, b and c are true d and e are false

C. a,b and d are true c and e are false

D.

**Answer: A**



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92. As the  $P_{CO_2}$  of the venous blood increases the

1. blood pH decreases
2. concentration of  $HCO_3$  decrease
3. amount of chloride in the rbc's decrease
4. affinity of the haemoglobin for  $O_2$  increases

A. blood pH decreases

B. concentration of  $HCO_3$  decrease

C. amount of chloride in the rbc's decrease

D. affinity of the haemoglobin for  $O_2$   
increases

**Answer: A**



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**93.** Which is true for  $CO_2$  partial pressure ?

A. it is higher in the alveoli than in  
pulmonary arteries

B. it is higher in the systemic arteries than in the tissues

C. it is higher in the systemic veins than in the systemic arteries

D. it is higher in the pulmonary veins than in pulmonary arteries

**Answer: C**



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94. Haemoglobin has maximum affinity to

A.  $NH_3$

B.  $O_{23}$

C.  $CO$

D.  $CO_2$

**Answer: C**



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95. When a man inhales air containing normal concentration of  $O_2$  as well as CO he suffers from suffocation because

A. 1) Haemoglobin combines with CO instead of with  $O_2$  and product cannot dissociate

B. 2) CO reacts with  $O_2$  reducing percentage of  $O_2$  in the blood

C. 3) CO affects the diaphragm and intercostal muscles

D. 4)CO affects the nerve of the lungs

**Answer: A**



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**96.** Carbon monoxide has greater affinity for haemoglobin as compared to oxygen :

A. 2 times

B. 20 times

C. 250 times



D. 1000 times

**Answer: C**



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**97.** Pneumotaxic centre which can moderate the functions of the respiratory rhythm centre is present at

A. thalamus

B. spinal cord

C. pons varolii

D. left cerebral hemisphere

**Answer: C**



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**98.** The inspiratory and expiratory centres in man are located in

A. pons

B. cerebellum

C. medulla oblongata

D. one in pons and the other in cerebellum

**Answer: C**



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**99.** The Dorsal Respiratory group (DRG) is located

A. dorsal portion of pons

B. ventral portion of pons

C. dorsal portion of medulla oblongata

D. ventral portion of medulla oblongata

**Answer: C**



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**100.** Which of these parts of the brainstem is correctly matched with its main function ?

1. ventral respiratory groups stimulate the diaphragm contracting
2. dorsal respiratory groups limit inflation of

the lungs

3. pontine respiratory group switch between inspiration and expiration

4. all of the above

A. ventral respiratory groups stimulate the diaphragm contraction

B. dorsal respiratory groups limit inflation of the lungs

C. pontine respiratory group switch between inspiration and expiration

D. all of the above

**Answer: C**



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**101.** The respiratory centre in medulla may release motor impulses for faster breathing due to

- A. venous blood leaving it
- B. arterial blood leaving it
- C. venous blood entering into it
- D. arterial blood entering into it

**Answer: D**



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

- A. more  $CO_2$  concentration in blood
- B. more  $O_2$  concentration in blood
- C. accumulation of blood in brain
- D. all of the above

**Answer: A**



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**103.** Rate of breathing is maximally affected by

- A. oxygen in trachea
- B. concentration of  $O_2$
- C. concentration of  $CO_2$
- D. diaphragm expansion

**Answer: C**



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**104.** The impulse for voluntary muscles for forced breathing starts in

1. medulla

2. cerebrum

3. spinal cord

4. vagus nerve

A. medualla

B. cerebrum

C. spinai cord

D. vagus nerve

**Answer: B**



**Watch Video Solution**

**105.** The number of RBCs in man increases if he lives at a higher altitude because

1. there is less oxygen in mountains
2. there is more oxygen at the mountains
3. there are no germs in the air in mountain
4. more heat is required to be produced in the body for keeping warm

A. there is less oxygen in mountains

B. there is more oxygen at the mountains

C. there are no germs in the air in  
mountain

D. more heat is required to be produced in  
the body for keeping warm

**Answer: A**



**Watch Video Solution**

**106.** If a person living at sea level migrates to about 8000 feet high hill his blood after about fifteen days will mainly

1. have fewer wbcs

2. have more plasma

3. have increase in volume of serum

4. have greater number of rbcs and more haemoglobin

A. have fewer wbcs

B. have more plasma

C. have increase in volume of serum

D. have greater number of rvc's and more  
haemoglobin

**Answer: D**



**Watch Video Solution**

**107.** When some food particle enters the windpipe instead of oesophagus it is expelled by the process of

A. sneezing

B. coughing

C. yawning

D. hiccupping

**Answer: B**



**Watch Video Solution**

**108.** Lack of breathing is

A. apnea

B. eupnea

C. dyspnea

D. asphyxia

**Answer: A**



**Watch Video Solution**

**109.** Ordinary quiet breathing is

1. apnea

2. eupnea

3. dyspnea

4. asphyxia

A. apena

B. eupnea

C. dyspnea

D. asphyxia

**Answer: B**



**Watch Video Solution**

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

A. infection of lungs



B. infection of trachea

C. spasm in bronchial muscles

D. bleeding into pleural cavity

**Answer: C**



**Watch Video Solution**

**111.** In which disease, due to flattening of tracheal vessels, alveoli are deprived of oxygen

" " Or

Name the pulmonary disease in which alveolar

surface area involved in gas exchange is drastically reduced due to damage in the alveolar walls

A. asthma

B. bronchitis

C. pneumonia

D. emphysema

**Answer: A**



**Watch Video Solution**

**112.** Which of the following is not true about asthma ?

A. the basic defect is chronic air way inflammation

B. the airway smooth muscle is hyperresponsive

C. it can be treated with bronchiodilator therapy

D. it is always caused by an infection

**Answer: D**



**Watch Video Solution**

**113.** In heavy smoker the alveoli of the lungs are enlarged and damaged which reduces the surface area of the exchange of respiratory gases this condition is called

1. asthma
2. silicosis
3. insomnia
4. emphysema

A. asthma

B. silicosis

C. insomina

D. emphysema

**Answer: D**



**Watch Video Solution**

**114.** Match the disorders given in column I with symptoms under column II choose the answer which gives the correct combination of

## alphabets with number

Column I	Column II
A Asthma	1. Inflammation of nasal tract
B Bronchitis	2. Spasm of tracheal muscle
C Rhinitis	3. Fully blown out alveoli
D Emphysema	4. Inflammation of bronchi 5. Cough with blood stained sputum

A.  $a=4, b=2, c=5, d=1$

B.  $a=2, b=4, c=1, d=3$

C.  $a=5, b=3, c=2, d=1$

D.  $a=3, b=1, c=5, d=4$

**Answer: B**



**Watch Video Solution**

**115.** Hypoxia is the condition in which less oxygen becomes available to the tissue this may be due to

- A. lesser oxygen in the atmosphere
- B. blockage in air passage
- C. less RBCs in blood
- D. all of the above

**Answer: D**



Watch Video Solution

**116.** Whether a child died after birth or died before birth can be confirmed by measuring

- A. the dead space air
- B. tidal volume of air
- C. residual volume of air
- D. the weight of the child

**Answer: C**





**117.** About 97 % of oxygen is transported by RBC. The remaining 3 % is

1. present in peroxisomes
2. remains in lungs
3. trapped inside the mitochondria
4. dissolved in plasma and transported

A. present in peroxiosmes

B. remains in lungs

C. trapped inside the mitochondria

D. dissolved in plasma and transporte

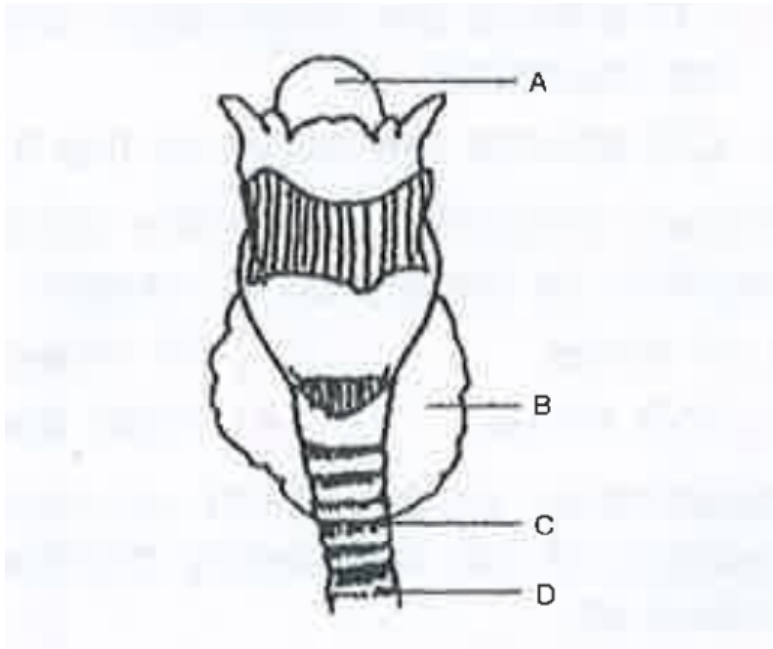
**Answer: D**



**Watch Video Solution**

**118.** The diagram represents the human larynx  
choose the correct combination of labelling

from the option given



A. a=larynx ,b = parathyroid , c= tracheal cartilage ,d =trachea

B. a=nasolarynx ,b = thyroid ,c = tracheal cartilage , d= trachea

C. a = trachea , b =thyroid c = bronchiole, d  
= tracheal cartilage

D. a= epiglottis b = thyroid c = tracheal  
cartilage d =trachea

**Answer: D**



**Watch Video Solution**

**119.** Lack of pulmonary surfactant produces

A. asthma

B. emphysema

C. cystic fibrosis

D. respiratory distress syndrome

**Answer: D**



**Watch Video Solution**

**120.** In the resting person saturation of hemoglobin as blood leaves the tissue capillaries is approximately

1. 0.75

2. 0.4

3. 0.03

4. 0.46

A. 0.75

B. 0.4

C. 0.03

D. 0.46

**Answer: A**



**Watch Video Solution**

**121.** Read the following statement and select the correct one

1. oxyhaemoglobin of erythrocytes is alkaline
2. in a healthy person the haemoglobin content is more than 25 g per 100 ml
3. in lungs the oxygen from the alveolus reaches the blood though active transport
4. the  $h^+$  released from carbonic acid combines with haemoglobin to form haemoglobinic acid

A. oxyhaemoglobin of erythrocytes is alkaline

B. in a healthy person the haemoglobin content is more than 25 g per 100 ml

C. in lungs the oxygen from the alveolus reaches the blood though active transport

D. the  $H^+$  released from carbonic acid combines with haemoglobin to form haemoglobinic acid



**Answer: D**



**Watch Video Solution**

**122.** When the oxygen supply to the tissue is inadequate the condition is

1. asphyxia
2. apnea
3. dyspnea
4. hypoxia

A. asphuyxia

B. apnea

C. dyspnea

D. hypoxia

**Answer: D**



**Watch Video Solution**

**123.** Oxygen affinity of haemoglobin is increased by all of the following except

A. alkalosis

B. hypoxia

C. increased hbf

D. hypothermia

**Answer: B**



**Watch Video Solution**

**124.** All are features of exercise except

A. left shift of hb - $O_2$  dissoication curve

B. increased blood supply to muscle

C. increase stroke volume

D. increase  $O_2$  extraction

**Answer: A**



**Watch Video Solution**

**125.** Vital capacity, the maximum volume of air a person can inhale, is measured with

A. spirometer

B. stethoscope

C. aspirator

D. sphygmomanometer

**Answer: A**



**Watch Video Solution**

**126.** Go through the following statements carefully

A. i, ii & iii

B. ii, iii & iv

C. I, ii & iv

D. iii & iv

**Answer: B**



**View Text Solution**

127. Go through the following matches

Organism	Disease caused	Group of the organism
(i) <i>Varicella zoster</i>	Mumps	Virus
(ii) <i>Balantidium coli</i>	Ciliary dysentery	Bacteria
(iii) <i>Shigella</i>	Diarrhoea	Bacteria
(iv) <i>Treponema pallidum</i>	Syphilis	Bacteria

Which of these are correct?

A. I,ii & iii

B. I,iii & iv

C. ii , iii & iv

D. all are correct

**Answer: B**



**Watch Video Solution**

**128.** Which match is incorrect

A. inspiratory t.v + irv 3500

B. vital capacity erv+irv +rv 5000

C. functional residual capacity erv + rv 2200

D. expiratory capacity tv+ erv 1500



**Answer: B**



**Watch Video Solution**

**129.** Read the following statement about human respiration  
(i) trachea divides at the level of 6th thoracic vertebra

(ii) terminal bronchioles alveoli and their ducts form the respiratory part of this system

(iii) contraction of diaphragm increases volume of thoracic chamber do so ventrally

(iv) the internal intercostals help in inspiration

A. all except (iv) are true

B. only (iii) and (iv) are false

C. only (i) is true

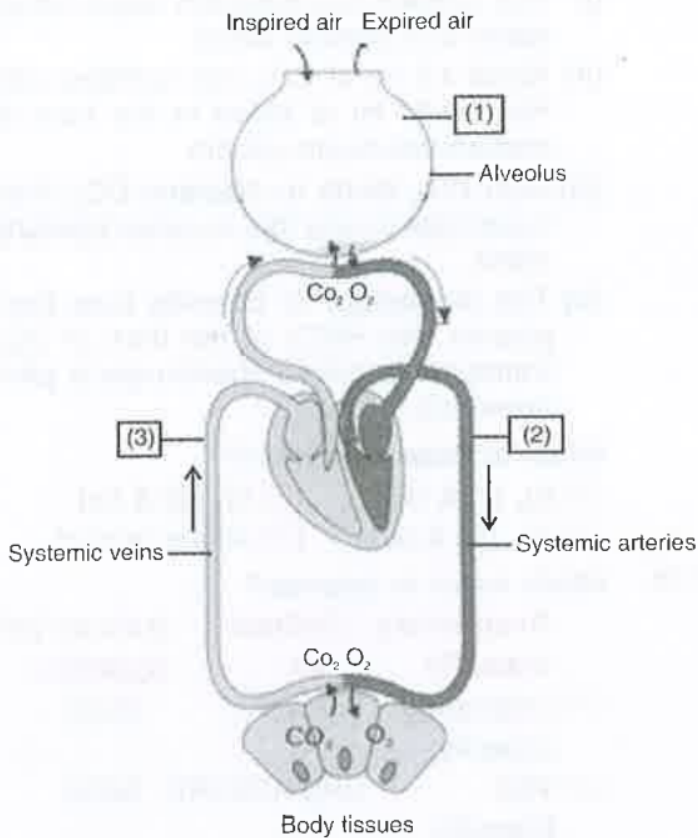
D. none is true

**Answer: D**



**Watch Video Solution**

**130.** The following diagram shows exchange of gases between alveolus and body tissue with direction of flow of blood indicated



which option correctly indicates the normal  $pCO_2$  level (in mm Hg) in 1,2 and 3 in order

A. 104,95,45

B. 40,40,45

C. 40,45,45

D. 40,40,95

**Answer: B**



**Watch Video Solution**

**131.** When  $CO_2$  is exhaled out of the lungs which layers does it pass through in the correct order from inside to outside ?

A. ciliated epithelium basement membrane

endothelium

B. endothelium basement membrane

simple cuboidal epithelium

C. simple squamous epithelium basement

membrane endothelium

D. endothelium basement membrane

simple squamous epithelium

**Answer: D**



**Watch Video Solution**

**132.** A yoga teacher is demonstrating the technique of breathing exercise during forced expiration the actively contracting muscles in his body include

- A. diaphragm
- B. sternocleidomastoid
- C. abdominal muscles
- D. external intercostals

**Answer: C**



Watch Video Solution

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

A.  $(iii) < (i) < (iv) < (ii)$

B.  $(iv) < (i) < (iii) < (ii)$

C.  $(iv) < (ii) < (i) < (iii)$

D.  $(iii) < (iv) < (ii) < (i)$

**Answer: A**



**134.** Increase in concentration of bicarbonated in blood plasma would result in increased

A. ventilation of lungs

B. urination

C. ultrafiltration

D. salivation

**Answer: A**





**135.** The correct statement about respiration are

(i) In cockroach gaseous exchange occurs mainly between tracheoles and haemolymph

(ii) increase in inspiratory capacity does not involve an increase in tidal volume

(iii) partial pressure of oxygen in blood is less than that in alveoli

(iv) chloride shift in erythrocytes maintain the ionic balance

A. I and ii

B. I iii and iv

C. I ii and iv

D. ii and iii

**Answer: B**



**Watch Video Solution**

**136.** Read the following statements (i) the point of bifurcation of trachea is called carina and is at the level of 5th thoracic vertebra

(ii) the right bronchus is shorter wider and more in line with trachea than the left bronchus (iii) the bronchioles are without cartilaginous rings (iv) the surfactant of lungs is secreted in infants between 6th and 7th month of life which of these are correct ?

A. i, ii & iii

B. ii , iii & iv

C. i, iii & iv

D. all are correct

**Answer: A**



Watch Video Solution

**137.** Go through the following matches

(i) functional residual capacity =  $ERV + IRV + RV$

(ii) expiratory capacity =  $TV + ERV$  (iii) vital

capacity =  $ERV + TV + IRV$

(iv) total lung capacity =  $RV + ERV + IRV$

which of these are correct ?

A. i, ii & iii

B. ii, iii & iv

C. i, & iii

D. ii & iii

**Answer: D**



**Watch Video Solution**

**138.** Go through the following values

(i) residual volume -1200 ml

(ii) vital capacity -5.5 to 6.5 litres

(iii) expiratory reserve -1100ml

(iv) minute respiratory volume -6000 to 8000

ltr which of these are correct ?

A. I , ii & iii

B. ii, iii & iv

C. I , ii & iv

D. all are correct

**Answer: C**



**Watch Video Solution**

**139.** Go through the following statements (i) the peripheral chemoreceptors for regulation of respiration are located in carotid veins and

arch of aorta

(ii) the primary effect of pneumotaxic centre is to control the switch off point of inspiratory signal and thus limit inspiration

(iii) the chemosensitive area of brain for respiratory control is highly sensitive to  $O_2$  concentration

(iv) in case of fetal haemoglobin the oxygen haemoglobin dissociation curve is shifted toward left therefore which of these are correct ?

A. i, ii & iv

B. ii and iv

C. ii , iii & iv

D. iii and iv

**Answer: B**



**Watch Video Solution**

**140.** Go through the following statements

(i) haemoglobin is 50% saturated at around 40-

50 mm gh

(ii) maternal haemoglobin has greater affinity

for  $O_2$  as compared to foetal haemoglobin



(iii) olfactory epithelium of nose is called  
schneiderian membrane

(iv) the level of  $CO_2$  has stronger effect on  
regulation of breathing as compared to  $O_2$   
level

which of these are correct ?

A. I , iii & iv

B. ii & iii

C. I,ii & iii

D. iii & iv

**Answer: D**



Watch Video Solution

141.  $O_2$  dissociation curve is shifted to right in all except

- A. hype capenea
- B. rise in temperature f
- C. raised 2.3 dpg level
- D. metabolic alkalosis

**Answer: D**



142. It is dangerous to hold breath after prolonged hyperventilation because

A. lungs can collapse

B.  $CO_2$  narcosis

C. due to the lack of stimulation by  $CO_2$

anoxia can come close to dangerous

levels

D. decreased  $CO_2$  shift the oxygen dissociation curve to the left

**Answer: C**



**Watch Video Solution**

**143.** External respiration allows the exchange of carbon dioxide for oxygen at any altitude which of the following is not an adaptation to living high above the sea level ?

- A. an increase in 2,3 bpg concentration  
which shifts the  $O_2$  dissociation curve to  
the right
- B. increased production of red blood cells  
by the bone marrow
- C. decreased synthesis of erythropoietin by  
the kidney
- D. hyperventilation

**Answer: C**



**Watch Video Solution**

**144.** Which of the following would be expected to have the greatest effect on the breathing effort ?

A. slight change in venous carbon dioxide

B. large decrease in arterial oxygen

C. large increase in arterial carbon dioxide

D. no change in hydrogen ion concentration

**Answer: C**



**Watch Video Solution**

**145.** Which of the following statement correctly describes the respiratory tract ?

I the right lung is larger than the left

II expiration is predominantly a passive phenomenon

III air enters the lungs because of created negative pressure

A. I only

B. I and ii only

C. ii and ii only

D. i ii and iii

**Answer: D**





**Watch Video Solution**


**146.** Choose the combination of condition in a tissue that would influence the most rapid



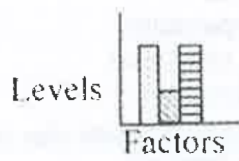
# dissociation of oxyhaemoglobin

 Temperature

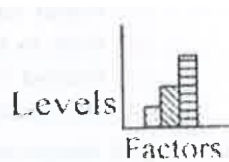
 Oxygen

 Carbon dioxide

A.



B.



C.



D.



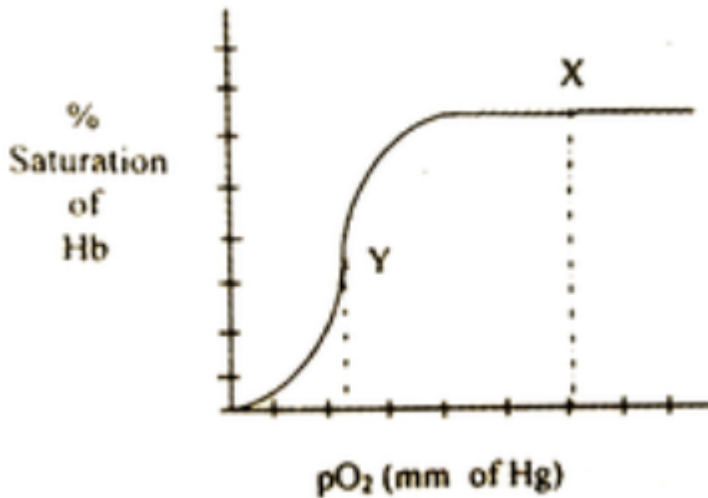
**Answer: A**



**Watch Video Solution**

**147.** The accompanying graph depicts the % saturation of vertebrate haemoglobin with

oxygen what does x and y indicate ?



A. X oxygenated blood y deoxygenate  
blood

B. x deoxygenated blood y oxygenated  
blood

C. x blood of haemophilic person y blood of normal person

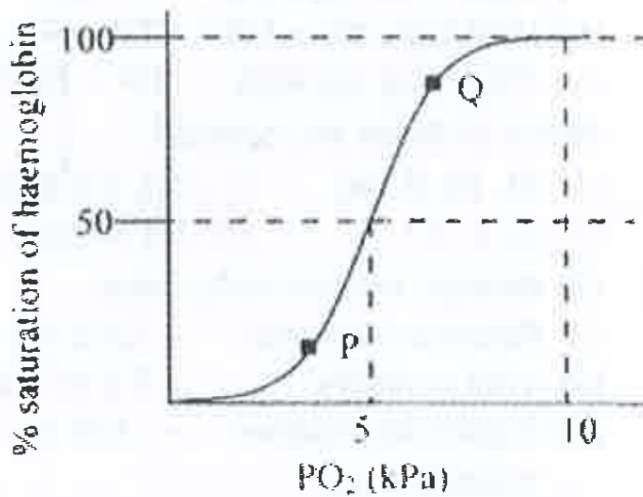
D. x blood of foetus y blood of adult

**Answer: A**



**Watch Video Solution**

**148.** Oxygen saturation curve of haemoglobin molecule is show in the graph



The correct representation of haemoglobin molecule at points p and q is respectively

- A.  $HbCO_2$  and  $HbO_4$
- B.  $HbCO$  and  $HbCO_2$
- C.  $HbO_2$  and  $HbO_8$
- D.  $HbO_4$  and  $HbO_6$

**Answer: C**



**Watch Video Solution**

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

- A. Reduced breathing rate
- B. Rapid increase in brathing rate
- C. No change in respiration
- D. Cessation of breathing

**Answer: D**



**Watch Video Solution**

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

A. inspiration is a passive process where as

expiration is active

B. inspiration is an active process where as

expiration is passive

C. inspiration and expiration are active processes

D. inspiration and expiration are passive processes

**Answer: B**



**Watch Video Solution**

**151.** 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: C**



**Watch Video Solution**

**152.** 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 centre
- B. pneumotaxic centre
- C. apneustic centre
- D. chemosensitive centre

**Answer: B**



**Watch Video Solution**

153.  $CO_2$  dissociated from carbamino haemoglobin when

A.  $pCO_2$  is high &  $pO_2$  is low

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

C.  $pCO_2$  and  $pO_2$  are equal

D. none of the above

**Answer: B**



**Watch Video Solution**

**154.** 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 incorrect ii incorrect iii incorrect iv  
correct

B. I incorrect ii correct iii incorrect iv  
correct

C. I correct ii incorrect iii correct iv correct

D. I correct ii incorrect iii correct iv  
incorrect

**Answer: B**



**Watch Video Solution**

155. When  $CO_2$  concentration in blood increases breathing becomes

- A. slow and deep
- B. faster and deeper
- C. shallower and slow
- D. there is no effect on breathing

**Answer: B**



**Watch Video Solution**

**156.** 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 dioxide
- B. carbon monoxide
- C. carbon disulphide
- D. chloroform

**Answer: B**



Watch Video Solution

**157.** 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. 1) people get pollution free air to breath  
and more oxygen is available



B. 2) atmospheric  $O_2$  level is less and hence more RBCs are needed to absorb the required amount of  $O_2$  to survive.

C. 3) there is more uv radiation which enhances RBC production

D. 4) people eat more nutritive food there fore more rbc's are formed

**Answer: B**



**Watch Video Solution**

**158.** Which one of the following statement is in correct ?

A. the residual air in lungs slightly decreases the efficiency of respiration in mammals

B. the presence of non respiratory air sacs increases the efficiency of respiration in birds

C. in insects circulating body fluids serve to distribute oxygen to tissue

D. the principle of countercurrent flow facilitates efficient respiration in gills of fishes

**Answer: C**



**Watch Video Solution**

**159.** 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 hemoglobin

**Answer: B**



**Watch Video Solution**

**160.** what is vital capacity of our lungs

A. total lung capacity minus residual  
volume

B. inspiratory reserve volume plus tidal volume

C. total lung capacity minus expiratory reserve volume

D. inspiratory reserve volume plus expiratory reserve volume

**Answer: A**



**Watch Video Solution**

**161.** the haemoglobin of a human foetus

A. has a higher affinity for oxygen than that of an adult

B. has a lower affinity for oxygen than that of the adult

C. its affinity for oxygen is the same as that of an adult

D. has only 2 protein subunits instead of 4

**Answer: A**

---



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

A. high  $CO_2$  and high  $H^+$  concentration

B. low  $O_2$  concentration

C. high  $O_2$  concentration

D. all of the above

**Answer: A**



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**163.** Listed below are four respiratory capacities (i-iv) and four jumbled respiratory volumes of a normal human adult

---

<i>Respiratory capacities</i>	<i>Respiratory volumes</i>
(i) Residual volume	2500 mL
(ii) Vital capacity	3500 mL
(iii) Inspiratory reserve volume	1200 mL
(iv) Inspiratory capacity	4500 mL

A. I 4500 ml (ii) 3500 ml

B. ii 2500 ml iii 4500 ml

C. iii 1200 ml iv 2500 ml

D. iv 3500 ml I 1200 ml



**Answer: D**



**Watch Video Solution**

**164.** Which two of the following changes (A-D) 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. I and ii

B. ii and ii

C. iii and iv

D. I and iv

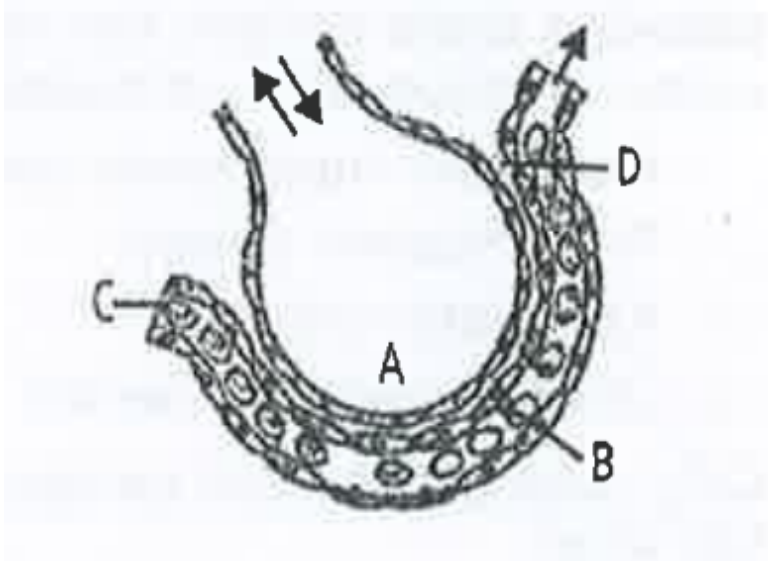
**Answer: B**



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**165.** The figure given below shows a small part of human lung where exchange of gases takes place in which one of the options given be low

the one part A,B,C or D is correctly identified  
along with its function



A. c: arterial capillary passes oxygen to  
tissues

B. a : alveolar cavity main site of exchange  
of respiratory gases

C. d: capillary wall - exchange of  $O_2$  and  $CO_2$

takes place here

D. b: red blood cell transport of  $CO_2$  mainly

**Answer: B**



**Watch Video Solution**

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

A. acts as a reserve during muscular exercise

B. raises the  $pCO_2$  of blood to 75 mm of hg

C. is enough to keep oxyhaemoglobin saturation at 96%

D. helps in releasing more  $O_2$  to the epithelial tissues

**Answer: A**



**Watch Video Solution**

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

A. Neural signals from pneumotoxic centre in pons region of brain can increase

B. worker in grinding and stone breaking industries may suffer from lung fibrosis

C. about 90% of carbon dioxide ( $CO_2$ ) is carried by haemoglobin as carbamino haemoglobin

D. cigarette smoking may lead to  
inflammation of bronchi

**Answer: B**



**Watch Video Solution**

**168.** People who have migrated from the  
planes to an area adjoining Rohtang pass  
about six months back

A. are not physically fit to play games like football

B. suffer from altitude sickness with symptoms like nausea fatigue etc

C. have the usual rvc count but their haemoglobin has very high binding affinity to  $O_2$

D. have more rvcs and their haemoglobin has a lower binding affinity to  $O_2$

**Answer: D**





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**169.** Which one of the following is a possibility for most of us in regards to breathing, by making a conscious effort

A. one can breathe out air totally without oxygen

B. one can breathe out air through eustachian tubes by closing both the nose and the mouth

- C. one can consciously breathe in and breathe out by moving the diaphragm alone without moving the ribs at all
- D. the lungs can be made fully empty by forcefully breathing out all air from them

**Answer: C**



**Watch Video Solution**

**170.** Bulk of carbon dioxide ( $CO_2$ ) released from body tissues into the blood is present as

- A. bicarbonate in blood plasma and RBCs
- B. free  $cO_2$  in blood plasma
- C. 70% carbamino haemoglobin and 30 %  
as bicarbonate
- D. carbamino haemoglobin in RBCs

**Answer: A**



**Watch Video Solution**

**171.** Oxygen dissociation curve of haemoglobin is

- A. sigmoid
- B. hyperbolic
- C. hypobolic
- D. hypobloic

**Answer: A**



**Watch Video Solution**

**172.** PH of blood in arteries and veins is

- A. more in veins less in arteries
- B. more in artieries less in veins
- C. same
- D. no defneite relation

**Answer: B**



**Watch Video Solution**

**173.** The left lung of human is divided in to

- A. one lobe
- B. two lobes
- C. three lobes
- D. four lobes

**Answer: B**



**Watch Video Solution**

**174.** A major percentage of  $O_2$  is transported by RBCs in the blood. What percentage of the

remaining of  $O_2$  is transported in dissolved form?

- A. 3 percent
- B. 97 percent
- C. 70 percent
- D. 7 percent

**Answer: B**



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175. What percent (%) of  $CO_2$  is transported as bicarbonate ( $HCO_3$ ) with the help of the enzyme carbonic anhydrase?

A. 0.7

B. 20-25%

C. 0.97

D. 0.07

**Answer: B**



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**176.** Muscles contains a red coloured oxygen storing pigment called : —

A. Haemoglobin combines with  $\text{CO}$  instead of with  $\text{O}_2$  and product cannot dissociate

B. myoglobin

C. erythrocytorin

D. hemolymph

**Answer: B**



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177. Expiratory capacity is

A. tidal volume

B. expiratory reserve volume

C. residual volume

D. sum of tidal volume and expiratory  
reserve volume

**Answer: D**



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178. The urge to inhale in humans results from

A. rising  $p_{CO_2}$

B. rising  $p_{O_2}$

C. falling  $p_{CO_2}$

D. falling  $p_{O_2}$

**Answer: A**



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**179.** A person is suffering from frequent episodes of nasal discharge, nasal congestion, reddening of eyes and watery eyes. These are the symptoms of

A. bronchial carcinoma

B. bronchitis

C. rhinitis

D. cyanosis

**Answer: C**



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**180.** The exchange of materials between blood and interstitial fluid is by

A. arteries

B. veins

C. capillaries of lungs

D. arterioles

**Answer: C**



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**181.** Oxygen carrying capacity of human blood is reduced due to the pollution of

A.  $CO_2$  on RBCs

B.  $CO$

C.  $SO_2$

D.  $O_3$

**Answer: B**



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**182.** Haemoglobin value for a healthy adult male is

A.  $10g / 100ml$

B.  $11g / 100ml$

C.  $12g / 100ml$

D.  $14 - 15g / 100ml$

**Answer: D**



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**183.** Exchange of gases between blood and lavelolar air in lugns occurs by

- A. simple diffusion
- B. active transport
- C. osmosis
- D. facilitated diffusion

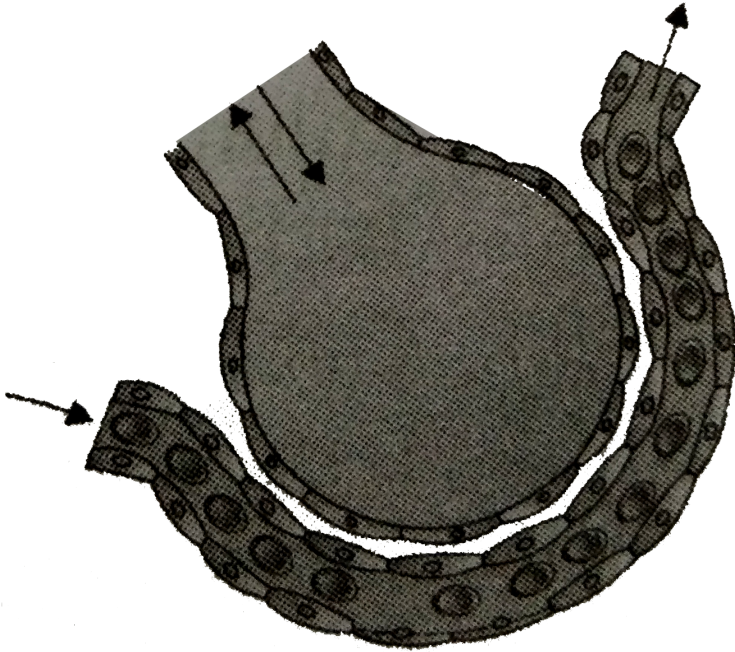
**Answer: A**



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



A. solubility of gases

B. thickness of the membranes

C. pressure gradient

## D. reactivity of gases

**Answer:**



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**185.** Pneumotaxic center which can moderate the functions of the respiratory rhythm centre is present at

A. pons region of brain

B. thalamus

C. spinal cord

D. right cerebral hemisphere

**Answer: A**



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**186.** Hypoxia corresponds to

A. any change in the relative rates of development of different cell lines in body

B. hardening and loss of elasticity of arteries

C. deficiency of oxygen in body tissues

D. sudden interruption of blood flow to a portion of brain due to blockage of cerebral blood vessel

**Answer: C**



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**187.** 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**



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**188.** Choose the right sequential phenomena among following during the delivery of  $O_2$  from blood to tissue

P. Absorption of  $CO_2$  by the blood

Q. Reaction of absorbed  $CO_2$  with  $H_2O$  to form  $H_2O_3$  within RBC and its conversion into  $H^+$  and  $HCO_3^-$  ions

R. Reaction of absorbed  $CO_2$  with  $H_2O$  in

plasma to form  $H_2CO_3$  and its conversion into  $H^+$  and  $HCO_3^-$

S. Combination of  $H^+$  with haem portion of  $HbO_2$  to release  $O_2$

T. Combination of  $HCO_3^-$  with heme portion  $HbO_2$  to form reduced haemoglobin and release of  $O_2$

A. p,q,t

B. p,r,s

C. p,q,s

D. p,r,t

**Answer: C**

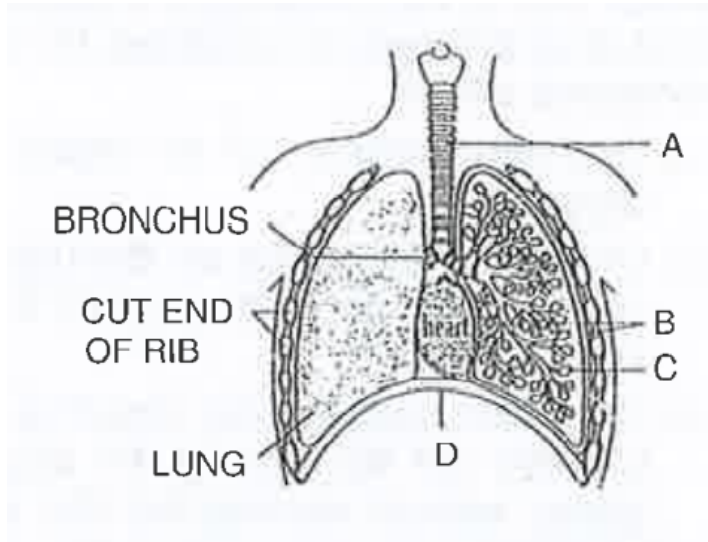


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**189.** The figure shows a diagrammatic view of human respiratory system with labels A,B,C and D select the option which gives correct identification and main function and / or



characteristic



A. c alveoli thin walled vascular bag like structures for exchanges of gases

B. d lower end of lungs diaphragm pulls it down during inspiration

C. a trachea long tube supported by complete cartilaginous rings for conduction inspired air

D. b pleural membrane surrounds ribs on both sides to provide cushion against rubbing

**Answer: A**



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

A. as carbamino haemoglobin

B. as bicarbonate ions

C. in the form of dissolved gas molecules

D. by binding to rbc

**Answer: B**



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**191.** 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**



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**192.** Name the chronic respiratory disorder caused mainly by cigarette smoking

- A. asthma
- B. respiratory acidosis
- C. respiratory alkalosis
- D. emphysema

**Answer: D**



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**193.** Reduction in pH of blood will

A. reduce the blood supply to the brain

B. decrease the affinity of hemoglobin with  
oxygen

C. release bicarbonate ions by the liver

D. reduce the rate of heart beat

**Answer: B**



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**194.** The partial pressure of oxygen in the alveoli of the lungs is

- A. equal to that in the blood
- B. more than that in the blood
- C. less than that in the blood
- D. less than that of carbon dioxide

**Answer: B**



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

1. there is a negative pressure in the lungs
2. there is a negative intrapleural pressure pulling at the lung walls
3. there is a positive intrapleural pressure
4. pressure in the lungs is higher than the atmospheric pressure

A. there is a negative pressure in the lungs



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

**Answer: B**



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**196.** Lungs are made up of air-filled sacs, the alveoli . They do not collapse even after forceful expiration because of

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

**Answer: A**



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**197.** Which of the following is an occupational respiratory disorder

A. emphysema

B. botulism

C. silicosis

D. anthracis

**Answer: C**



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

A. decreased respiratory surface

inflammation of bronchioles

B. increased respiratory surface

inflammation of bronchioles

C. increased number of bronchioles in

increased respiratory surface

D. inflammation of bronchioles decreased  
respiratory surface

**Answer: D**



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**199.** Match the items given column I with those  
in column II and select the correct option

given below :

**Column I**

- (a) Tidal volume
- (b) Inspiratory Reserve volume
- (c) Expiratory Reserve volume
- (d) Residual volume

**Column II**

- (i) 2500–3000 mL
- (ii) 1100–1200 mL
- (iii) 500–550 mL
- (iv) 1000–1100 mL

A. iv iii ii I

B. I iv ii iii

C. iii I iv ii

D. iii ii I iv

**Answer: C**



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