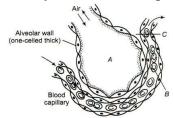
### **GPLUS EDUCATION**

D - 4		OCATION				
Dat Tin Mai			BIOLOGY			
	BREATHING AND EXCHANGE OF GASES					
	Single Correc	t Answer Type				
1.	Each haemoglobin molecule can carry maximum o	f				
	a) Two molecules of O <sub>2</sub>	b) Three molecules of O	2			
	c) Four molecules of O <sub>2</sub>	d) One molecules of O <sub>2</sub>				
2.	Hypoxia is caused due to					
	a) Lesser O <sub>2</sub> in atmosphere	b) Lesser RBC in blood				
	c) Lesser CO <sub>2</sub> in atmosphere	d) Both (a) and (b)				
3.	During oxygen transport, the oxyhaemoglobin at t	he tissue level liberates oxy	gen to the cells because			
	a) $O_2$ concentration is high and $CO_2$ is low	b) $0_2$ concentration is lo	ow and CO <sub>2</sub> is high			
	c) $O_2$ tension is low and $CO_2$ tension is high	d) $0_2$ tension is high and	l CO <sub>2</sub> tension is low			
4.	O <sub>2</sub> exchange with CO <sub>2</sub> by simple diffusion over the	e entire body surface takes p	olace in			
	I. sponges II. Coelenterates III. Flatworms					
	Select the correct option to complete the given sta	tement				
	a) I and II b) II and III	c) I and III	d) All of the above			
5.	Breathing involvesA during which atmospheri	c air is drawn in andB b	y which the alveolar air is			
	released out.					
	Choose the correct option for A and B to complete	the given NCERT statement				
	a) A-expiration; B-osmosis	b) A-expiration; B-inspir	ation			
	c) A-inspiration; B-expiration	d) A-inspiration; B-diffu	sion			
6.	If a large number of people are enclosed in a room	, then				
	a) Oxygen decreases and carbon dioxide increases	07112011				
	b) Oxygen increases and carbon dioxide decreases					
	c) Both oxygen and carbon dioxide decreases					
	d) Both oxygen and carbon dioxide increases					
7.	The total number of lobes and alveoli present in be	oth the lungs of man are				
	a) 17 and 30 million, respectively	b) 5 and 300 million, res	· ·			
	c) 19 and 300 million, respectively	d) 18 and 300 lakh, resp	ectively			
8.	Which of the following combines irreversibly with	<del>-</del>				
	a) SO <sub>2</sub> b) O <sub>2</sub>	c) CO	d) CO <sub>2</sub>			
9.	Identify the correct group of statements					
	I. Oxygen is carried by haemoglobin					
	II. Oxygen is carried by carbonic anhydrase					
	III. CO <sub>2</sub> is carried by haemoglobin					
	IV. SO <sub>2</sub> is carried by haemoglobin					
	V. Only oxygen is transported by the blood					
	VI. Only CO <sub>2</sub> is transported by the blood					
	Choose the correct option					
	a) I and VI b) II and III	c) IV and V	d) I and III			
10.	What is true about RBCs in humans?					
	a) They carry about 20-25 per cent of carbon diox	ide				
	b) They transport 99.5 per cent of oxygen					

- c) They transport about 80 per cent oxygen only and the rest 20 per cent of it is transported in dissolved state in blood plasma
- d) They do not carry carbon dioxide at all
- 11. Respiratory centre of the brain is stimulated by
  - a) CO<sub>2</sub> content in venous the blood
- b) CO<sub>2</sub> content in arterial the blood

c) O<sub>2</sub> content in arterial the blood

- d)  $O_2$  content in venous the blood
- 12. Identify *A*, *B* and *C* in the given diagram and choose the correct option accordingly



- a) A-Alveolar cavity, B-WBC, C-Capillary wall
- b) A-Alveolar cavity, B-RBC, C-Systemic wall
- c) A-Alveolar cavity, B-RBC, C-Capillary wall
- d) A-Alveolar cavity, B-WBC, C-Systemic wall
- 13. Why breathing is accelerated when the person opens his nose after holding the breathe by closing his nose?
  - a) CO<sub>2</sub> build up in the body

b) CO build up in the body

c) H<sup>+</sup> decreases in the body

- d) CO<sub>2</sub> decrease in body
- 14. Listed below are four respiratory capacities (I-IV) and four jumbled respiratory volumes of a normal human adult.

Respiratory Capacity	Respirato ry Volume
I.Residual volume	1.
II.Vital capacity	1.
III.Inspiratory reserve	1.
volume	
IV.Inspiratory capacity	4600 mL

Which one of the following is the correct matching of two capacities and volumes?

a) II 3000 mL, III 4600 mL

b) III 1200 mL, IV 3000 mL

c) IV 3500 mL, I 1200 mL

- d) I 4600 mL, II 3500 mL
- 15. Exchange of gases in lungs occurs through
  - a) Simple diffusion
- b) Active transport
- c) Osmosis
- d) Plasmolysis

6.	Partial pressure Of Gases	Blood (De oxy genated)	(Oxyge	Tissues	
	02	40	В	40	
	$CO_2$	Α	40	С	

Choose the correct option for A, B and C to complete the given data

- a) A-40, B-95, C-40
- b) A-45, B-95, C-45
- c) A-35, B-95, C-45
- d) A-35, B-95, C-95
- 17. Floating ribs of thoracic cage are
  - a) 1st to 7th pair
- b) 8th to 9th pair
- c) 8th to 10th pair
- d) 11th to 12th pair
- 18. At which thoracic vertebra does trachea divide into right and left primary bronchi?
  - a) 5

b) 6

c) 9

d) 4

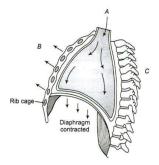
- 19. The partial pressure of oxygen in the alveolar air is
  - a) 45 mm Hg
- b) 95 mm Hg
- c) 104 mm Hg
- d) 110 mm Hg

- 20. Inspiration is initiated by
  - a) Extension of the diaphragm

b) Contraction of the diaphragm

			opius zaacadoi
	,	l) Contraction of the lungs	1
21.	Why do human beings face difficulty to breath in high $\epsilon$		D.I. O
22			d) Low $\rho O_2$
22.	During normal respiration without any effort the volume		
22		r) Residual volume	d) None of these
23.	Identify the different parts of the respiratory system in	accordance to their locat	tion given below
	I. Posterior part of the pharynx II. Present at the glottis		
	III. In front of oesophagus		
	Choose the correct option accordingly		
		o) I-Nasopharynx, II-Epigl	attic III Wind ning
		l) I-Larynx, II-Epiglottis, II	
24	The respiratory membranes facilitates the exchange of		
44.	the deoxygenated blood through diffusion because	Tespiratory gases unroug	ii uiiiusioii. Oxygeii eiiters
	a) Partial pressure of oxygen in alveolar air and capilla	uries is 40 mm Hg and 100	mm Ha recnectively
	b) Partial pressure of oxygen in alveolar air and capilla	_	_
	c) Partial pressure of oxygen in alveolar air and capilla		
	d) Partial pressure of oxygen in alveolar air and capilla	_	
25.	Which of the following gas is quite insignificant for the	<del>-</del>	- ·
		r) CO	d) O <sub>2</sub>
26.	What is vital capacity of our lungs?	,	,
	a) Inspiratory reserve volume plus tidal volume		
	b) Total lung capacity minus expiratory reserve volume	e	
	c) Inspiratory reserve volume plus expiratory reserve		
	d) Total lung capacity minus residual volume		
27.	Which of the following statements is not true?		
	a) The partial pressure of oxygen in deoxygenated bloc	od is 40 mm Hg	
	b) The partial pressure of oxygen in oxygenated blood	is 95 mm Hg	
	c) The partial pressure of oxygen in the alveolar air is 1	104 mm Hg	
	d) The partial pressure of carbon dioxide in deoxygena	ated blood is 95 mm Hg	
28.			
	O <sub>2</sub> 159 A		
	CO <sub>2</sub> 0.3 B  Partial pressure (in mm Hg) of oxygen and carbon diox	vide at different nart invol	ved in diffusion in
	comparison to those in atmosphere. Identify A and B and		
		r) A-40; B-104	d) A-101; B-104
29.	When the oxygen supply to the tissue is inadequate, the	•	., 101,2 101
		) Asphyxia	d) Apnea
30.	Which two of the following changes (I-IV) usually tend		• •
	high altitudes (3,500 m or more)?	•	·
	I. Increase in red blood cell size.		
	II. Increase in red blood cell production.		
	III. Increased breathing rate.		
	IV. Increase in thrombocyte count.		
	Changes occurring are		
		e) I and IV	d) I and II
31.	Arrange the following in the order of increasing volum		
	I.Tidal volume		
	II.Residual volume		
	III.Expiratory reserve volume		

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	IV.Vital capacity		ווי ווי ווי ווי ווו
22	a) I < II < III < IV b) I < III < II < IV	c) $I < IV < III < II$	d) I < IV < II < III
32.	Chloride shift occurs in response to a) $HCO_3^-$ b) $K^+$	c) H <sup>+</sup>	d) Na <sup>+</sup>
33.	Which situation would result in the greatest degree	•	,
33.	constant?	of O <sub>2</sub> situation for naemogi	obin, if $po_2$ remains
	a) Increased CO <sub>2</sub> level, decreased temperature		
	b) Decreased CO <sub>2</sub> level, decreased temperature		
	c) Increased CO <sub>2</sub> level, increased temperature		
	d) Decreased CO <sub>2</sub> level, increased temperature		
34.	Blood do not become acidic although it carries CO <sub>2</sub> b	ecause	
	a) CO <sub>2</sub> is continuously diffused though tissues	b) CO <sub>2</sub> combines with H <sub>2</sub> 0	O to form H <sub>2</sub> CO <sub>3</sub>
	c) In CO <sub>2</sub> transport, buffers plays an important role		
35.	On high mountains difficulty in breathing is due to	, -	
	a) Decrease in partial pressure of oxygen	b) Decrease in amount of	oxygen
	c) Increase in carbon dioxide concentration	d) All of the above	
36.	What is Bohr's effect?		
	a) Raise of pCO <sub>2</sub> or fall in pH decreases the oxygen at	ffinity of haemoglobin	
	b) Decrease of pCO <sub>2</sub> or fall in pH decreases the oxyge	en affinity of haemoglobin	
	c) Raise of pCO <sub>2</sub> or increase in pH decreases the oxy	gen affinity of haemoglobir	1
	d) Shifting of the oxygen-haemoglobin curve to left		
37.	One of the major cause of emphysema is		
	a) Pollution b) Smog	c) Cigarette smoking	d) Sanitary condition
38.	Animals who use their skin as an accessory respirator	ry organ are	
	I. lizard II. frog		
	III. rabbit IV. Zebra		
	Choose the correct option	0.0000	D 0 1 W
20	a) I and II b) Only I	c) IV and II	d) Only II
39.	When the oxygen supply to the tissues is inadequate,		d) Amorria
40	a) Hypoxia b) Asphyxia The percentage of oxygen in inhaled air is about	c) Pleuracy	d) Anoxia
40.	a) 21% b) 16%	c) 79%	d) 4%
41	State wheather the given statements are true or false	•	u) 470
11.	I. Respiration in humans is an active process	,	
	II. Diaphragm helps in generating the pressure gradients	ent in the lungs	
	Choose the correct option	one m ene rango	
	a) I – True, II – False b) I – True, II – True	c) I – False, II – True	d) I – False, II – False
42.	When carbon dioxide concentration in blood increas	•	
	a) Shallower and slow	b) There is no effect on br	reathing
	c) Slow and deep	d) Faster and deeper	
43.	I. Intra pulmonary pressure remains less than the att	mospheric pressure	
	II. There is negative pressure in the lungs than the at	mospheric pressure	
	In which of the above two situations inspiration take	s place?	
	Choose the correct option accordingly?		
	a) Only I b) Only II	c) Both I and II	d) I or II
44.	Under which condition, dissociation of oxygen from		
	a) Low $\rho O_2$ b) High $\rho CO_2$	c) High H <sup>+</sup>	d) All of these
45.	In the given diagram, identify what is depicted by <i>A</i> ,	B and C	
	Choose the correct ontion		



- a) A-Air going out from lungs, B-Ribs and sternum relaxed, C-Volume of thorax increased
- b) A-Air entering lungs, B-Ribs and sternum relaxed, C-Volume of thorax increased
- c) A-Air entering lungs, B-Ribs and sternum raised, C-Volume of thorax increased
- d) A-Air going out from lungs, B-Ribs and sternum relaxed, C-Volume of thorax decreased
- 46. Which of the following statement is false?
  - a) The conducting part of the respiratory system transports the atmospheric air to alveoli
  - b) Conducting part of the respiratory system clears the air from foreign particles, humidifies and brings it to the body temperature
  - c) Exchange part of the respiratory system is the actual site at which O<sub>2</sub> and CO<sub>2</sub> exchange takes place
  - d) None of the above
- 47. Lungs comprises

a) Network of bronchi

- b) Bronchioles
- c) Alveoli
- d) All of these
- 48. Which of the following statement is incorrect about nasopharynx?
  - a) Internal nostrils opens into nasopharynx
  - b) It is the common passage for air only
  - c) It is a portion of pharynx
  - d) Nasopharynx opens through the glottis of the larynx region into the trachea
- 49. Pneumonia is an infection of
  - a) Trachea
- b) Larynx
- c) Vocal cord
- d) Lungs

50. Which of the following equation is correct?

a) 
$$KHbO_2 + H^+ \rightleftharpoons RBC Hb + K + H_2O$$

b) 
$$Hb + O_2 \xrightarrow{\text{in tissues}} HbO_2$$
Dissociation
in lungs

Dissociation

d)  $HbO_2 \xrightarrow{\text{in tissues}} Hb + O_2$ Association
in lungs

- 51. Site of aerobic respiration in higher organisms is/are
  - a) Golgi apparatus
- b) Mitochondria
- c) Both (a) and (b)
- d) Lungs
- 52. The total thickness of the diffusion membrane of alveolus capillary is
  - a) Less than 1 cm
- liffusion membran b) Less than 2 cm
- c) Less than 1 mm
- d) More than 1 mm

- 53. During expiration, the diaphragm becomes
  - a) Dome-shaped
- b) Oblique
- c) Normal
- d) Flattened
- 54. Which fact suggests that most oxygen is transported from lungs to the tissues combined with haemoglobin rather than dissolved in blood plasma?
  - rather than dissolved in blood plasma? a) Oxygen carrying capacity of whole blood is much higher than that of plasma and oxygen content of
    - b) Haemoglobin can combine with oxygen
    - c) Oxyhaemoglobin can dissociate into haemoglobin and oxygen

blood leaving the lungs is greater than that of blood entering the lungs

d) Increase in carbon dioxide concentration decreases the oxygen affinity of haemoglobin

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55.	5. A large proportion of oxygen is left unused in the human	blood even after its upt	ake by the body tissues.
	This O <sub>2</sub>		
	a) Raises the $p_{\mathrm{CO_2}}$ of blood to 75 mm of Hg		
	b) Is enough to keep oxyhaemoglobin		
	c) Helps in releasing more $O_2$ to the epithelial tissues		
	d) Acts as a reserve during muscular exercises		
56.	6. Which of the following statement is true regarding the hu	ıman respiratory syster	n?
	a) Tracheal rings are of hyaline cartilage		
	b) Dorsal side of the thoracic chamber is formed by stern	um	
	c) Expiration occurs when there is negative pressure in the	he lungs	
	d) Inspiration occurs when there is positive pressure in the	he lungs	
57.	7. When the nutrients are oxidised without using molecular	$^{\circ}$ $O_2$ calledA in year	st glucose formedB
	and CO <sub>2</sub> . Endoparasite also respireC It gives low ene	ergy.	
	Choose the correct option for A, B and C		
	a) A-fermentation, R-ethyl alcohol, C-anaerobically		
	b) A-fermentation, B-methyl alcohol, C-anaerobically		
	c) A-fermentation, B-alcohol, C-aerobically		
	d) A-fermentation, B-ethyl alcohol, C-aerobically		
58.	3. The ventilation movements of the lungs in mammals is go	overned by	
	a) Diaphragm b) Coastal muscles c) E	Both (a) and (b)	d) None of these
59.	9. $CO_2$ diffuses intoA and forms $HCO_3^-$ and $H^+$ . At theI	B site where pCO <sub>2</sub> is l	ow, the reaction proceeds
	in the opposite direction.		
	Thus, CO <sub>2</sub> is trapped asC at the tissue level and transp	ported to alveoli is relea	ased out asD
	Select the right choice for A, B, C and D to complete the gi	ven NCERT statement	
		A-RBC, B-alveolar, C-bic	arbonate, D <b>-</b> CO <sub>2</sub>
	c) A-RBC, B-alveolar, C-bicarbonate, D-O <sub>2</sub> d) A	A-RBC, B-alveolar, C-car	bonate, D-CO <sub>2</sub>
60.	). Lungs have a large number of narrow tubes called		
	a) Alveoli b) Bronchi c) E	Bronchioles	d) Tracheae
61.	1. Conducting part of the respiratory system comprises	11011	
	a) External nostrils upto the terminal bronchioles b) I:	nternal nostrils upto tr	achea
	c) Epiglottis upto trachea d) L	Larynx upto bronchi	
62.	2. Arrange the given steps of respiration mechanism in the	order, they occur in the	human body
	I. Breathing or pulmonary ventilation		
	II. Diffusion across the alveolar membrane		
	III. Transport of gases by blood		
	IV. Utilisation of $O_2$ by cells		
	V. Diffusion of O <sub>2</sub> and CO <sub>2</sub> between blood and tissues		
	Choose the correct option		
	a) $I \rightarrow II \rightarrow III \rightarrow IV \rightarrow V$ b) $I \rightarrow II \rightarrow III \rightarrow V \rightarrow IV$ c) $I$	$\rightarrow$ III $\rightarrow$ II $\rightarrow$ V $\rightarrow$ IV	d) $I \rightarrow III \rightarrow IV \rightarrow V$
63.	3. How many layers are present in the diffusion membrane	of alveolus capillary?	
	a) 5 b) 3 c) 2	2	d) 4
64.	4. Blood analysis of a patient reveals an unusually high quar	ntity of carboxyhaemog	lobin content. Which of
	the following conclusions is most likely to be correct?		
	a) Carbon disulphide the patient has been inhaling pollut	ed air containing usual	ly high content of
	b) Chloroform the patient has been inhaling polluted air o	containing usually high	content of
	c) Carbon dioxide the patient has been inhaling polluted a	air containing usually h	igh content of
	d) Carbon monoxide the patient has been inhaling pollute		~
65.		-	
	a) $HCO_3^-$ ions move out from plasma and $Cl^-$ ions enters i	into RBC	
	b) $CO_3^-$ ions move out from plasma and $Cl^-$ ions enters in		
	. •		

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	c) H <sup>+</sup> ions move out from plasma and Cl <sup>-</sup> ions en	ters into RBC	
	d) HCO <sub>3</sub> ions move out from plasma and H <sup>+</sup> ions	enters into RBC	
66.	Correct sequence of the air passage in humans is		
	a) Nose $\rightarrow$ Larynx $\rightarrow$ Pharynx $\rightarrow$ Bronchioles $\rightarrow$ Alv		
	b) Nose $\rightarrow$ Pharynx $\rightarrow$ Larynx $\rightarrow$ Bronchioles $\rightarrow$ Br		
	c) Nose $\rightarrow$ Pharynx $\rightarrow$ Larynx $\rightarrow$ Bronchioles $\rightarrow$ Tr		
	External nostril → Nasal passage → Internal no	$stril \rightarrow Pharynx \rightarrow Laryn$	x → Trachea → Bronchi
	<sup>2</sup> Bronchiole → Alveoli		
67.	By which mechanism, oxygen is transported from		
	a) Diffusion b) Facilitated diffusion	c) Transpiration	d) Osmosis
68.	$CO_2 + H_2O \xrightarrow{A} H_2CO_3 \xrightarrow{B} HCO_3 + H^+$		
	Name the enzymes A and B in the above equation		
	a) A-Carbonic anhydrase, B-Carbonic hydratase		
	b) A-Carbonic hydratase, B-Carbonic anhydrase		
	c) A-Carbonic anhydrase, B-Carbonic anhydrase		
	d) A-Carbonic hydratase, B-Carbonic hydratase		
69.	The movement of chloride ions into erythrocytes	from the plasma to main	tain osmotic balance during
	transport of gases is known as		
	a) Chlorination	b) Hamburger pheno	
	c) Bicarbonate shift	d) Carbon dioxide tra	ansport
70.	Actual site of exchange of gases in the lungs is		
	a) Alveoli b) Pleura	c) Bronchioles	d) Tracheoles
71.	Every 100 mL of deoxygenated blood delivers app	=	
	a) 3 mL of CO <sub>2</sub> b) 2 mL of CO <sub>2</sub>	c) 4 mL of CO <sub>2</sub>	d) 1 mL of CO <sub>2</sub>
72.	Which of the following conditions are found in the	e alveoli of lungs?	
	I. high $p O_2$ II. Low $p CO_2$		
	III. high $p CO_2$ IV. low $p O_2$ V. low $H^+$ VI. High $H^+$	CATION	
		CHITOIA	
	Choose the correct option	a) I Wand W	d) I II and V
72	a) I, III and V b) III, IV and VI Left shift of oxyhaemoglobin curve is noticed und	=	d) I, II and V
/3.	a) Normal temperature and pH	b) Low temperature	and high nH
	c) Low pH and high temperature	d) Low pH and low to	0 1
74	Humans have to maintain the moderate respirato	-	_
, 11	that purpose, we have the Respiratory rhythm cer		manas of the body. For fullling
	Pneumotaxic centre in pons = PT	moddaid 1	
	Chemosensitive area in medulla = $C_1$		

 $\mathrm{PT} \to \mathrm{R} \ \to \mathrm{C}_2$ 

1

c)

 $C_1 \rightarrow PT \rightarrow C_2$ 

1

a)

Peripheral chemoreceptors in a ortic arch and carotid artery =  ${\rm C_2}$ 

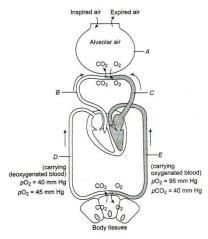
 $PT \xrightarrow{-} C_2 \rightarrow C_1$ 

75. Identify A to E in the given diagram and choose the correct option accordingly

Select the correct path for the regulation of respiration

b)

d)  $C_2 \rightarrow R \rightarrow PT \rightarrow C_1$ 



- a) A-Alveolus, B-Pulmonary artery, C-Pulmonary vein, D-Systemic vein, E-Systemic arteries
- b) A-Alveolus, B-Pulmonary vein, C-Pulmonary artery, D-Systemic vein, E-Systemic arteries
- c) A-Alveolus, B-Pulmonary vein, C-Pulmonary artery, D-Systemic arteries, E-Systemic vein
- d) A-Alveolus, B-Pulmonary vein, C-Pulmonary artery, D-Systemic arteries, E-Portal vein
- 76. A chemosensitive area is situated adjacent to the rhythm centre in the brain. This area is highly sensitive to
- a) CO<sub>2</sub> concentration
- b)  $0_2$  concentration
- c) H<sup>+</sup> concentration
- d) Both (a) and (c)

- 77. Vocal cords occur in
  - a) Pharynx
- b) Larynx
- c) Glottis
- d) Bronchial

- 78. Total lung capacity is
  - a) Total volume of air accommodated in lungs at the end a forced inspiration
  - b) RV + ERV + TU + IRV
  - c) Vital capacity + residual volume
  - d) All of the above
- 79. In the diagram given in the previous question, the function performed by *A*, *B* and *C* are as follows
  - A Diffusion of  $O_2$  to blood
  - B Diffusion of  $CO_2$
  - C Exchange of gases takes place

Select among *A*, *B* and *C* which one is correctly matched and choose the correct option accordingly

- a) Only A
- b) Only B
- c) Only C
- d) A, B and C

- 80. Carbonic anhydrase is found in
  - a) Blood
- b) Plasma
- c) Both (a) and (b)
- d) None of these
- 81. Process of exchange of O<sub>2</sub> from the atmosphere with ...A... produced by the cells is called ...B..., which is commonly known as ...C...

Choose the appropriate options for the blanks A, B and C to complete the given NCERT statement

- a) A-H<sub>2</sub>O, B-breathing, C-respiration
- b) A-O<sub>2</sub>, B-breathing, C-respiration
- c) A-CO<sub>2</sub>, B-breathing, C-respiration
- d) A-NO<sub>2</sub>, B-breathing, C-respiration
- 82. The breathing centre initiates the ventilation in response to
  - a) Increase of air pressure

- b) Decrease of air pressure
- c) Increase of CO<sub>2</sub> in arterial blood
- d) Increase of O2 in arterial blood
- 83. Exchange of O<sub>2</sub> and CO<sub>2</sub> between the blood and tissue is based on
  - a) Pressure/concentration gradient
- b) Inspiratory capacity

c) Osmotic gradient

- d) Tidal volume
- 84. What are the favourable conditions for oxyhaemoglobin?
  - a) High  $\rho O_2$
- b) Low  $\rho CO_2$
- c) Low H<sup>+</sup>
- d) All of these
- 85. When a sea diver goes very deep he has to breathe on compressed air at high pressure. After sometime, he loses his strength to work and feel drowsy. This is because of
  - a) Compressed air

b) More carbon dioxide diffusing into molecules

	c) More nitrogen diffusing	= -	d) Nervous system does	not work properly
86.	Which is called Hamburge			
	a) Hydrogen shift	b) Bicarbonate shift	c) Chloride shift	d) Sodium shift
87.	Hiccups can be best descr			
	a) Forceful sudden expira		b) Jerky incomplete insp	iration
	c) Vibration of the soft pa	late during breathing	d) Sign of indigestion	
88.	Dead space air in man is			
	a) 500 mL	b) 150 mL	c) 250 mL	d) 1.5 mL
89.	Human beings have a sign		and moderate the respirat	ory rhythm to suit the
	demands of the body tissu	ies. This is achieved by		
	a) Arterial system		b) Systemic vein system	
	c) Neural system		d) Cardiac system	
90.	The expiratory reserve vo			
	a) 1000 mL	b) 2000 mL	c) 4000 mL	d) 5000 mL
91.	Why does the air in the na			
		e of many hairs present in		
		y has very good blood sup	ply	
	c) Because the nasal cavit	y has mucous membrane		
	d) All of the above			
92.	Haemoglobin (Hb) is a			
	a) Reproductive pigment		b) Respiratory pigment	
	c) Carbohydrate		d) Fat	
93.	93. The figure given below shows a small part of human lung where exchange of gas takes place. In which			-
	of the options given below, the one part A, B, C or D is correctly identified along with its function.			
	c A A	PLUS EDU(	CATION	
	a) A – Alveolar cavity - m	nain site of exchange of res	piratory gases	
	b) D – Capillary wall - ex	change of gases takes plac	e here	
		ansport of mainly haemog	lobin	
	d) C - Arterial capillary -	passes oxygen to tissues		
94.	How many molecules of o	xygen can bind to a molecı	•	
	a) One	b) Two	c) Three	d) Four
95.	'XX' is a part of respirator			ilage. 'XX' is lined with
	-	columnar epithelium. Iden	-	d) Trachea
06	<ul><li>a) Nasopharynx</li><li>The oxygen toxicity is rela</li></ul>	b) Glottis	c) Larynx	uj Traciiea
90.	a) Blood poisoning	nted with	b) Collanging of alveolar	wells
	c) Failure of ventilation of	flunge	<ul><li>b) Collapsing of alveolar</li><li>d) Both (a) and (b)</li></ul>	Walls
07	Arrange the given steps by	-		once of events occurring
97.	first		iume mereases in the sequ	ence of events occurring
	I. Contraction of intercost	al muscles		
	II. Lifting up of the ribs			
			e thoracic chamber in dors	
	<del>=</del>	hragm which increases th	e volume of the thoracic ch	namber in antero-posterior
	axis			
	Choose the correct option			

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				<b>Gplus Education</b>
	a) $I \rightarrow II \rightarrow III \rightarrow IV$	$b) \ IV \rightarrow I \rightarrow II \rightarrow III$	c) IV $\rightarrow$ I $\rightarrow$ III $\rightarrow$ II	d) $I \rightarrow III \rightarrow IV \rightarrow II$
98.	Almost same $pCO_2$ in hu			
	a) Oxygenated blood and			d and oxygenated blood
	c) Deoxygenated blood a		d) All of the above	
99.				calledA to prevent the
	_	_		rity, which divides at the level
		into right and left primary		
	<del>-</del>		iven four options to comp	plete the above statement with
	reference to NCERT text			
	a) A-epiglottis, B-bronch			
	<ul><li>b) A-epiglottis, B-mid the</li><li>c) A-epiglottis, B-hind th</li></ul>			
	d) A-epiglottis, B-pre tho			
100		n and out, while at rest is c	ralled	
100	a) Residual volume	b) Tidal volume	c) Vital volume	d) Total lung capacity
101	. Residual volume is	b) Haar voranie	ej vitai voiaine	ay rotal rang capacity
	a) Lesser than tidal volu	me	b) Greater than inspira	atory volume
	c) Greater than vital cap		d) Greater than tidal v	-
102		s called respiratory rhythr	=	
	a) Cerebellum region	b) Brain stem region	c) Medulla region	d) Temporal region
103	. Tidal volume is			
	a) Volume of air inspired	d or expired		
	•	air, a person can inspire by		
		air, a person can expire by		
		air in the lungs even after	<del>-</del>	
104		ry structure possesses the	following features and ch	loose the correct option
	accordingly	C PRIL	CATTONI	
	I. Found in mammals	TPLUS EDU	CALLON	1
	<b>0 1</b>	ibrous partition, elevated	towards the thorax like a	dome
	<ul><li>III. Separates thoracic an</li><li>a) Pleural membrane</li></ul>	b) Phrenic muscle	c) Diaphragm	d) Mediastinum
105	. Haemoglobin is having n		c) Diapin agin	u) Mediastiliulii
103	a) Carbon dioxide	b) Carbon monoxide	c) Oxygen	d) Ammonia
106	•	of expiration in the sequen	· · · · · ·	
	I. Relaxation of the diaph	= =	8	
	II. Reduction of the pulm	•		
	III. Expulsion of air from	-		
	IV. Increase in intra puln	_		
	Choose the correct optio			
	a) $I \rightarrow II \rightarrow III \rightarrow IV$	b) $I \rightarrow II \rightarrow IV \rightarrow III$	c) IV $\rightarrow$ III $\rightarrow$ II $\rightarrow$ I	d) IV $\rightarrow$ II $\rightarrow$ III $\rightarrow$ I

107. Factors affecting the rate of diffusion is/are a) Pressure gradient

b) Solubility of gases

c) Thickness of membranes

d) All of these 108. Which one of the following is the correct statement regarding the process of respiration in humans?

- a) Cigarette smoking may lead to inflammation of nasopharynx
  - b) Neural signals from the pneumotoxic centre in the pons region of the brain can't increase the duration of inspiration
  - c) Workers in grinding and stone breaking industries may suffer from lung fibrosis
  - d) About 90% of  $\mathrm{CO}_2$  is carried out by haemoglobin as carbominohaemoglobin

- 109. Identify the component of respiratory system which displays the features given below and choose the correct option I. Double layered II. Fluid contained in it reduces the friction on the lung surface III. Its outer layer is in contact with thoracic wall IV. Its inner layer is in contact with lungs a) Visceral layer b) Peritoneum cavity c) Visceral organs d) Pleura 110. I. On an average a healthy human breathes 12-16 times/minute II. The volume of air involved in the breathing movements can be estimated by spirometer III. Diaphragm is very useful in both inspiration and expiration Which of the above statements are incorrect? Choose the correct option a) I and II b) II and III c) I and III d) None of these 111. Blood is a medium to transport O<sub>2</sub> and CO<sub>2</sub>. About ...A... per cent of O<sub>2</sub> is transported by ...B... in the blood and the remaining ...C... per cent of O<sub>2</sub> is carried in a dissolved state through the ...D... Select the right options for A, B, C and D to the complete the given statement a) A-50, B-RBC, C-50, D-plasma b) A-97, B-RBC, C-3, D-plasma c) A-90, B-RBC, C-10, D-plasma d) A-80, B-RBC, C-20, D-plasma 112. Name the artery which carries deoxygenated blood a) Pulmonary artery b) Pulmonary trunk c) Systemic artery d) Vena cava 113. Receptors associated with the aortic arch and carotid artery can recognize the changes in ...A... and H<sup>+</sup> concentration and send necessary signals to the ... B... for remedial actions Select the right choice for A and B to complete the given NCERT statement a) A-OH<sup>-</sup>; B-rhythm centre b) A-O<sub>2</sub>; B-rhythm centre d) A-blood circulation; B-rhythm c) A-CO<sub>2</sub>; B-rhythm centre 114. The factor which does not affect the rate of alveolar diffusion is b) Thickness of the membranes a) Solubility of gases c) Pressure gradient d) Reactivity of the gases 115. How much amount of air can be inspired or expired during normal breathing? a) 0.5L b) 2.5L c) 1.5L d) 5.5L 116. The partial pressure of  $CO_2(pCO_2)$  is the highest in a) Trachea b) Alveoli c) Tissues d) Bronchi 117. Dissociation of CO<sub>2</sub> from carbamino haemoglobin takes place when a)  $\rho CO_2$  is less in alveoli and  $\rho O_2$  is high b)  $\rho CO_2$  is low and  $\rho O_2$  is high in alveoli c)  $\rho CO_2$  is equal to  $\rho O_2$  in lungs, *i.e.*, low d)  $\rho CO_2$  is equal to  $\rho O_2$  in tissue, *i.e.*, high 118. Pneumotaxic centre of the brain can a) Moderate the function of respiratory system b) Decrease the heart rate c) Increase the heart rate d) Increase the flow of blood 119. In the given diagram, what *A*, *B* and *C* depicts?
  - a) A-Air goes inside to lungs, B-Ribs and sternum returned to original, position, C-Diaphragm contracted
  - b) A-Air expelled from lungs, B-Ribs and sternum returned to original position, C-Diaphragm relaxed and arched upward
  - c) A-Air expelled from lungs, B-Ribs and sternum goes upward, C-Diaphragm relaxed and arched upward

d) A-Air goes inside to lungs, B-Ribs and sternum goes upward, C-Diaphragm relaxed and arched upward				
120. Effect of 2-3 DPG on the human blood is that				
	b) It decreases the affinit	${ m cy}$ of ${ m O}_2$ to haemoglobin		
c) It increases in the blood in plane areas	d) None of the above			
121. Two friends are eating together on a dining table. On		coughing while swallowing		
some food. This coughing would have been due to ir	nproper movement of			
a) Diaphragm b) Neck	c) Tongue	d) Epiglottis		
122. The thoracic chamber is formed dorsally by theA.	, ventrally by theB, lat	terally by theC and on		
lower side by the dome-shapedD				
Select the right choices for A, B, C and D to complete	the given NCERT statemen	nt		
a) A-vertebral column, B-sternum, C-ribs, D-diaphra	igm			
b) A-vertebral column, B-ribs, C-sternum, D-diaphra	-			
c) A-diaphragm, B-ribs, C-sternum, D-vertebral colu	~			
d) A-ribs, B-diaphragm, C-sternum, D-vertebral colu				
123. Which structure of the lungs is directly involved in (		air and blood capillary?		
a) Bronchi b) Trachea	c) Alveoli	d) Secondary bronchi		
124. If the level of carboxyhaemoglobin in blood reaches		•		
severely affected which results in death.	upto, the functioning o	r central her vous system is		
a) 1 to 2% b) 0.20 to 0.30%	c) 0.30 to 0.40%	d) 0.1 to 5%		
125. When the body is rapidly oxidizing fat, excessive ket	tone bodies gets accumulat	ed in the body, resulting in		
the formation of	N 77	D. AMD		
a) Pyruvic acid b) Lactic acid	c) Ketoacidosis	d) ATP		
126. Which portion of the human respiratory system is c				
a) Larynx b) Trachea	c) Nasopharynx	d) Glottis		
127. Binding of $O_2$ with haemoglobin is primarily depend	led upon			
I. partial pressure of $O_2$				
II. partial pressure of CO <sub>2</sub>				
III. hydrogen ion concentration IV. temperature	"ΔΤΙΩΝ			
IV. temperature	25417014			
Choose the correct option				
a) I, II and IV b) II, III and IV	c) I, III and IV	d) All of these		
128. Disease aggravated by pollution is				
a) Haemophilia b) Rheumatism	c) Scurvy	d) Bronchitis		
129. In humans, right lung is divided intoA lobes and	left lung is divided intoI	3 lobes.		
Choose the correct option for A and B to complete the				
a) A-3; B-2 b) A-2; B-3	c) A-2; B-2	d) A-3; B-4		
130. Which vein contains the oxygenated blood in human				
a) Cardiac vein	b) Hepato pancreatic vei	n		
c) Portal vein	d) Pulmonary vein	-		
131. Rate of breathing is controlled by	ay ramionary vom			
a) The amount of freely available oxygen	b) Carbon dioxide			
c) Muscular functions of the body	d) None of the above			
132. Emphysema is a chronic disorder which is caused d	•			
a) Damaged trachea	b) Damaged nostrils			
c) Damaged alveolar walls	d) Damaged lungs			
133. I. $\wp O_2$ is the major factor which affects the binding of the contract of the second	oi CO <sub>2</sub> with naemoglobin			
II. $pCO_2$ is low and $pO_2$ is high in tissues	. 1 1			
III. RBC contains a very high concentration of carbon				
IV. Every 100 mL of deoxygenated blood delivers ap	proximately 4 mL of ${\rm CO_2}$ to	o alveoli		
Select the combination of right statements				

a) I, III and IV	b) I, II and IV	c) I, II and III	d) II, III and IV		
134. Although much carbon dioxide is carried in blood, yet blood does not become acidic because					
a) $CO_2$ is continously	a) $CO_2$ is continously diffused through the tissues and is not allowed to accumulate				
b) CO <sub>2</sub> combines with water to form H <sub>2</sub> CO <sub>3</sub> , which is neutralized by Na <sub>2</sub> CO <sub>3</sub>					
	c) In CO <sub>2</sub> transport, blood buffers play an important role				
d) CO <sub>2</sub> is absorbed by					
	g changes usually tends to	occur in plain dwellers wh	en they move to the high		
altitudes?		1	, ,		
I. Increased breathing	g rate				
II. Increased RBC pro					
III. Increased WBC pr					
IV. Increased thromb					
Choose the correct of	-				
a) I and II	b) III and IV	c) I and IV	d) I and II		
136. Asthama is caused by		,	,		
a) Infection in the lur		b) Infection in the tra	chea		
c) Infection of the glo	_	d) Spasm in the brone			
137. Blood carries CO <sub>2</sub> ma		<i>y</i> 1			
a) Hb. CO <sub>2</sub>	b) NaHCO <sub>3</sub>	c) Carbonic acid	d) Hb. CO <sub>2</sub> and CO		
<del>-</del>	into and out of the lungs is	•	, 2		
a) Imbibition	b) Pressure gradient	c) Osmosis	d) Diffusion		
-	$_2$ and $\mathrm{CO}_2$ in atmospheric ai	_	-		
$ ho O_2 \qquad  ho CO_2$					
a) Higher Lower	31	b) Higher Higher			
c) Lower Lower		d) Lower Higher			
140. Right lung of rabbit is	s divided into	,			
a) Four lobes	b) Two lobes	c) Six lobes	d) Eight lobes		
141. Transport of CO <sub>2</sub> by t	the blood is primarily depe	ndent upon	, ,		
a) Solubility of CO <sub>2</sub> in	ı blood	b) Carbonic anhydras	se		
c) Binding of haemog	globin to CO <sub>2</sub>	d) Binding of haemog	lobin to O <sub>2</sub>		
142. The alveoli of lungs a	re lined by				
a) Simple epithelium		b) Squamous epitheli	um		
c) Cuboidal epitheliu	m	d) Columnar epithelii	ım		
143. A muscular transvers	se partition in mammals tha	at separates thorax from ab	domen is called		
a) Diaphragm	b) Pharynx	c) Stomach	d) Duodenum		
144. Carbon dioxide (CO <sub>2</sub> )	) is released during				
a) Catabolic reactions	s b) Anabolic reactions	c) Amphibolic reaction	ons d) All of the above		
145. Respiratory or excha	nge part of the respiratory	system comprises			
a) Lungs and pleural	membrane	b) Alveoli and their d	ucts		
c) Bronchus and thei	r protecting covering	d) Diaphragm and alv	veoli		
146. The solubility of CO <sub>2</sub>	in the blood is				
a) 10-15 times highe	r than that of O <sub>2</sub>	b) 20-25 times higher	r than that of $0_2$		
c) Slightly higher tha	n that of O <sub>2</sub>	d) Slightly lower than	that of $0_2$		
147. I. Increased partial pr	ressure of O <sub>2</sub>				
II. Increased partial p	ressure of CO <sub>2</sub>				
III. Increased partial	pressure of H <sup>+</sup>				
IV. Decreased partial	pressure of O <sub>2</sub>				
All the above situatio	ns favours the dissociation	of oxyhaemoglobin except			
a) I and II	b) II and III	c) I and IV	d) Only I		

- 148. Haemoglobin of the human blood forms a stable complex compound with which of the following gas leading to death?
  - a) Oxygen
- b) Carbon dioxide
- c) Carbon monoxide
- d) Nitrogen
- 149. Among vertebrates, ...A... use gills whereas reptiles, birds and mammals respire through the ...B... . Amphibians like frogs can respire through ...C... also. Mammals have a well adapted respiratory system Select appropriate choice for the blanks A, B and C to complete the given NCERT statement
  - a) A-fishes, B-lungs, C-gills

b) A-fishes, B-lungs, C-dry skin

c) A-fishes, B-lungs, C-moist skin

- d) A-mammals, B-gills, C-moist skin
- 150. Friction on the lungs surface reduces by
  - a) Double layered pleura

b) Single layered pleura

c) Ribs covering lungs

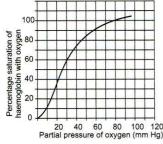
- d) Mucous membrane surrounding the lungs
- 151. Which of the following statements are true/false?
  - V. The blood transports carbon dioxide comparatively easily because of its highest solubility.
  - VI. Approximately 8.9% of carbon dioxide is transported being dissolved in the plasma of blood.
  - VII. 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<sub>2</sub>CO<sub>3</sub>.
  - VIII. The oxyhaemoglobin (HbO<sub>2</sub>) of the erythrocytes is basic.
  - IX. The chloride ions diffuse from plasma into the erythrocytes to maintain ionic balance.
  - a) I, III and V are true, II and IV are false
- b) I, III and V are false, II and IV are true
- c) I, II and IV are true, III and V are false
- d) I, II and IV are false, III and V are true

- 152. Air entering the lungs is
  - a) Warm and filtered

b) Contains only oxygen

c) Cool and filtered

- d) Enriched with CO<sub>2</sub> and NO<sub>2</sub>
- 153. Shifting of the curve to right takes place in the case



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- a) Raise in  $\rho CO_2$
- b) Fall in pH
- c) Raise in temperature d) All of these

- 154. Hiccup occurs due to
  - a) Contraction of the air passage

b) Contraction of the diaphragm

c) Extension of the abdomen

- d) Extension of the lungs
- 155. CO<sub>2</sub> dissociates in alveoli from carbohaemoglobin when
  - a)  $\rho O_2 = low, \rho CO_2 = high$

b)  $\rho O_2 = \text{high}$ ,  $\rho CO_2 = \text{high}$ 

c)  $\rho O_2 = low, \rho CO_2 = low$ 

- d)  $\rho O_2 = \text{high}$ ,  $\rho CO_2 = \text{low}$
- 156. Oxyhaemoglobin in the blood is formed when
  - a) O<sub>2</sub> binds with WBC

b) O<sub>2</sub> binds with RBC

c) O<sub>2</sub> binds with Iron

- d) 02 binds with plasma
- 157. The partial pressure of O<sub>2</sub> is the highest in
  - a) Alveoli
- b) Bronchi
- c) Trachea
- d) Tissues

- 158. The vital capacity of human lung is equal to
  - a) 500 mL
- b) 4600 mL
- c) 5800 mL
- d) 2300 mL

- 159. Oxygen dissociation curve is
  - a) Sigmoid
- b) Parabolic
- c) Hyperbolic
- d) Straight line

- 160. Which one is the cofactor of carbonic anhydrase?
  - a) Iron

b) Zinc

- c) Copper
- d) Magnesium

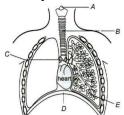
161. Haemoglobin is the red	coloured iron containing pig	gment which is present in		
a) WBC	b) RBC	c) Platelets	d) Tissue	
162. The area of inner surface	e of bronchiole is			
a) 1 m <sup>2</sup>	b) 10 m <sup>2</sup>	c) $100 \text{ m}^2$	d) 1000 m <sup>2</sup>	
163. Diffusion membrane is r	nade up of	•	·	
		b) Endothelium of alveolar capillaries		
c) Basement substance i		d) All of the above	•	
mentioned above		,		
164. Primary site of the gased	ous exchange in humans is			
a) Lungs	b) Alveoli	c) Bronchus	d) Diaphragm	
165. What is the function of r		•	a) Diapinagin	
A		, G		
a) Passage to lungs 166. Carbon dioxide is transp	b) Connection of larynx ported in blood in the form o	c) Sound producing	d) Warm providing	
a) Haemoglobin	b) Oxyhaemoglobin	c) Carbonate	d) Bicarbonate	
167. Pleural membrane is cov	ering of			
a) Heart	b) Lung	c) Liver	d) All of these	
168. Among of CO <sub>2</sub> in expired	l air is about	_		
a) 0.04%	b) 0.03%	c) 4.5%	d) 2.1%	
169. Dissociation curve of ha	emoglobin is			
a) Sigmoid	b) Parabolic	c) Straight line	d) Hyperbolic	
170. Given below are four matchings of an animal and its kind of respiratory organ				
I.Silver fish – Trachea				
II.Scorpion – Book lun	g			
III.Sea squirt – Pharyng	geal gills			
IV.Dolphin - Skin				
The correct matchings a	re			
a) II and IV	b) III and IV	c) I and IV	d) I, II and III	
171. Why carbon monoxide (	CO) poisonous for man?			
a) It affects the nerves o	f the lungs			
b) It affects the diaphrag	gm and intercostals muscles	3		
c) It reacts with oxygen reducing percentage of oxygen in air				
d) Haemoglobin combines with carbon monoxide instead of oxygen and the product cannot dissociate				
172. Identify the type of puln	nonary volume/capacity on	the basis of quantity of air	present in the lungs given	
below. (Refer NCERT)				
I. $\sim 1100$ mL $- 1200$ mL				
II. $\sim 500 \text{ mL}$				
III. $\sim 5000 \text{ mL} - 6000 \text{ m}$	L			
Choose the correct optic	on			
a) I – VC, II – FRC, III – R	V	b) I – RV, II – TV, III – TLO		
c) I – EC, II – IC, III – RV		d) I – TV, II – IRV, III <b>-</b> ER	V	
173. Approximate volume of air a healthy man can expire or inspire per minute is				
a) 5000 to 6000 mL	b) 6000 to 7000 mL	c) 6000 to 8000 mL	d) 7000 to 9000 mL	
174. Which one of the following	ng has the smallest diamete	er?		

a) Right primary bronchus

b) Left primary bronchus

c) Trachea

- d) Respiratory bronchiole
- 175. Identify *A*, *B*, *C*, *D* and *E* in the given diagram of human respiratory system



Choose the correct option

- a) A-Epiglottis, B-Trachea, C-Glottis, D-Diaphragm, E-Bronchiole
- b) A-Glottis, B-Trachea, C-Bronchus, D-Diaphragm, E-Bronchiole
- c) A-Adams apple, B-Trachea, C-Bronchus, D-Diaphragm, E-Bronchiole
- d) A-Epiglottis, B-Trachea, C-Bronchus, D-Diaphragm, E-Bronchiole
- 176. Identify the correct statement with reference to transport of respiratory gases by blood?
  - a) Haemoglobin is necessary for transport of carbon dioxide and carbonic anhydrase for transport of oxygen
  - b) Haemoglobin is necessary for transport of oxygen and carbonic anhydrase for transport of carbon dioxide
  - c) Only oxygen is transported by blood
  - d) Only carbon dioxide is transported by blood
- 177. When the body is rapidly oxidizing fats, excess ketone bodies accumulate resulting in
  - a) Pyruvic acid
- b) Lactic acid
- c) Ketoacidosis
- d) AT

178. Oxygen  $(O_2)$  is utilised by an organism to

- a) Directly breakdown the nutrient molecules
- b) Indirectly breakdown the nutrient molecules
- c) Obtain nourishment from the food
- d) Burn the organic compounds indirectly
- 179. Which of the following statements are not correct?
  - I. Diffusion membrane is made up of 3 layers
  - II. Solubility of CO<sub>2</sub> in blood is higher than O<sub>2</sub> by 25 times
  - III. Breathing volumes are estimated by spirometer
  - IV. High H<sup>+</sup> in blood favours oxygen dissociation

Choose the correct option

- a) I and III
- b) III and IV
- c) I and IV
- d) None of these

180. After deep inspiration, capacity of maximum expiration of lung is called

a) Total lung capacity

b) Functional residual capacity

c) Vital capacity

- d) Inspiratory capacity
- 181. After a deep inspiration and maximum expiration, the capacity of lungs is known as
  - a) Vital capacity
- b) Tidal volume
- c) IRV

d) ERV

- 182. Pick the correct statement.
  - a) The contraction of internal intercostal muscles lifts up the ribs
  - b) The RBCs transport oxygen only
  - c) The thoracic cavity is anatomically an air tight chamber
  - d) Healthy man can inspire approximately 500 mL of air per minute
- 183. Almost same  $p0_2$  in humans is found in
  - a) Alveoli and tissues

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- b) Oxygenated blood and deoxygenated blood
- c) Alveoli and oxygenated blood
- d) Alveoli and deoxygenated blood

- 184. Tobacco smoke contains carbon monoxide, which
  - a) Reduces the oxygen-carrying capacity of blood
- b) Causes gastric ulcers

c) Raises blood pressure

- d) Is carcinogenic
- 185. Which of the following diseases are occupational respiratory disorders?
  - a) Silicosis, fibrosis and asbestosis

b) Emphysema and mountain sickness

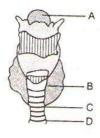
c) Asthma and emphysema

- d) Asthma and AIDS
- 186. In humans, exchange of gases occurs
  - a) By diffusion

- b) Between blood and tissue
- c) Between alveoli and pulmonary blood capillary
- d) All of the above

187.

- a) The H<sup>+</sup> released from carbonic acid combines with haemoglobin to form haemoglobinic acid
- b) Oxyhaemoglobin of erythrocytes is alkaline
- c) More than 70% of carbon dioxide is transferred from tissues to the lungs in the form of carbamino compounds
- d) In a healthy person, the haemoglobin content is more than 25 gm per 100 mL
- 188. The diagram represents the human larynx. Choose the correct combination of labeling from the options given.



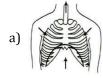


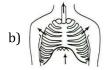
- a) A larynx B parathyroid C- tracheal cartilage D trachea
- b) A nasolarynx B thyroid C- tracheal cartilage D trachea
- c) A trachea B thyroid C bronchiole D tracheal cartilage
- d) A epiglottis B thyroid C tracheal cartilage D trachea
- 189. Additional muscles in the ..... impacts the ability of humans to increase the strength of inspiration and expiration

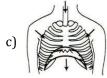
Complete the given NCERT statement with an appropriate option

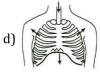
- a) Chest
- b) Diaphragm
- c) Abdomen
- d) Lungs
- 190. Exhalation is the process of expulsion of air through respiratory tract.

Which of the following figure does illustrate the process of exhalation?









- 191. Under normal conditions, what amount of O<sub>2</sub> is delivered by 100 mL of the oxygenated blood?
  - a) 5 mL

b) 4 mL

c) 3 mL

b) Catabolism

d) 2 mL

- 192.  $\rho$ CO<sub>2</sub> is higher in tissues due to
  - a) Anabolism
  - c) Building up of carbohydrates
- 193. During inspiration, the diaphragm
  - a) Expands
  - c) Contracts and flattens
- 194. During expiration, the diaphragm becomes
  - a) Normal
- b) Flattened

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b) Shows no change d) Relaxes to become dome-shaped

c) Dome-shaped

d) Building up of proteins

d) Oblique

- 195. Severe Acute Respiratory Syndrome (SARS)

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a) Is caused by a variant of Pneumococcus pneumo	niae	·		
b) Is caused by a variant of the common cold virus (	corona virus)			
c) Is an acute form of asthma				
d) Affects non-vegetarians much faster than vegetar	rians			
196. About 1200 mL of air is always known to remain ins	side the human lungs. It is	described as		
a) Inspiratory reserve volume	b) Expiratory reserve vo	Expiratory reserve volume		
c) Residual volume	d) Tidal volume			
197. Respiratory centre is present in				
a) Cerebellum b) Cerebrum	c) Medulla oblongata	d) Hypothalamus		
198. Exchange of gases in man takes place in				
a) Trachea b) Bronchus	c) Alveoli	d) All of these		
199. Which one of the following statements is incorrect?				
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 distrib	ute oxygen to tissues			
d) The principle of countercurrent flow facilitates el	fficient respiration in gills	of fishes		
200. Pressure of Systemic Systemic Arteries				
Cases Veins				
$ \begin{array}{ccc} O_2 & 40 \text{ mm kg} & 95 \text{ mm kg} \\ CO_2 & A & B \end{array} $				
Choose the correct option for A and B to complete the given data				
a) A-45 mm Hg; B-40 mm Hg b) A-45 mm Hg; B-45 mm Hg				
c) A-45 mm Hg; B-50 mm Hg				
201. Larynx is present in between				
a) Epiglottis and glottis	b) Trachea and bronchio			
c) Epiglottis and trachea d) Bronchus and epiglottis				
202. Arrange the given steps of respiration in the sequen				
I. Diffusion of gases, $O_2$ and $CO_2$ across the alveolar membrane				
II. Transport of gases by the blood				
III. Utilisation of $\rm O_2$ by the cells for catabolic reactions and the resultant release of $\rm CO_2$				
IV. Pulmonary ventilation by which atmospheric air is drawn in and $\mathrm{CO}_2$ rich alveolar air is released out				
V. Diffusion of $O_2$ and $CO_2$ between the blood and tissue				
Choose the correct option				
a) III $\rightarrow$ V $\rightarrow$ II $\rightarrow$ I $\rightarrow$ IV b) III $\rightarrow$ II $\rightarrow$ V $\rightarrow$ I $\rightarrow$ IV				
203. AnA in the pulmonary volumeB the intra pulmonary pressure to less than the atmospheric				
pressure which forces the air fromC to move int	•			
Choose the correct options for the blanks A, B, C and D to complete the above statement with reference to				
NCERT textbook				
a) A-increase, B-decrease, C-outside, D-expiration				
b) A-decrease, B-increase, C-outside, D-expiration				
c) A-decrease, B-increase, C-inside, D-inspiration				
d) A-increase, B-decrease, C-outside, D-inspiration				
204. A spirometer cannot be used to measure				
a) IC b) RV	c) ERV	d) IPV		
205. Binding of $\mathrm{CO}_2$ to oxyhaemoglobin occurs when				
a) $ ho { m CO}_2$ is high and $ ho { m O}_2$ is less in tissue	b) $ ho {\rm CO_2}$ is low and $ ho {\rm O_2}$ is high in tissue			
c) $ ho  extsf{CO}_2$ is low and $ ho  extsf{O}_2$ is low in tissue	d) $ ho { m CO}_2$ is high and $ ho { m O}_2$ is high in tissue			
206. Aerobic respiration involves				
I. external respiration				
II. transport of gases				
III. internal respiration				

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IV. cellular respiration

Choose the correct combination of options for the given statements

a) I, II and III

- b) II, III and IV
- c) I, III and IV
- d) All of the above

207. CO<sub>2</sub> is carried by haemoglobin is

a) Carboxy haemoglobin

b) Carbamino haemoglobin

c) Carbamido haemoglobin

d) Deoxyhaemoglobin

208. Partial pressure of the gas is the pressure contributed by

a) All gases in a mixture

b) Individual gas in a mixture

c) Pressure exerted by atmosphere on gases

d) Atmosphere on O2 only

209. Which of the following structure is present inside the larynx of the respiratory system?

a) Glottis

b) Epiglottis

c) Vocal cords

d) None of these

210. Which of the following respiratory organs are present in spiders and scorpions?

a) Book lungs

b) Gills

c) Gill books

d) Lungs

211. Nasopharynx opens through the ...A... of the larynx region into the ...B... Choose the correct option for A and B to complete the given NCERT statement

a) A-trachea, B-lungs

b) A-trachea, B-glottis

c) A-glottis, B-lungs

d) A-glottis, B-trachea

212. When temperature decreases oxyhaemoglobin curve will become

a) More steep

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b) Straight

c) Parabola

d) All of these

213. Skin is an accessory organ of respiration in

a) Human

b) Frog

c) Rabbit

d) Lizard

