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| **Neha Malhotra**  **R.L. Institute M: 9416974837**  **Class : XI**  **“BREATHING & EXCHANGE OF GASES”** |

**Max Time : 1 hr Worksheet – 1 Max Marks = 160**

1. Which is true for diffusion capacity:

|  |  |  |  |
| --- | --- | --- | --- |
| a) N2 > CO2 > O2 | b) CO2 > O2 > N2 | c) O2 > N2 > CO2 | d) N2 > O2 > CO2 |

1. O2 and CO2 carrying capacity of blood is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 15 ml , 5 ml | b) 20 ml . 4 ml | c) 19.8 ml , 4 ml | d) 20 ml . 4.5 ml |

1. PO2 and PCO2 in oxygenated blood are mm Hg

|  |  |  |  |
| --- | --- | --- | --- |
| a) 95 , 40 | b) 100 , 40 | c) 105 , 40 | d) 98 , 33 |

1. Sodium bicarbonate is formed in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) RBC | b) plasma | c) WBC | d) None of these |

1. Pneumatoxic centre is formed in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Dorsal part of pons | b) Ventral part of pons | c) Dorsal part of medulla | d) Ventral part of medulla |

1. The surface area of alveoli is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 10 m2 | b) 100 m2 | c) 1000 m2 | d) 200 m2 |

1. What is vital capacity of our lungs?

|  |  |  |  |
| --- | --- | --- | --- |
| a) IRV + ERV | b) TLC – RV | c) IRV + TV | d) TLC – ERV |

1. True vocal cords are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) one pair | b) two pair | c) Thicker and longer | d) None of these |

1. 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 a active process where as expiration is passive

c) Inspiration and expiration are active processes.

d) Inspiration and expiration are passive processes

1. Mark the correct pair of muscles involved in the normal inspiration in humans:

|  |  |
| --- | --- |
| a) External and internal inter coastal muscles | b) Diaphragm and abdominal muscles |
| c) Diaphragm and external inter coastal muscles | d) Diaphragm and internal inter coastal muscles |

1. CO2 dissociates from carbamino haemoglobin when :

|  |  |
| --- | --- |
| a) PCO2 is high and PO2 is less | b) PO2 is high and PCO2 is less |
| c) PCO2 and PO2 are equal | d) None of above |

1. The oxygen haemoglobin dissociation curve will show a right shift in case of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) High PCO2 | b) high PO2 | c) Low PCO2 | d) Less H+ concentration |

1. Respiratory pigment or oxygen carrier in human’s blood is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Haemocyanin | b) Haemoglobin | c) haemozoin | d) Lymphocytes |

1. The maximum volume of air a person can breathe in after a forced expiration is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Vital capacity | b) ERV + TV + IRV | c) TLC – RV | d) All of these |

1. Which of the following statement is incorrect about transport of gases?

|  |  |
| --- | --- |
| a) About 97 % of O2 is transported by RBCs in the blood | b) 3 % of O2 is carried in dissolved state in the plasma |
| c) 20-25 % of CO2 is transported by RBCs | d) 70 % of CO2 is carried in dissolved state in the plasma |

1. Binding of O2 with haemoglobin is primarily related to which of the following factor?

|  |  |  |  |
| --- | --- | --- | --- |
| a) PCO2 | b) PO2 | c) H+ ion concentration | d) Temperature |

1. Which of the following is a chronic respiratory disorder in which alveolar walls are damaged due to which respiratory surface is decreased? One of the major cause of this diseases is cigarette smoking?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Asthma | b) Emphysema | c) Silicosis | d) Pneumonia |

1. Adam’s apple is another name of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) sound box in birds | b) Sound box in man | c) Epiglottis | d) thyroid cartilage |

1. The PCO2 level in the expired air under normal condition is approximately.

|  |  |  |  |
| --- | --- | --- | --- |
| a) 46 mm of Hg | b) 100 mm of Hg | c) 33 mm of Hg | d) 116 mm of Hg |

1. The amount of oxygen delivered to tissues by 100 ml of blood under strenuous condition is approximately.

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5mL | b) 50 mL | c) 15 mL | d) 150 mL |

1. Affinity of Hb is highest for

|  |  |  |  |
| --- | --- | --- | --- |
| a) O2 | b) CO2 | c) N2 | d) BPG |

1. Surfactant is :

|  |  |
| --- | --- |
| a) is chemically phospholipid | b) is secreted by type II cell of alveoli |
| c) Prevents lungs alveoli from collapsing | d) All the above |

1. Diffusion membrane consists of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1 layer | b) 2 layer | c) 3 layer | d) 4 layer |

1. Which diseases is irreversible?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Emphysema | b) Asthma | c) Pneumonia | d) bronchitis |

1. One gram Hb can carry \_\_\_\_\_\_\_ mL O2

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1.34 mL | b) 15 gm | c) 3.14 mL | d) 2.34 mL |

1. During inspiration, diaphragm turns

|  |  |  |  |
| --- | --- | --- | --- |
| a) flat | b) dome shape | c) Irregular shape | d) None of these |

1. The percentage of carbon dioxide carried by Hb as carbamino-haemoglobin is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 70-75 % | b) 5-10 % | c) 20-25 % | d) 80-85 % |

1. Trachea is lined internally by:

|  |  |
| --- | --- |
| a) Simple squamous epithelium | b) Ciliated Pseudostratified epithelium |
| c) Ciliated squamous epithelium | d) Columnar epithelium |

1. Lungs are covered with 2 layered membrane called :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Pericardium | b) Pleura | c) Periosteum | d) Sclera |

1. During inspiration intra pulmonary pressure:

|  |  |  |  |
| --- | --- | --- | --- |
| a) Decreased | b) Increased | c) Unchanged | d) None of these |

1. TV and ERV of an athlete is 500mL and 1000mL respectively. What will be his Expiratory capacity if its RV is 1200mL:

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1500 mL | b) 1700 mL | c) 2200 mL | d) 2700 mL |

1. CO2 dissociates form carbamino haemoglobin when

|  |  |
| --- | --- |
| a) PCO2 is high & PO2 is low | b) PCO2 is low & PO2 is high |
| c) PCO2 & PO2 are equal | d) None of the above |

1. Which of the following structure is present in mediastinum?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Heart | b) Oesophagus | c) Thoracic duct | d) all of these |

1. Which of the following shows maximum solubility in blood plasma?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Oxygen | b) Nitrogen | c) Carbon dioxide | d) Carbon monoxide |

1. About 1000 ml of air is always is known to remain inside the human lungs. It is described as:

|  |  |  |  |
| --- | --- | --- | --- |
| a) TV | b) RV | c) IRV | d) ERV |

1. Which of the following statement is not true?

|  |  |
| --- | --- |
| a) The PCO2 in the alveolar air is 40 mm Hg | b) The PO2 in the alveolar air is 104 mm Hg |
| c) The PCO2 in the deoxygenated blood is 40 mm Hg | d) The PO2 in the deoxygenated blood is 40 mm Hg |

1. Match column I and column II

|  |  |
| --- | --- |
| Column I | Column II |
| A. Larynx | I. Lid of larynx |
| B. Trachea | II. Unit of lungs |
| C. Alveoli | III. Voice box |
| D. Epiglottis | IV. Wind pipe |

|  |  |
| --- | --- |
| a) A – IV ; B – I ; C – II ; D – III | b) A – I ; B – II ; C – III ; D – IV |
| c) A – III ; B – IV ; C – II ; D – I | d) A – IV ; B – III ; C – I ; D – II |

1. Exchange of gases between blood and alveolar air in lungs occurs by:

|  |  |  |  |
| --- | --- | --- | --- |
| a) Active transport | b) Simple diffusion | c) Osmosis | d) All of these |

1. Involuntary breathing is caused by:

|  |  |  |  |
| --- | --- | --- | --- |
| a) Pituitary gland | b) Exocrine gland | c) Cerebral cortex | d) medulla oblongata |

1. Residual volume occurs in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Alveoli | b) Nostrils | c) trachea | d) Bronchus |