**Neha Malhotra** **R.L. Institute M: 9253556635**

**Max Time : 1 hr** **Class = 11th Biology Test Max Marks : 25**

**Topic: Breathing & Exchange of Gases**

1. Multiple choice questions : [ 1 X 5 = 5]
2. 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. 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. 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. The TLC is the total volume of air accommodated in the lungs at the end of a forced inspiration. This includes:

|  |  |  |  |
| --- | --- | --- | --- |
| a) RV : ERV : IC : EC | b) RV : ERV : VC : FRV | c) RV : ERV : TV : IRV | d) RV : IC : EC : ERV |

1. The PO2 and PCO2 (in mm Hg) at alveoli are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) PO2 = 104 & PCO2 = 40 | b) PO2 = 40 & PCO2 = 45 | c) PO2 = 95 & PCO2 = 40 | d) PO2 = 159 & PCO2 = .3 |

1. Which portion of the human respiratory system is called voice box. [ 1 ]
2. In man the total number of alveoli is : [ 1 ]
3. Trachea divide into right and left primary bronchi at the level of which thoracic vertebra? [ 1 ]
4. Give an example of an occupational respiration disorder? [ 1 ]
5. Define vital capacity. [ 1 ]
6. Explain the process of inspiration under normal conditions. [ 2 ]
7. Distinguish between (i) IRV and ERV (ii) IC and EC [ 2 ]
8. Explain the mechanism of regulation of respiration by medullary respiratory centre. [ 2 ]
9. Define Oxygen dissociation curve. Can you suggest any reason for its sigmoid pattern? [ 3 ]
10. Explain the mechanism of transportation of CO2. [ 3 ]
11. Define the following respiratory disorder (i) Bronchitis (ii) Asthma (iii) Emphysema [ 3 ]

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2. Which is true for diffusion capacity:

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

1. Book lungs are respiratory organs of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Mollusca | b) Mammals | c) Spider | d) earthworm |

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. 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. 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. Name the chronic respiratory disorder caused mainly by cigarette smoking. [ 1 ]
2. Define Total lung capacity (TLC). [ 1 ]
3. Each lung is enclosed in two membranes called as \_\_\_\_\_\_\_\_\_\_\_\_\_\_. [ 1 ]
4. Define diffusion capacity. [ 1 ]
5. Name the instrument used to measure respiratory minute volume? [ 1 ]
6. Differentiate between Residual volume and functional residual capacity. [ 2 ]
7. Explain the mechanism of regulation of respiration by medullary respiratory centre. [ 2 ]
8. Explain the mechanism of internal respiration. [ 2 ]
9. Discuss the transportation of gases (O2 and CO2) in blood. [ 5 ]
10. Describe the mechanism of respiration in man with the help of well labelled diagram. [ 4 ]

**Neha Malhotra** **R.L. Institute M: 9416974837**

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