



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 4th Semester Examination, 2020

**PHYACOR10T-PHYSIOLOGY (CC10)**

**RESPIRATION**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

**Answer any five questions from the following**

8×5 = 40

1. (a) What do you mean by forced expiration volume in 1 second (FEV<sub>1</sub>)? 1  
(b) What do you mean by Bohr effect? What is its physiological significance? 2+2  
(c) What are the Hering-Breuer reflexes? 3
2. (a) How much (ml) O<sub>2</sub> is carried by one gm of normal adult haemoglobin? 1  
(b) What is lung compliance? How is the compliance of the lung affected by emphysema? 2+2  
(c) Discuss the role of diaphragm in the process of inspiration. 3
3. (a) What is lung surfactant? Give example. 2  
(b) What is O<sub>2</sub> debt? 2  
(c) Describe the neural control of breathing. 4
4. (a) What is ventilation-perfusion ratio? 2  
(b) What is Hamburger phenomena? 2  
(c) Describe the two non-respiratory functions of lung. 4
5. (a) Distinguish between anatomical and physiological dead space. 2  
(b) Briefly discuss the process of O<sub>2</sub> transport from lung to tissue. 6
6. (a) What do you mean by hypoxia? 2+2+4  
(b) What is Cheyne Stokes breathing?

(c) With a graphical representation show how the O<sub>2</sub>–Hb dissociation curve change in the following :

- (i) increased partial pressure of CO<sub>2</sub>
- (ii) increased temperature
- (iii) increased 2,3-BPG
- (iv) increased pH

7. (a) What do you mean by acclimatization? 3
- (b) Discuss the process of CO<sub>2</sub> transport from tissue to lung. 5
8. Write brief notes on the following:
- (a) Vital capacity 2
  - (b) Asphyxia 2
  - (c) DRG 2
  - (d) Asthma. 2

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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