THE UNIVERSITY OF BURDWAN

B.Sc. Semester-IV Examination, 2022 (CBCS)

Subject: PHYSIOLOGY

Paper: CC10 (Respiration)

Candidates are required to give their answers in their own words as far as practicable and submit the photograph or scanned copy of their answer script within 30 min after the completion of the examination through the email. The figures in the right-hand margin indicate full marks for each question.

Answer all questions as instructed.

Time: 2 Hours **Full Mark: 40**

Q 1, Answer any **five** from the following: (5 X 2= 10)

a) Name two muscles of expiration.

b) What are the types of pulmonary alveolar macrophages?

c) Mention the chemical constituents of lung surfactant.

d) What is Bohr effect?

e) How much oxygen is carried in 1 gm of haemoglobin?

f) Mention the general features of acute mountain sickness.

g) What is the normal PEFR?

h) Define tidal volume & vital capacity.

Q2. Answer any **two** questions: (2 x 5= 10)

a) State the non-respiratory functions of the lung. How is lung compliance affected in emphysema?

b) Mention the source & functions of lung surfactant.

c) What are the physiological factors affecting lung volumes.

d) Define “anatomic dead space” & ‘physiologic dead space”. How are these measured?

Q3. Answer any **two** questions (10 x 2 = 20)

a) State the process of carbon-di-oxide transport in blood citing a suitable diagram. What are meant by the Hamburger phenomenon & Chloride Shift?

b) State classical theory and present concept of neural regulation of respiration.

c) Elaborate J-reflex in the light of J-receptor of juxta-pulmonary receptor. Mention the characterization & causes of “Cheyne-Stokes breathing”.

d) What are clinical features of acute mountain sickness? State problems associated with ascent to high altitude.

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