

Programme Name & Branch : B.Tech BHT
Course Code and Course Name : BHST205L Applied Human Anatomy and Physiology
Faculty Name(s) : Dr. Kishor Lakshminarayanan
Class Number(s) : 6186
Date of Examination : 18/03/2025
Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)
 CO3. Illustrate the structure and mechanics of the respiratory system, including gas exchange and breathing, and apply clinical diagnostic tools to assess respiratory function and abnormalities.
 CO5. Analyze the structure and function of the sensory and reproductive systems, including vision, hearing, balance, and reproductive anatomy, and use diagnostic methods to assess related abnormalities and disorders.
 CO6. Examine the anatomy and physiology of the digestive and renal systems, including digestive processes, enzyme activity, kidney filtration, and urine production, and use clinical examples and diagnostic tools to understand disease processes in these systems.

Q. No	Question	M	CO	BL
1.	A patient presents with shortness of breath and a persistent cough. Explain the physiological mechanisms involved in normal breathing and gas exchange within the respiratory system. Describe how disruptions to these mechanisms, such as those caused by inflammation or obstruction, can lead to the patient's symptoms. Discuss the role of the diaphragm and intercostal muscles in respiration and how their dysfunction would affect breathing. Finally, outline the basic physiological parameters that would be measured to assess the patient's respiratory function and explain what each parameter indicates.	10	3	3
2.	Describe the anatomical structure of the lungs, including the alveoli and capillaries. Explain how the unique structure of the alveoli facilitates efficient gas exchange. Discuss the physiological factors that influence the rate of oxygen and carbon dioxide diffusion across the alveolar-capillary membrane. If a patient had a pulmonary embolism, how would this affect the gas exchange and why?	10	3	4
3.	Explain the process of visual accommodation, including the role of the lens and ciliary muscles. Describe how light is focused onto the retina and converted into nerve impulses. Discuss the common visual impairment of myopia (nearsightedness) and explain the anatomical and physiological factors that contribute to it. How do corrective lenses help in this situation?	10	5	3
4.	Describe the anatomical structure of the inner ear, including the cochlea and vestibular apparatus. Explain the physiological mechanisms involved in hearing and balance. Discuss how damage to the cochlea or vestibular apparatus can lead to	10	5	4



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CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

SLOT: C1+TC1

	hearing loss or dizziness. If someone sustained a head injury that damaged their semicircular canals, what symptoms would they likely experience?			
5.	Explain the process of urine formation in the nephron, including filtration, reabsorption, and secretion. Discuss the role of the kidneys in regulating fluid and electrolyte balance in the body. If a patient had decreased blood flow to the kidneys, how would this affect urine production and blood pressure, and why? Describe the function of the Renin-Angiotensin-Aldosterone system.	10	6	3