

Y/R/TK

Reg. No: 23BM10094



VIT

Vellore Institute of Technology

Final Assessment Test – November 2024

Course: BBMD101L - Anatomy and Physiology

Class NBR(s): 4164

Time: Three Hours

Slot: A1

Max. Marks: 100

- KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE
- DON'T WRITE ANYTHING ON THE QUESTION PAPER

General Instruction : Draw diagrams wherever necessary

Answer ALL Questions

(10 X 10 = 100 Marks)

1. Combine your understanding of the different types of tissues and demonstrate how they come together in performing tissue regeneration.
2. Develop a detailed model that illustrates how myocardial ischemia impacts the heart's function. Based on this, propose the appropriate course of therapeutic intervention needed to manage the condition.
3. Apply your knowledge of the structure and function of the central nervous system (CNS) to create a comprehensive model that demonstrates how the brain and spinal cord coordinate to regulate body functions and maintain homeostasis.
4. Using diagrams illustrate and explain how different refractive errors, including myopia, hyperopia and astigmatism, alter the eye's ability to focus light.
5. Break down the role of the hypothalamus-pituitary axis in controlling growth, stress response and reproduction. How do overproduction or underproduction of hormones like growth hormone, cortisol or gonadotropins alter physiological functions?
6. Propose a comprehensive explanation of how these structures contribute to the protection of the respiratory system- the nose, nasal cavity, pharynx and larynx.
7. Demonstrate how the liver and pancreas contribute to digestion and metabolism. How would you apply this understanding to diagnose a patient with symptoms of pancreatic enzyme deficiency?
8. Illustrate how bones act as reservoirs for minerals like calcium and phosphorus. How would you apply this understanding to suggest nutritional interventions for patients at risk of bone density loss?
- 9.(a) Break down the function of the pineal gland in regulating circadian rhythms through the secretion of melatonin. How does a disruption in melatonin production affect sleep patterns and overall health, especially in conditions like insomnia or seasonal affective disorder (SAD)?

OR

- 9.(b) Examine the role of the adrenal gland in regulating the body's response to stress through the secretion of cortisol and adrenaline. How do disorders such as Addison's disease or Cushing's syndrome disrupt this process and what are the physiological consequences?
- 10.(a) Highlight the importance of erythrocytes and leukocytes by discussing the conditions that involve their dysfunction, explain how these disorders impact the overall functioning of the body.

OR

- 10.(b) Predict the long-term effect of high blood pressure on the blood vessels explain the implication of the general functioning of the heart.

==== Y/K/TX =====