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Question Paper Code: 1213369

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024

Third Semester

Biomedical Engineering

U20BM304 - ANATOMY AND HUMAN PHYSIOLOGY

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. Label the key ions involved in generating an action potential.
2. List the types of tissues.
3. Inter the major bones in the human skeletal system.
4. Explain the inspiration phase of respiration.
5. Name the properties of Cardiac muscle.
6. Explain the functions of lymphatic systems.
7. Recall the role of rods and cones in vision.
8. Show the main components of the peripheral nervous systems.
9. Show the structure of kidney.
10. List the organs of digestive system.

PART – B

(5 x 16 = 80 Marks)

11. (a) (i) Illustrates the structure of a human cell explain its components. (8)
(ii) Summarize the stages of an action potential, including depolarization and repolarization. (8)

(OR)

- (b) Compare the functions & types of different glands. (16)

12. (a) (i) Construct the types of joints with its functions. (8)
(ii) Explain the major bones of the human body with necessary illustration. (8)

(OR)

- (b) (i) Explain the regulation of acid base balance by respiratory system. (8)
(ii) Compare the processes of inhalation and exhalation. (8)

13. (a) (i) Explain the cardiac cycle of the heart. (8)
(ii) Compare pulmonary and systemic circulation. (8)

(OR)

- (b) Classify the types of lymphatic organs and vessels. (16)

14. (a) Summarize the pathway that light follows from entering the eye to being processed in the brain. (16)

(OR)

- (b) Outline the roles of the sympathetic and parasympathetic nervous systems in regulating bodily functions. (16)

15. (a) Outline the formation of urine in kidney. (16)

(OR)

- (b) Explain the process of digestion and absorption in human body. (16)