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Question Paper Code: U2B04

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

Second Semester

Biomedical Engineering

21UBM204- Human Anatomy And Physiology

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

- Which of the following is a functional unit of a body? CO1- U
(a) Mitochondria (b) Cytoplasm (c) Spleen (d) Cell
- Natural Pacemaker of heart is _____ CO1- U
(a) AV node (b) SA node (c) Bundle of HIS (d) Ventricle muscles
- _____ is a quick response to the stimuli that passes the brain. CO1- U
(a) Reflex action (b) Voluntary action (c) Knee jerk (d) Receptors
- Out of the following, which is a major secretory layer of the GI tract? CO1- U
(a) Mucosa (b) Submucosa (c) Muscularis (d) Serosa
- The presence of what makes the matrix of bones hard? CO1- U
(a) Phosphate salts (b) Chondroitin salts (c) Calcium salts (d) Sodium salts

PART – B (5 x 3= 15 Marks)

- What is the significance of studying human anatomy and physiology for biomedical engineering? CO3- Ana
- “Excitability is the property of cardiac muscle”-justify the statement CO3- Ana
- What is myelin sheath? What function does it perform for lungs? CO1- U
- Write the 5 process of digestive system. CO1- U
- Name different refractory errors of the eye. CO1- U

PART – C (5 x 16= 80Marks)

11. (a) Describe the events taking place during meiosis I with neat diagram. List the main differences between mitosis and meiosis. CO1-U (16)
- Or
- (b) Explain the structure and function of cell with neat diagram. CO1-U (16)
12. (a) Elucidate the mechanism of breathing. CO1-U (16)
- Or
- (b) Explain in details about the chambers of the heart with circulation of blood. CO1-U (16)
13. (a) Explain the functional anatomy of brain. CO1-U (16)
- Or
- (b) Write the difference between sympathetic and parasympathetic nervous system. CO1-U (16)
14. (a) Explain in detail about the nephron and the urinary bladder. CO1-U (16)
- Or
- (b) Explain the structure and functions of Gastro Intestinal Tract with neat diagram. CO1-U (16)
15. (a) Elaborate in detail about the sensory organs CO1-U (16)
- Or
- (b) Elucidate in detail about bone and its types. CO1-U (16)