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Question Paper Code:R2B04

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

First Semester

Biomedical Engineering

R21UBM204- HUMAN ANATOMY AND PHYSIOLOGY

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (10 x 2 = 20 Marks)

1. Name the formation of male and female gametes. CO1-U
2. What are the techniques involved in meiosis? CO1-U
3. Classify the respiratory tract. CO1-U
4. Define systemic circulation. CO1-U
5. Outline the role of the spinal cord in the central nervous system. CO1-U
6. What is the peripheral nerves structure and function? CO1-U
7. List the primary function of the kidneys in the human body? CO1-U
8. Define digestion. CO1-U
9. Name different refractory errors of the eye. CO1-U
10. Write about optics of eye. CO1-U

PART – B (5 x 16= 80 Marks)

11. (a) Explain the different phases of cell division occurs at unicellular organism and sex cells with neat diagram. CO1-U (16)
- Or
- (b) Describe the events taking place during meiosis with neat diagram. CO1-U (16)
List the main differences between mitosis and meiosis.

12. (a) (i) During breath-in, explain what is happening in thoracic cage. CO1-U (8)
(ii) Elucidate the mechanism of breathing. CO1-U (8)
Or
- (b) Explain in details about the chambers of the heart with circulation of blood. CO3-U (16)
13. (a) How does the nerve cell classified show the difference with explanation and diagram. CO1-U (16)
Or
- (b) Give a schematic representation of Organization of nervous system. CO1-U (16)
14. (a) Demonstrate the process of digestion with enteric nervous system and blood circulation . CO1-U (16)
Or
- (b) How does the process of filtration, reabsorption, and secretion in the nephron contribute to maintaining homeostasis? Explain in detail. CO1-U (16)
15. (a) Categorize physiology of the following organs CO1-U (16)
(i) Eye (ii) Nose (iii) Ear
Or
- (b) Explain the process of physiology of muscle contraction and neuromuscular junction. CO1-U (16)