Code.No: A109211102 | R09 | SET-1

II B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
ANATOMY AND PHYSIOLOGY
(BIO-MEDICAL ENGINEERING)

Time: 3hours **Max.Marks:75**

Answer any FIVE questions
All questions carry equal marks
- - -

1. Classify the bones of axial and appendicular skeletal system. [15]

2. Identify principle parts of the brain and describe how brain is protected? [15]

3. Describe the structure of the pericardium and heart wall. [15]

4. Describe the composition of lung in its functional role in respiration. [15]

5. Write short notes:
   a) Physiological implications of spare and non-spare conditions of hormonal receptors.
   b) Proopiomelanocortin.
   c) Explain the biphasic effect of growth hormone.
   d) Thyroid auto regulation. [15]

6. Write short notes on:
   a) Renal plasma clearance
   b) Estimation of Renal Blood Flow
   c) Cystometrogram
   d) Micturition reflex. [15]

7. Write about the motor functions and control of proximal and distal stomach. [15]

8. Describe the functional morphology and functions of spleen. [15]

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II B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
ANATOMY AND PHYSIOLOGY
(BIO-MEDICAL ENGINEERING)

Time: 3hours **Max.Marks:75**

Answer any FIVE questions
All questions carry equal marks
- - -

1. Describe the skeleton of the thorax with a neat diagram. [15]

2. Explain Electroencephalogram in detail? Discuss about neurotransmitters. [15]

3. What is electrical activity of cardiac muscle? What is Electrocardiograph? [15]

4. Describe the responses of the respiratory system to exercise. [15]

5. Write short notes:
   a) Hypothalamic – pituitary – thyroid axis.
   b) Autoregulation of thyroid hormone synthesis.
   c) Transport and metabolism of thyroid hormones.
   d) Thyrotoxicosis and Cretinism. [15]

6. What is physiological caudo – cephalic peristalsis? Explain its role in the digestion and absorption. [15]

7. Write short notes:
   a) Antigen Presenting Cell (APC)
   b) Role of lymph node in immunological memory.
   c) Role of lymph node in the localization and prevention of infections.
   d) Role of lymph in cardiovascular homeostasis. [15]

8. Write short notes:
   a) Renal function tests
   b) Diuretics
   c) Loop diuretics
   d) Osmolarity of body fluids. [15]

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II B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
ANATOMY AND PHYSIOLOGY
(BIO-MEDICAL ENGINEERING)

Time: 3hours **Max.Marks:75**

Answer any FIVE questions
All questions carry equal marks
- - -

1. Classify bones based on their shape and location. [15]

2. Discuss about the physiology of spinal cord in detail. What is neuritis? [15]

3. Give the performance characteristics of heart? Draw and label an ECG waveform? [15]

4. Discuss the developmental anatomy of the respiratory system in detail. [15]

5. Name the hormones of adrenal cortex. Explain their biosynthesis and metabolism. [15]

6. What is micellar zone? Explain the physiology of prevention of gall stone formation within the framework of triangular coordinate system. [15]

7. Write short notes:
   a) The role of thymus in immunotolerance.
   b) Cell mediated immunity and graft rejection. [15]

8. Write short notes on:
   a) Juxtaglomerular Apparatus
   b) Tubuloglomerular feedback
   c) Loop of Henle
   d) Peculiarities of Renal Blood Flow. [15]

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Code.No: A109211102 | R09 | SET-4

II B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
ANATOMY AND PHYSIOLOGY
(BIO-MEDICAL ENGINEERING)

Time: 3hours **Max.Marks:75**

Answer any FIVE questions
All questions carry equal marks
- - -

1. Explain the regions and bones of vertebral column? [15]

2. Define the medical terminology associated with the ear? Explain Electrocorticogram? [15]

3. Describe the functions of blood. Define the terms antigen and antibody. [15]

4. How does the control of respiration demonstrate the Principle of homeostasis? Write about exchange of gases in lungs. [15]

5. Write short notes:
   a) CRH-ACTH-Cortisol axis
   b) TRH-TSH-Thyroid hormone axis. [15]

6. Discuss the role of nor-adrenergic and non-cholinergic inhibitory nerves (NANC) in the regulation of mechanical properties of gut smooth muscles. [15]

7. Explain in detail the processing of blood borne antigens and trapping of aged and abnormal RBCs spleen. [15]

8. Define micturition reflex. Describe the nerve supply of bladder? Explain the role of Laplace law in normal micturition process. [15]

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