



'সমানো মন্ত্র: সমিতি: সমানী'

**UNIVERSITY OF NORTH BENGAL**  
B.Sc. Honours 3rd Semester Examination, 2023

**CC6-ZOOLOGY**

**PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEM**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

1. Answer any **five** questions from the following: 1×5 = 5
  - (a) Name two protein fibres present in the extracellular matrix of the connective tissue.
  - (b) What is action potential?
  - (c) Write the function of Leydig cell.
  - (d) What is periosteum?
  - (e) Define paracrine signal.
  - (f) What are GPCRs?
  - (g) What type of epithelium is one-cell-layer thick?
  - (h) What is the covering of an individual muscle fibre?
  
2. Answer any **three** questions from the following: 5×3 = 15
  - (a) Differentiate between elastin and collagen.
  - (b) Describe the composition of bones.
  - (c) Compare and contrast skeleton, smooth and the cardiac muscles.
  - (d) With proper diagram, briefly describe the histological structure and function of endocrine pancreas. 1+2+2
  - (e) Write a short note on neuro-muscular junction.
  
3. Answer any **two** questions from the following: 10×2 = 20
  - (a) Write down the components of cartilage. Name the different types of cartilage. Describe the process of Chondrogenesis. 1+1+8
  - (b) Discuss in brief about peptide hormone, steroid hormone, amino hormone and eicosanoid hormone with examples.  $2\frac{1}{2} \times 4 = 10$
  - (c) Identify the six hormones produced by the anterior lobe of the pituitary gland, their target cells and their principal actions. How the secretion of the anterior lobe of pituitary gland is regulated by the hypothalamus?  $(1\frac{1}{2} + 1\frac{1}{2} + 3) + 4$
  - (d) Describe the histoarchitecture of mammalian ovary with a suitable diagram. Name the hormones secreted by ovary and mention their functions. 5+(2+3)

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