

B.Sc.- I (NEP) - Semester-I  
**BSCBC501 - Biochemistry Core Paper-I - Human Physiology**

P. Pages : 2

Time : Three Hours



**GUG/W/24/15920**

Max. Marks : 40

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw diagrams wherever necessary.

1. i) Describe the structure of Hemoglobin. 4  
ii) Describe the functions of Hemoglobin. 4

**OR**

- a) Explain the 'Chloride Shift' phenomenon. 2  
b) Give the functions of platelets. 2  
c) Write a note on iron deficiency anemia. 2  
d) Give the composition of blood. 2
2. i) Describe the molecular organization of muscle contractile system. 4  
ii) Draw well labelled diagram of Contractile unit. 4

**OR**

- a) How are proteins digested in the gastric juice? 2  
b) What are different types of muscles? Explain with diagram. 2  
c) Explain the role of bile juice in lipid digestion. 2  
d) Explain the digestion of starch in mouth. 2
3. i) What is synapse? Draw well labelled diagram. 4  
ii) Discuss the mechanism of transmission of nerve impulse through synapse. 4

**OR**

- a) What is depolarization and repolarization of nerve cell membrane. 2  
b) Briefly discuss the functions of male sex hormones. 2

- c) Give the diagrammatic representation of menstrual cycle. 2
- d) With well labelled diagram explain the stages of Spermatogenesis. 2
- 4. i) What are hormones? What is their action on the organs? 4
- ii) Discuss the mechanism of action of peptide hormone. 4

**OR**

- a) Give the functions of posterior pituitary gland. 2
- b) Give the classification of hormones with examples. 2
- c) Write a note on organization of endocrine system. 2
- d) What are the functions of insulin hormone? 2
- 5. Attempt **any eight** of the following. (one mark each) 8
- a) Give two examples of plasma proteins.
- b) What is natural anticoagulant?
- c) Name the two types of lymphocytes.
- d) Write the proteolytic enzyme present in pancreatic juice.
- e) Name the enzyme which digest fats in mouth.
- f) Name the regulatory protein in muscles.
- g) Give two examples of neurotransmitters.
- h) What are bipolar neurons?
- i) Which is the target tissue of HCG hormone?
- j) Give example of second messengers.
- k) Name the hormones secreted by thyroid gland.
- l) What are adrenal medullary hormones?

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