

**Bachelor of Science (B.Sc.) Semester—II (C.B.S.) Examination**

**BIO-CHEMISTRY (Human Physiology)**

**Compulsory Paper—1**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) All questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. Give detailed account of different stages of menstrual cycle. 10

**OR**

Describe in brief the following mechanisms of urine formation :

(a) Glomerular filtration 5  
(b) Tubular reabsorption of  $\text{Na}^+$  and Water. 5  
2. Explain the mechanism of coagulation of blood by Intrinsic pathway. 10

**OR**

Write notes on :

(a) Chloride shift 2½  
(b) Draw structure of granulocytes 2½  
(c) Transport of  $\text{O}_2$  2½  
(d) Functions of platelets. 2½  
3. (a) Describe in brief the mechanism of synaptic transmission. 5  
(b) Describe the structure of neuron with the help of a well labeled diagram. 5

**OR**

(c) Describe the physiological properties of nerve fibers. 5  
(d) Explain the conduction of nerve impulse along with non myelinated nerve fibre. 5  
4. (a) Describe the mechanism of action of steroid hormones. 5  
(b) Name and describe the functions of hormones secreted by posterior pituitary. 5

**OR**

(c) Classify hormones on the basis of chemical nature. 2½

(d) Write a note on adrenal medullary hormones. 2½

(e) Describe the role of parathyroid hormones in the regulation of calcium level. 2½

(f) Describe the disorders associated with thyroid hormones. 2½

5. Solve any **ten** of the following : 1

(i) What are podocytes ? 1

(ii) Define spermatogenesis. 1

(iii) Name the protein present in plasma in highest concentration. 1

(iv) Name the different types of lymphocytes. 1

(v) What is Bohr's effect ? 1

(vi) Name the tissue that secretes the hormone progesterone. 1

(vii) What is meant by bipolar neurons ? 1

(viii) Name any two neurotransmitters. 1

(ix) Name any two hormones of anterior pituitary. 1

(x) Name any two second messengers involved in action. 1

(xi) Name the ions responsible for generation of nerve action potential. 1

(xii) Name any two functions of pancreatic hormones. 1