

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. Describe the mechanism of urine formation. 10

OR

Write notes on :

- (a) Spermatogenesis 5
 (b) Juxtaglomerular apparatus. 5
 2. (a) Give the composition of blood. 5
 (b) Write a note on T and B lymphocytes. 5

ORExplain the mechanism of transport of CO₂ by blood. 10

3. Describe synapse and mechanism of synaptic transmission. 10

OR

Explain the mechanism of conduction of nerve impulse along myelinated and non-myelinated nerve Fibre. 10

4. Describe mechanism of action of peptide hormones using cAMP as a second messenger. 10

OR

(a) Name the hormones secreted by anterior pituitary gland. Give one function of each hormone. 2½

(b) Write the function of parathormone. 2½

(c) Give the functions of T₃ and T₄. 2½

(d) Give the basic mechanism of action of steroid hormones. 2½

5. Answer any **ten** of the following :

- (i) Sertoli cells are present in which organ ? 1
 (ii) Name any two phases of menstrual cycle. 1
 (iii) _____ cells secrete a male sex hormone testosterone. 1
 (iv) Which metal ion is present in Heme molecule ? 1
 (v) Mention one function of Monocyte. 1
 (vi) Prothromine converts fibrinogen to _____ during clotting. 1
 (vii) What is meant by bipolar neuron ? 1
 (viii) What is all or none law ? 1
 (ix) _____ pump restore the original resting potential of nerve fibre. 1
 (x) Name two hormones secreted by adrenal gland. 1
 (xi) Name any two second messengers. 1
 (xii) Vasopressin is also known as _____. 1