

Bachelor of Science (B.Sc.) Semester–II Examination
BIO-CHEMISTRY (Human Physiology)

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. (a) Describe the structure of nephron with suitable diagram. 5
- (b) Describe in detail the mechanism of glomerular filtration by kidney. 5

OR

- (c) Draw a well labelled diagram of T.S. of testis. Add a note on the functions of male sex hormones. 5
- (d) Explain the post ovulatory phase of menstrual cycle. 5
2. Explain the mechanism of transport of CO₂ by blood. 10

OR

Write notes on :

- (a) Structure of hemoglobin 5
- (b) Composition of blood. 5
3. (a) Describe in detail the saltatory conduction. 5
- (b) Describe the structure of neuron. 5

OR

- Give an account of events involved in transmission of nerve impulses across synaptic junction. 10
4. Describe the mechanism of action of peptide hormone using cAMP as a second messenger. 10

OR

- (a) Explain the role of hypothalamus in hormonal secretion. 2½
- (b) Discuss the functions of parathormone. 2½
- (c) Describe the mechanism of action of steroid hormones. 2½
- (d) Write a note on cortisol. 2½
5. Answer any **ten** of the following :
 - (i) Write the name of hormone secreted by developing placenta. 1
 - (ii) Name the tissue which secretes progesteron. 1
 - (iii) Name two types of cells present in juxtaglomerular apparatus. 1
 - (iv) Mention one function of platelets. 1
 - (v) What is Bohr's effect ? 1
 - (vi) What is oxygenated form of hemoglobin ? 1
 - (vii) Differentiate between myelinated and nonmyelinated neurons. 1
 - (viii) What is meant by refractory period ? 1
 - (ix) What is meant by sensory neurons ? 1
 - (x) Which endocrine gland is involved in regulation of blood glucose level ? 1
 - (xi) Name any two hormones of adrenal medulla. 1
 - (xii) Parafollicular cells of thyroid secretes _____ hormone. 1