



**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours Part-III Examination, 2021

**ZOOLOGY**

**PAPER-VI (REVISED NEW SYLLABUS)**

**BIOCHEMISTRY, MOLECULAR BIOLOGY AND PHYSIOLOGY**

Full Marks: 90

**ASSIGNMENT**

*The figures in the margin indicate full marks.*

**GROUP-A**

**(BIOCHEMISTRY, MOLECULAR BIOLOGY)**

**Answer any *three* of the following**

15×3 = 45

1. Classify standard amino acids based on the basis of R groups. Differentiate  $\alpha$ -helix and  $\beta$ -pleated structure of protein.
2. Discuss the  $\beta$ -oxidation of even numbered C-containing saturated fatty acids. Differentiate between saturated and unsaturated fatty acids with proper examples.
3. Briefly state the aminoacylation of t-RNA and process of translation in *E. coli*.
4. Describe the *lac* operon as negative and negative regulator of transcription in *E. coli*.
5. Describe briefly the metabolic pathway of Krebs cycle.

**GROUP-B**

**(PHYSIOLOGY)**

**Answer any *three* of the following**

15×3 = 45

6. Describe the intrinsic and extrinsic pathways of blood coagulation.
7. Describe the structure of the heart and cardiac cycle with proper diagram.

8. Explain the process of glomerular ultrafiltration and selective reabsorption in nephron with suitable diagrams.
9. Describe briefly the molecular mechanism of synaptic transmission of impulse with special reference to a chemical synapse.
10. Write the mechanism of digestion and absorption of carbohydrates and protein in man.

—×—