



WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 3rd Semester Examination, 2021-22

ZOOACOR07T-ZOOLOGY (CC7)

BIOCHEMISTRY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

All symbols are of usual significance.

1. Answer any **eight** questions from the following: 2×8 = 16
 - (a) What are ketone bodies?
 - (b) What is pK_a of water?
 - (c) What is Z-DNA?
 - (d) What is Chargaff's rule?
 - (e) What is coenzyme?
 - (f) Define isoelectric point of an amino acid.
 - (g) Draw the chemical structure of a disaccharide.
 - (h) What are the functions of TCA cycle?
 - (i) What are miRNA and siRNA?
 - (j) Name two buffers in living system.
 - (k) Name one non-polar amino acid and one sulphur containing amino acid.
 - (l) Draw basic structure of a nucleotide.

2. Answer any **three** questions from the following: 3×3 = 9
 - (a) Describe the urea cycle with a flowchart.
 - (b) Describe the pentose phosphate pathway with a flowchart.
 - (c) Why is thermogenin called an uncoupler?
 - (d) Write a short note on different factors affecting enzyme action.
 - (e) Write a short note on Lineweaver-Burk plot.

3. Answer any **three** questions from the following: 5×3 = 15
 - (a) Describe the steps of β -oxidation of a saturated fatty acid molecule.
 - (b) Describe the steps of oxidative phosphorylation with a short note on its biological significance.
 - (c) Derive Michaelis-Menten equation.
 - (d) Write short notes on transamination and deamination. 2½ + 2½
 - (e) Write down the steps of gluconeogenesis. What is reducing sugar? 4+1

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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