



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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