



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 3rd Semester Examination, 2020, held in 2021

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: 2×8 = 16
- (a) What is an allosteric enzyme?
 - (b) What is pentose phosphate pathway?
 - (c) Name one amino acid with sulphur moiety and one amino acid with phenol ring.
 - (d) Name one saturated and one unsaturated fatty acid.
 - (e) Name one disaccharide with its basic sugar moieties.
 - (f) Name one anabolic and one catabolic mechanism in body.
 - (g) Define buffer.
 - (h) What is the function of urea cycle?
 - (i) What do you mean by redox system?
 - (j) How many ATP is generated in glycolysis?
 - (k) Name the bonds present in protein structure.
 - (l) Why TCA cycle is called so?
 - (m) What is the difference between a nucleoside and a nucleotide?
 - (n) Why histone molecules contain basic amino acids?
2. Answer any **three** questions: 3×3 = 9
- (a) Describe the basic structure of an amino acid. 3
 - (b) What are basic differences between DNA and RNA? 3
 - (c) Name one weak acid and one weak base. Why they are called so? 2+1
 - (d) If a 100 bp long DNA bears 36 Adenines how many other bases are there in that strand? 3

- (e) How alpha helix is generated in a protein? 3
- (f) Draw the molecular structure of any one carbohydrate. 3

3. Answer any *three* questions: 5×3 = 15

- (a) Deduce Michaelis-Menten Equation.
- (b) Describe beta-oxidation of a saturated fatty acid.
- (c) Schematically represent the TCA cycle.
- (d) Describe the different levels of protein structure with a suitable example.
- (e) Describe electron transport system (flow chart only).
- (f) What is Lineweaver-Burk Plot? What are the different factors affecting the rate of enzyme-catalyzed reactions?

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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