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: $5\times3 = 15$

   (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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