## 2020

## **ZOOLOGY** — HONOURS

Paper: CC-7

Full Marks: 50

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

## 1. Answer any fifteen questions:

2×15

- (a) State two biological importance of monosaccharides.
- (b) Define co-enzyme. Give an example.
- (c) What is PUFA? State its significance.
- (d) Define essential amino acids. Give an example.
- (e) Name different bonds found in the tertiary structure of protein (4 types).
- (f) Differentiate between fibrous and globular protein.
- (g) Mention the role of temperature in any enzymatic reaction.
- (h) Define 'transferases' with example.
- (i) What is E.C. number of enzyme?
- (j) Give example of a competitive enzyme inhibitor and the reaction that it inhibits.
- (k) Define ketogenic amino acids with example.
- (l) Define trans-deamination.
- (m) Mention the chemical structure of AMP.
- (n) Give the structure and features of peptide bond.
- (o) Mention the function of carbomoyl phosphate synthatase with significance.
- (p) Name any two three carbon (3C) compound, which are glycolysis intermediates.
- (q) What is a sphingolipid? Give one example.
- (r) Define rate-limiting step of any enzyme mediated bio-chemical pathway.
- (s) Name two inhibitors of electron transport chain.
- (t) Mention the role of PEPCK (PEP-Carboxy Kinase).
- (u) What is meant by 'ACTIVE SITE' of an enzyme?
- (v) How many molecules of GTP is produced in one round of TCA cycle?

Please Turn Over

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- (w) Define primary structure of protein.
- (x) Write down the significance of salvage pathway.
- (y) Define  $K_m$  with significance.

## 2. Answer any four:

(a)	Describe biological importance of Glycogen, Starch and Cellulose.	2+2+1
(b)	Write a short note on de-amination.	5
(c)	State the role of pH and temperature on enzyme activity.	21/2+21/2
(d)	Schematically represent fatty acid biosynthesis.	5
(e)	Explain the process of gluconeogenesis.	5
(f)	What is uncompetitive inhibition? Explain the effect of this kind of inhibition on $V_{\text{max}}$ MM graph. (Michaelis-Menten Graph).	and K <sub>m</sub> with 1+2+2
(g)	Mention the steps of $\beta$ -oxidation of linoleic acid. (Schematic representation only)	5
(h)	Write a short note on mitochondrial respiratory chain.	5

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