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?

(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. 2½+2½

(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_{max} and K_m with MM graph. (Michaelis-Menten Graph). 1+2+2

(g) Mention the steps of β-oxidation of linoleic acid. (Schematic representation only) 5

(h) Write a short note on mitochondrial respiratory chain. 5

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