B.Sc. (Honours) Examination, 2019

Semester–IV(CBCS)

Zoology

Course – CC-10

(Biochemistry of Metabolic Processes)

Time: Three Hours **Full Marks: 40**

Questions are of value as indicated in the margin.

Answer***anyfive***questions.

1. How is glycogen synthesized? State the importance of sugar nucleotides in the metabolism of glycogen. 6+2=8

2. Describe the oxidative and non-oxidative phases of pentose phosphate pathway. 4+4=8

3. What are dehydrogenases? What do you mean by Q cycle? Discuss the role of Q cycle in the mitochondrial electron transport. 2+1+5=8

4. How does ATP function as universal energy currency? Define – (i) Gibbs free energy, (ii) Enthalpy, (iii) Entropy and (iv) Phosphorylation potential. 4+(1+1+1+1)=8

5. How are fatty acids activated for oxidation and transported into the mitochondria?4+4=8

6. Describe in brief the process of amino acid breakdown in liver of vertebrates. Discuss the steps involved in the production of urea from ammonia. Name the amino acids responsible for the production of glucose and ketone bodies. 2+4+2=8

7. Write notes on ***any two*** of the following: 4×2=8

   (a) Substrate level phosphorylation.

   (b) Gluconeogenesis.

   (c) Fermentation.

   (d) Transamination.
