B.Sc. 3rd Semester (Hons.) Examination, 2020 (CBCS)

Subject: Zoology

Paper: CC – 7

(Fundamentals of Biochemistry)

Full Marks: 40 **Time: 2 Hrs**

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

*Answer any **eight** questions of the following:* 8×5=40

1. Explain the Isomerism of carbohydrates.
2. Enumerate about the functions of phospholipids in biological systems.
3. Deduce the Michaelis-Menten equation to represent the relation between substrate concentration and velocity of enzyme reaction.
4. Outline the basic differences between *de novo* biosynthesis of purine and pyrimidine.
5. A person having glucose 6 phosphate dehydrogenase (G6PD) deficiency was suffering from malaria. Doctor prescribed an anti-malarial drug primaquine for his treatment. Comment on the biochemical and physiological consequences of the treatment on that person.
6. Glycogen, starch and triacylglycerols, all of these can act as energy source in biological system. Which molecule would you prefer to choose as the storage fuel? Justify your choice with three suitable reasons.
7. Two strands of a DNA molecule sometimes unusually can form a triple helical configuration in specific location(s) along the length. Write down its cause and the involvement of special base pairing with suitable diagram.
8. Discuss the mechanism and implication of Q cycle in mitochondrial electron transport chain.
9. Tabulate in detail the energy budget and show the net ATP yield after complete oxidation of one molecule of 3-hydroxy palmityl Co-A.
10. Explain in detail the reaction of gluconeogenesis carried out by the rate limiting enzyme of the said process.
