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Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, OCTOBER 2019

First Semester

Faculty of Science

Branch VIII—Zoology

ZY1C03—BIOCHEMISTRY

(2012—2018 Admissions)

Time : Three Hours Maximum Weight : 30

Section I (Short Answer Type Questions)

Answer any **ten** *out of twelve.*
Weight 1 *each.*

1. Biosynthesis of lactose.
2. Structure and biological role of glucose.
3. Homopolysaccharide and heteropolysaccharide.
4. Structures of cellobiose and maltose.
5. Mutarotation ?
6. Peptide and glycosidic bond.
7. Keratin and Collagen.
8. Domains and motifs.
9. Constraints that affect the stability of alpha helix.
10. Comment on pK and pl value.
11. Biological role of nucleotides.
12. Km value.

(10 × 1 = 10)

Section II (Short Essay Type Questions)

Answer any **five** *out of eight.*
Weight 2 *each.*

13. Explain the structure of tRNA.
14. Define the term co-factor. Give its significance with suitable examples.

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15. What is km, V_{max} ? Explain the effect of substrate concentration on enzyme activity.
16. Explain citric acid cycle and add a note on its significance.
17. Describe the degradation of phenylalanine.
18. Explain glycogenesis and glycogenolysis.
19. How are purine bases degrades and excreted ? Add a note on gout.
20. Explain the Michaelis-Menten equation. Add a note on double reciprocal plot.

(5 × 2 = 10)

Section III (Long Essay Type Questions)

Answer any **two** *out of three.*
Weight 5 *each.*

21. Explain the citric acid cycle.
22. Explain the biosynthesis of Cholesterol and its regulation.
23. Explain the secondary and tertiary structure of protein.

(2 × 5 = 10)