

21/11/13.

Roll No. 

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**B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013**

Biomedical Engineering

III Semester

**BM8301 Fundamentals of Biochemistry**

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. Write briefly the polarity of water?
2. Explain Bohr effect.
3. Define racemisation.
4. Mention the inducers of Glycolysis and state the reasons.
5. Explain the term carnitine.
6. Phospholipids act as emulsifier- justify
7. What are dihedral angles?
8. Draw the structure for the following sequence -A-G-U-C-
9. Briefly explain the importance of temperature in enzyme kinetics?
10. What is gel matrix, give one example?

**Part - B ( 5 x 16 = 80 marks)**

11. i) Explain Henderson and Hasselbach equation (10)
- ii) Briefly describe the role of bilirubin as surfactant & clinical test to identify. (6)
12. a) Describe glycogenesis and glycogenolysis and its hormonal regulation (16)
- (OR)
- b) Explain the following terms: i) Anomers & epimers (4)
- ii) D & L forms of sugars with example (4)
- iii) Heteropolysaccharides (4)
- iv) Esterification of sugars (4)
13. a) i) Describe the biological architecture of cell membrane (8)
- ii) Give a detail account of chemiosmotic theory (8)
- (OR)
- b) i) Illustrate the steps involved in lipogenesis & its hormonal regulation (8)
- ii) Explain the nomenclature of fatty acid (8)
14. a) i) Elaborately discuss on Ramachandran plot (6)
- ii) Structure of helix and sheet (6)
- iii) Ninhydrin reaction with amino acid (4)

(OR)

- b) i) Experiments to prove DNA as a genetic material (8)
- ii) Principle & working of molecular sieve chromatography (8)

15. a) Describe the classification of enzymes (16)

(OR)

- b) Explain i) Holoenzyme & apoenzyme (4)
- ii) Reversible & irreversible inhibition of enzymes (8)
- iii) NAD as coenzymes with example (4)