

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1235

Roll No.

--	--	--	--	--	--	--	--	--	--

B.Tech.

(SEM. III) ODD SEMESTER THEORY

EXAMINATION 2013-14

BIOCHEMISTRY

Time : 3 Hours

Total Marks : 100

SECTION-A

1. Attempt all parts : (10×2=20)

(a) How Glycogen Breakdown linked with ATP production ?

(b) Define Torsion Angles.

(c) Draw the structure of $F_0 - F_1$ complex.

(d) How many NADH will be produced from the introduction of 05 pyruvate molecule to the mitochondria that is poisoned with malonate ?

(e) Give the bond energy of the covalent and non-covalent interaction.

(f) Draw the structure of table sugar and animal sugar. Write the bonds present in them.

(g) Write a short note on vitamins.

- (h) Define Zwitter Ions.
- (i) Give the two examples of poly unsaturated fatty acid.
- (j) Illustrate the Deamination Reaction in Protein Metabolism.

SECTION-B

2. Attempt any three parts : (10×3=30)

- (a) Oxidative Phosphorylation and ATP synthesis are tightly coupled reaction. Justify your answer with the help of suitable reason and diagram.
- (b) Write the elemental composition of DNA. Explain structure and composition of Nucleic Acids with their significance.
- (c) Define Henderson-Hasselbalch Equation. How Henderson-Hasselbalch Equation is important for understanding buffer action and Acid Base Balance in blood and tissue of vertebrates ?
- (d) What do you mean by Carbohydrates ? On what basis they are classified and explain the process by which six carbon molecule convert into three carbon compound.
- (e) Explain the Biosynthesis of protein with the help of diagrammatic presentation.

SECTION-C

3. Attempt any four parts : (12.5×4=50)

- (a) Define Lipids and classify them. What is the importance of Lipid in living system ?
- (b) Explain the biosynthesis of cholesterol and how it is regulated in our body ?

(c) Write short notes on :

- (i) Urea Cycle
- (ii) Modified Carbohydrate.
- (d) Give the metabolic pathway for the De-Novo Biosynthesis of Uridine Mono phosphate. Also explain the conversion from UTP to CTP.
- (e) Mention the biochemical steps involved in the synthesis of Fatty Acids. Write the significance of ketone bodies.
- (f) Explain the different levels of protein organization with the significance of Ramachandran Plot.