

Exam. Code : 107404

Subject Code : 1860

**B.Sc. (Biotechnology) 4<sup>th</sup> Semester**

**BT-3 : BIOCHEMISTRY—IV**

Time Allowed—3 Hours] [Maximum Marks—40

- Note** :—(1) Section A : Attempt **all** questions. Each question carries **1** mark.
- (2) Section B : Attempt any **FIVE** questions. Each question carries **4** marks.
- (3) Section C : Attempt any **TWO** questions. Each question carries **6** marks.

**SECTION—A**

1. Where in the cell synthesis of Fatty acid takes place ?
2. What is the fate of glycerol in degradation of Triacylglycerol ?
3. What is  $\beta$ -oxidation ?
4. Explain the term Feed Back Inhibition.
5. Explain briefly what are Glucogenic amino acids.
6. Draw the structure of any one Heterocyclic amino acid.
7. Differentiate between nucleotide and nucleoside.
8. What is the committed step in the de novo synthesis of purine nucleotide ?

### SECTION—B

1. What is Urea Cycle ? Discuss its importance.
2. Explain how phenylalanine is degraded to fumarate and acetoacetate.
3. Discuss the importance of Transaminase enzyme.
4. What is Salvage Pathway ? Discuss its importance.
5. Explain the regulation of biosynthesis of Purine and Pyrimidine bases.
6. Discuss the transportation of Acetyl CoA from Mitochondria into the cytosol.
7. What is difference between triacylglycerol and phosphoglycerides ?
8. Explain the role of lipoproteins in regulating Cholesterol levels in the body.

### SECTION—C

1. Write a note on biosynthesis of aromatic amino acids. Briefly explain its regulation.
2. Discuss the biosynthesis of nucleotides and their regulation.
3. Explain different steps in degradation of saturated fatty acids containing even and odd number of carbon atoms.
4. Discuss in detail the biosynthesis of Cholesterol.