

B.E. Food Technology and Biochemical Engineering

Second Year First Semester Supplementary Exam

Full Marks 100

Biochemistry and Nutrition I

Part I: 30 marks

1. **Answer any 6 questions** (6x5=30)

- a. What is Cori cycle?
- b. Give example of a pair of aldose ketose isomers involved in glycolysis.
- c. What is GABA? How can it be produced from glutamate?
- d. What is glycogenesis?
- e. Mention the coenzyme of transamination reaction. Give structure.
- f. Distinguish between parallel and antiparallel beta sheets of protein.
- g. What do you understand by fatty liver? What are the factors causing fatty liver?
- h. Name the enzymes of urea cycle.

Part II: 70 marks

Answer any 10 questions (10x7=70)

2.
 - a. What is epimer?
 - b. Give example.
 - c. Define carbohydrate. 2+2+3
3.
 - a. What is peptide bond?
 - b. Describe alpha helix structure of protein. 3+4
4.
 - a. What are lipoproteins?
 - b. What are ketone bodies? 3+4
5.
 - a. What is substrate level phosphorylation?
 - b. What is tertiary structure of protein? 4+3
6.
 - a. What is oxidative phosphorylation?

7. a. What is beta oxidation of fatty acid?
b. Name three irreversible enzymes of glycolysis. 4+3
8. a. What is carnitine shuttle?
b. What is gluconeogenesis? 4+3
9. a. What is translation?
b. What is the significance of HMP shunt? 4+3
10. a. What is the fate of pyruvate in presence of oxygen?
b. What are essential amino acids? 4+3
11. a. What are antioxidants?
b. What are the enzymes of glycogenolytic pathway? 3+4
12. a. Define proteins.
b. Write any two properties of proteins. 3+4