

UNDERGRADUATE THIRD SEMESTER HONOURS EXAMINATIONS, 2021-22

Subject: Nutrition

Course ID: 32311

Course Title: Nutritional biochemistry I

Full Marks: 40

Time: 2 hrs

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1. Answer *any five* of the following questions: 2×5=10

- a) Give the full forms of NADH+H⁺ and ACP.
- b) How many ATPs are produced when one molecule of Palmitic acid is completely oxidized?
- c) Write the significance of production of lactic acid in glycolysis.
- d) Write the location of gluconeogenesis and TCA cycle in the cell.
- e) What is gluconeogenesis?
- f) Define allosteric modulation of enzyme catalyzed reactions.
- g) Describe the function of isomerase enzyme with proper example.
- h) What do you mean by ketogenic amino acid and glycogenic amino acid?

UNIT II

2. Answer *any four* of the following questions: 5×4=20

- a) What is carnitine? Describe its role in fatty acid breakdown. 1+4=5
- b) Discuss the flow of electron through ETC. 5
- c) Describe the structural composition of the fatty acid synthetase complex. 5
- d) Describe the process of glycogenesis. 5
- e) Define and classify lipoproteins. Briefly write about their biological functions. (1+2) + 2
- f) What is ketonuria? Write a short note on ketone bodies. 1+4

UNIT III

3. Answer *any one* of the following questions: 10×1=10

- a) What is Michaelis-Menten equation? "The rates of enzyme catalyzed reactions are influenced by various factors" – Explain. What is specific activity of an enzyme? 2+6+2
- b) Describe the process of conversion of toxic ammonia to urea in humans mentioning enzymes, co-enzymes and co-factors (if any). What is transamination? Discuss the role of pyridoxine in transamination. 6+1+3

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