Undergraduate 3rd Semester (Honours) Examination, 2020-21

Subject: NUTRITION

Course ID: 32311 **Course Code: SH/NUT/301/C-5**

Course Title: Nutritional Biochemistry I

Full Marks: 40 **Time: 2 hrs.**

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions

UNIT I

1. Answer *any five* of the following questions: (2x5=10)

a) Write down the sites of glycolysis and Krebs' cycle in the cell.

b) Mention the enzymes in glycolytic sequence that utilize ATP.

c) Name the enzymes that catalyze the oxidative decarboxylation steps of pyruvate during the TCA cycle and the intermediate steps.

d) What is transamination? Which vitamin plays important role in transamination?

e) What is Michaelis-Menten constant?

f) What is carnitine shuttle?

g) What is glycogenin?

h) What is LDL cholesterol?

UNIT II

2. Answer *any two* of the following questions: (5x4=20)

a) Classify enzymes with proper examples. 5

b) Explain oxidative and substrate level phosphorylation citing suitable examples? 2.5+2.5=5

c) Write a short note on glycogenolysis. 5

d) What is deamination? What are ureotelic and uricotelic organisms? 3+2=5

e) Give a short account of different types of enzymatic competitions. 5

f) Briefly describe the PDH system with proper illustrations. 5

UNIT III

3. Answer *any one* of the following questions: (10x1=10)

a) What are ketone bodies? What is ketosis? Describe the process of beta oxidation of palmitic acid. How many acetyl CoA molecules are produced after beta oxidation of 1 palmitic acid molecule? 2+2+5+1=10

b) What is the double reciprocal plot? Why is it named as such? Derive the double reciprocal plot from the Michaelis-Menten equation. State the significance of this plot. 2+2+4+2=10

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