Total number of printed pages: 02 **Programme(UG)/Semester 3rd/ UFET303**

2023

UFET303: Biochemistry & Human Nutrition

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	Define co-factor. Explain the role of metals as co-enzymes.	2+3
	b)	Explain amino acid pool.	5
	c)	What is fatty acid micelle? Describe the digestion and absorption of dietary lipids.	2+8
2.	a)	Define dipeptide. Explain how a peptide bond is formed.	2+4=6
	b)	What is malnutrition? Explain in brief the anthropometric method of nutritional assessment.	2+4=6
	c)	Explain ETC with a suitable diagram.	8
3.	a)	Define the following terms (any five)	2X5 = 10
		i) Redox reaction ii) Activation energy	
		iii) Monomer iv) NADH	
		v) Isomerase vi) GTP	
	b)	Explain the different phases of cellular pool.	5
	c)	Why is nutritional assessment important?	5
4.	a)	What are the main theoretical models that try to explain the formation of ES complex?	6
	b)	Describe the steps involved in glycolysis.	8
	c)	Explain the biochemical method of nutritional assessment.	6
5.	a)	Distinguish between (any three)	3x3=9
		i) Active site and allosteric site	
		ii) Hydrophobic and hydrophilic amino acids	
		iii) Positive and negative nitrogen balance	

iv) Primary and secondary structure of protein

b) What is optimum temperature? How does temperature affect the action of enzymes on their substrates? 6

c) What are amino acids? Write its important characteristics. 5

6 a) Classify Oligossacharides giving examples. 6

b) Explain in brief the digestion and absorption of protein 7

c) Define Km in enzyme kinetics. Explain the effect of substrate concentration on the velocity of enzymatic reaction. 7

7. Write short notes on any four of the following 4x5=20

a) Role of enzymes in food industry

b) Protein energy malnutrition

c) Group specificity

d) Macromolecule

e) Oxidative phosphorylation