

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2170401****Date:10/05/2019****Subject Name:Enzymes and Proteins****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

MARKS

Q.1	(a)	What is molten globule?	3
	(b)	Discuss in brief the forces that stabilise protein structure.	4
	(c)	Explain allosteric regulation of enzyme action with example.	7
Q.2	(a)	What are the folding funnels?	3
	(b)	Discuss secondary structural elements of protein.	4
	(c)	Define enzyme, cofactor, apoenzyme and holoenzyme and describe different classes of enzymes.	7
OR			
Q.3	(c)	Describe purification of crude enzyme extracts from microbial sources.	7
	(a)	Explain Ramachandran map.	3
	(b)	Write the factors that affect globin folding patterns.	4
	(c)	Enlist various methods of purification of enzymes. Discuss any one in detail	7
OR			
Q.3	(a)	Enlist important enzymes in food industry and discuss the importance of any one.	3
	(b)	Explain principle of affinity chromatography.	4
	(c)	Write the Benefits and limitation of enzyme immobilisation.	7
Q.4	(a)	Explain multi-subunit proteins	3
	(b)	Explain protein-DNA interactions with example.	4
	(c)	How pH and temperature affects enzyme activity? Comment on the deactivation kinetics.	7
OR			
Q.4	(a)	Explain the principle of thin layer chromatography.	3
	(b)	Discuss any protein misfiling disease.	4
	(c)	Explain the principle and procedure of affinity chromatography for protein purification.	7
Q.5	(a)	What is proteostasis?	3
	(b)	Explain thermodynamics of protein folding.	4
	(c)	Give the derivation of Michelis-Menten equation and comment on the significance of it.	7
OR			
Q.5	(a)	What is levinthal paradox?	3
	(b)	Explain general properties of protein protein interfaces.	4
	(c)	Discuss in detail GroEL-GroES mechanism for protein folding.	7
