Bachelor of Science (B.Sc.) Third Semester B.Sc. 2372 - Biotechnology Paper-II (Molecular Biology and Enzymology)

P. P Tim	ages : ie : Thi	2 ree Hours $\star 0.9.9.0 \star$	GUG/W/18/1277 Max. Marks : 50
	Note	s: 1. All questions are compulsory and carry equal marks.	
1.		Explain models of enzyme action with suitable diagrams.	10
		OR	
		Explain in detail factors affecting enzyme activity any two factors.	
2.		Explain initiation, elongation and termination in detail about DNA replica	tion. 10
		OR	
		Describe the protein synthesis in detail.	
3.	a)	Explain nomenclature of enzyme in brief.	21/2
	b)	Give difference between enzyme catalysis and acid base catalysis.	21/2
	c)	Explain structure of holoenzyme DNA polymerase-III.	21/2
	d)	Explain termination in translation of prokaryotes.	21/2
		OR	
	e)	What are isoenzymes? Explain?	
	f)	Explain Lineweaver Burke plot.	
	g)	Give proof of semiconservative replication in DNA.	
	h)	What is shine-Dalgarno sequence? Explain.	
4.	a)	Define terms – i) Coenzyme ii) Cofactor.	21/2
	b)	Give significance of enzyme immobilization.	21/2
	c)	Explain -10 and -35 base sequences of promoter region in transcription.	21/2
	d)	Write a note on 165 rRNA.	21/2

OR

e)	What are allosteric enzyme? Explain with suitable diagram.	21/2
f)	What is enzyme inhibition? Explain in brief.	21/2
g)	Comment on structure of RNA polymerase enzyme.	21/2
h)	Explain Wobble hypothesis.	21/2
	Solve any ten.	
	a) What is holoenzyme?	1
	b) What is EC number in enzyme classification?	1
	c) What is activation energy?	1
	d) What is km in enzyme kinetics?	1
	e) What is temperature quotient?	1
	f) Define immobilization of enzyme.	1
	g) Give role of enzyme helicase in DNA replication.	1
	h) Define Okazaki fragment in DNA replication.	1
	i) What is Operon?	1
	j) What is mRNA cryptogram?	1
	k) If AUG is codon on mRNA, what will be the anticodon on tRNA in translation?	1
	1) Define central dogma of protein synthesis.	1

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