## Bachelor of Science (B.Sc.) (CBCS Pattern) Third Semester CBCS Biotechnology Paper-II : Molecular Biology and Enzymology

1.	P. Pages : 2 Time : Thre		$\begin{array}{c} 2 \\ \text{cee Hours} \\ \end{array} \qquad \qquad$		
	a)	Exp	plain the concept of activation energy.	5	
	b)	Wr	ite a note on Fischer's Lock and key model and Koshland's induced fit n	nodel. 5	
			OR		
	a)	Dis	cuss the classification of enzyme in brief.	21/2	
	b)	Def	fine coenzyme, cofactor and inhibitor.	21/2	
	c)	Exp	plain Isozyme with example.	21/2	
	d)	Wr	ite a note on activator and Modulator.	21/2	
2.		Der	rive the Michaelis Menten equation.	10	
			OR		
	a)	Wr	ite a note on Line weaver Burke Plot.	21/2	
	b)	Def	fine Irreversible inhibition with example.	21/2	
	c)	Ho	w the concentration of enzyme affect the enzyme activity? Explain.	21/2	
	d)	Exp	plain metal ion catalysis.	21/2	
3.		Exp	plain the regulation of Lac operon.	10	
			OR		
		a)	Write a note on DNA polymerase.	21/2	
		b)	Explain the semiconservative mode of DNA replication.	21/2	
		c)	Discuss the Trp operon in brief.	21/2	
		d)	Write a note on Rho dependent termination of Transcription.	21/2	
4.		Exp	plain the process of Translation in detail.	10	
			OR		
		a)	Write a note on Shine-Dalgarno sequence.	21/2	
		b)	Describe couple transcription-translation.	21/2	

c)	What is Wobble hypothesis.	21/2	
d)	Describe the initiation process in protein synthesis.	21/2	
Solve any ten.			
a)	Define apoenzyme.	1	
b)	What is activation energy?	1	
c)	What is turnover number.	1	
d)	What is the application of Enzyme Immobilization.	1	
e)	What is enzyme inhibition.	1	
f)	What is km constant.	1	
g)	What is Pribnow box.	1	
h)	What is operon.	1	
i)	What is the function of helicase enzyme.	1	
j)	What is 16srRNA?	1	
k)	What are Nonsense codon.	1	
1)	What is the role of peptidyl transferase?	1	
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