## BACHELOR OF SCIENCE (B.Sc.) THIRD SEMESTER (OLD) B.Sc. 2361 - MICROBIOLOGY : PAPER-I (Enzymology And Metabolism)

P. Pages : 2 Time : Three Hours			s * 0 9 8 5 *	<b>GUG/W/18/1272</b> Max. Marks : 50
	Notes : 1. 3.		All questions carry equal marks. All questions are compulsory.	
1.		Descrit	be enzyme classification in detail.	10
			OR	
		Derive	Michaelis Menten equation.	10
2.		Descrit	be the EMP pathway in detail.	10
		What is	s phosphorylation? Describe oxidative phosphorylation.	10
3.	a)	Write r	note on induced fit theory.	21/2
	b)	Explair	n the simple sequential model of allosteric enzyme.	21/2
	c)	Give th	e diagrammatic representation of the HMP pathway.	21/2
	d)	Explair	n acetone butanol fermentation.	21/2
			OR	
	e)	Explair	n Irreversible enzyme inhibition.	21/2
	f)	Write r	note on allosteric modulator.	21/2
	g)	Write a	bout anapleuratic reaction.	21/2
	h)	Give th	e mechanism of ATP generation.	21/2
4.	a)	Write a	bout multienzyme complex.	21/2
	b)	Write t	he application of Immobilised enzyme.	21/2
	c)	Give th	e outline of PK pathway.	21/2
	d)	Write a	note on metabolic mill.	21/2
			OR	
	e)	Explair	n Isoenzyme with example.	21/2

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	f)	Differentiate between chemical catalyst and biocatalyst.	21/2
	g)	Give the outline of $\beta$ – oxidation of fatty acid.	21/2
	h)	Give the brief idea about the anaerobic respiration.	21/2
5.	a)	What is transition state?	1
	b)	What is cofactor?	1
	c)	Give the example of competitive inhibitor.	1
	d)	Define activation energy.	1
	e)	What is $f_o^- f_1$ ATPase.	1
	f)	Define turn over number.	1
	g)	What is substrate level phosphorylation?	1
	h)	Name the bacteria in which ED pathway operates.	1
	i)	What is catabolism?	1
	j)	Give the example of saturated fatty acids?	1
	k)	What is significance of NADH <sub>2</sub> .	1
	1)	What is fermentation?	1
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