Dr Saurabh Bansal

COURSE NAME: Industrial Enzymes   MAX.MARKS:15

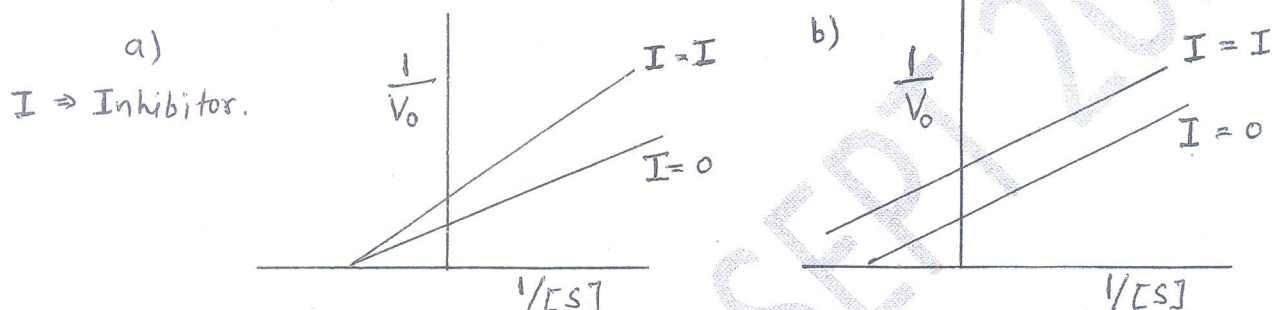COURSE CODE: 10B13BT832   MAX.TIME: 1 HR.

COURSE CREDITS: 03

Note: Carrying of mobile phones during examinations will be treated as a case of unfair means. Give all answers to the point.

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1. The following graph represents which type of inhibition: [1]

   a)

   I ⇒ Inhibitor.

2. Which enzyme will you use and why when the substrate is very costlier on the basis of following given data: [1]

	K_M (M)	K_{cat} (sec^{-1})	K_{cat}/K_M (M^{-1}sec^{-1})
E1	0.01	100	1×10^4
E2	0.01	1×10^4	1×10^6
E3	0.02	2×10^4	1×10^6
E4	0.1	1×10^6	1×10^7

3. What do you understand by Turnover Number and what is its significance? [2]

4. Differentiate between Enzyme and inorganic catalyst in tabulated format. [2]

5. Derive an equation for Eadie-Hofstee plot and explain its limitations and advantages over Lineweaver-Burk plot. [3]

6. What is activation energy of reaction? Explain activation energy concept using free energy diagram for an exergonic reaction in the absence and presence of an enzyme. [3]

7. What are the two major assumptions being made for the derivation of Michaelis-Menton (MM) equation? Derive MM equation. [1+2]