

SARDAR PATEL UNIVERSITY
Programme: BSC (BIOTECHNOLOGY)
Semester: VI
Syllabus with effect from: June 2012

Paper Code: US06CBIT03	Total Credit: 3
Title Of Paper: Enzymology	

Unit	Description in detail	Weighting (%)
1	Enzymology - General characteristics and classification, definition of holoenzymes, coenzymes, apoenzymes, cofactors, activators, inhibitors, units of enzyme activity, isoenzymes, turn over number, specific activity, first order and zero order reactions. Structure of active site of enzymes, specificity of enzyme action - Types and factors affecting enzyme activity. Brief introduction of allosteric enzymes.	
2	Enzyme kinetics - Derivation of Michaelis and Menten equation and its modifications (Line weaver & Burk plot, Eadie- Hofstee and Hannes & Woolf plots). Enzyme Inhibition - competitive, non competitive, uncompetitive, mixed & substrate inhibition.	
3	Enzyme immobilization- types, methods, applications, advantages & limitations. Introduction to reverse micelles.	
4	Sources and applications of enzymes - amylase, protease and lipase in industries (detergent, leather, food , dairy, Textile and medical). Industrial production of enzymes.	

Basic Text & Reference Books:

- Enzymology by Palmer; fundamentals of enzymology - Nicolas Price & Lewis Stevens
- Biochemistry by Zubay; Biochemistry by Stryer, Text book of biochemistry - Vasudevan
- Shreekumari; Biochemistry - Lehninger

