



MANGALORE UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY

MSc Biochemistry

II SEMESTER

BCP458: PRACTICAL ENZYMOLOGY

Practical-Hard Core:4credits

8 hours/week

Course objectives

- To have practical knowledge about enzymekinetics
- To purify the enzymes by ammonium sulphate fractionation
- To calculate K_m , V_{max} of enzymaticreaction.
- To characterize invertase, acid phosphatase, protease and esterase from differentsources

Course outcome

- Student will have a practical knowledge about enzymekinetics
- He is able to purify the enzymes by ammonium sulphatefractionation
- and calculate K_m , V_{max} of enzymaticreactions.
- Characterization of invertase, acid phosphatase, protease and esterase from differentsources

Salivary Amylase: Activity, Specific activity, Optimum pH and Temperature, pH and Temperature Stability, energy of activation, K_m , V_{max} , effect of metal ions, Purification by ammonium sulphate fractionation and enzyme characterization.

Assay methods and some characterization of invertase from yeast, acid phosphatase from potato, protease from papaya and esterase from peas.

References:

1. Enzymes: A Practical Introduction to Structure, Mechanism, and Data Analysis; Robert A. Copeland, Wiley- VCH Publishers (2000).
2. Enzyme Kinetics and Mechanism; Paul F. Cook, W. W. Cleland, Garland Science (2007).
3. Biochemical Calculations, Irwin H. Segel (1976) 2nd Ed. John Wiley and Sons.
4. Methods in Enzymology; Colowick S.P. et al., Vol. 152, Academic Press, (1987)

5. Methods of Enzymatic Analysis; Berg Meyer Vol. 1-X,(1974).
6. Basic Biochemical Laboratory Procedures and Computing, R. Cecil Jack (1995) OxfordUniversity.
7. Enzyme Kinetics; Roberts, D.V. (1977), Cambridge UniversityPress

