Course Code	PS02CBIT54	Title of the Course	LAB-I
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	1. To learn lay out and working conditions of animal cell culture laboratory. 2. To learn carry out viability assay and maintain cell line by subculturing using specific media at appropriate conditions. 3. To learn enayme assays. 4. To learn kinetic analysis of enzymes.

PS02CBIT54 (Lab 1)

1. Lab instruments (CO2 incubator, biosafety, inverted microscope)
2. Viable count (trypan blue)
3. MTT assay
4. Primary and secondary culture of animal cells
5. Invertase Assay
5. Progress curve
6. Enzyme curve
7. Substrate saturation curve
8. Optimization of pH for invertase activity
9. Analysis of Substrate saturation data by various plots
10. Inhibition kinetics
11. Optimization of Temperature for invertase activity
12. Effect of temperature on Rate of reaction and determination of activation energy
13. Effect of temperature on enzyme stability
14. Enzymology workshop: kinetics, plots and numericals

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to

1.	Carry out design and carry out experiments in animal cell culture facilty.
2.	Carry out enzyme assays and determine kinetic constants.

References:

1	Renee Alexander et al.Basic Biochemical methods. John Wiley and sons.
2	Thimmaiah S. K. (2012). Standad Methods of Biochemical Analysis. Kalyani Publishes, New Delhi, India.