SRI VENKATESWARA COLLEGE OF ENGINEERING

COURSE DELIVERY PLAN - LABORATORY

Department of Biotechnology	LP: BT18612 Rev. No: 0 Date: 28.12.2023
~~B.E~~/B.Tech/~~M.E/M.Tech~~ : **Biotechnology** Regulation: 2018A PG Specialisation : NA Sub. Code / Sub. Name : BT18612/ Genetic Engineering Laboratory	

OBJECTIVE:

- Apply the various methodologies to perform DNA extraction.
- Experiment the amplification of DNA using PCR.
- Design a genetic manipulation method for any strain development and improve product production.
- Construct the recombinant microorganism and optimize its protein expression parameters
- Classify the proteins based on molecular mass using SDS PAGE

Session No*	List of Experiments
	CYCLE-I
1	Preparation of plasmid DNA
2	Elution of DNA from agarose gels
3	Ligation of DNA into expression vectors
4	Transformation
5	Optimization of inducer concentration for recombinant protein expression
6	Optimization of time of inducer for recombinant protein expression
	CYCLE-II
7	SDS-PAGE
8	Isoelectric focusing and Two Dimensional Gel Electrophoresis of Proteins
9	Western blotting
10	Hybridization with anti-sera
11	PCR
12	Silver Staining of Polyacrylamide gel
Content beyond syllabus (if any): Demonstration of Real-Time PCR.	

* Session Duration: 200 minutes