M.Sc. (Physics)
Semester -III

Course Code	PS03EPHY36	Title of the Course	Laboratory Course on Energy Science and Technology(EST) Practicals-2
Total Credits of the Course	04	Hours per Week	08

Main Focus of the Course outcomes	Employability	Skill Development	Entrepreneurship
	✓	✓	√
Course Objectives:	1. To impart practical knowledge in the field of respective specialization (EST). 2. To provide hands on experience in designing, planning, working, data collection and analysis as per the set objectives of the practicals. 3. To verify theoretical concepts taught in the EST papers as per syllabus.		

Course Content		
Unit	Description Note: A minimum of 06 experiments for each course must be performed	Weightage (%)
1.	I-V characteristics of a power diode	15
2.	Diode as a temperature sensor	15
3.	Load and line regulation characteristics of a power supply	15
4.	Thermocouple, NTC and PTC temperature sensor characteristics	15
5.	Transmission line I: Characteristics Impedance	20
6.	Transmission line II: Open circuit/short circuit response and determination of length of the line.	20

Teaching-Learning Methodology	Hands own experiment using required Equipments and other accessories for data collection and analysis

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	20%
2.	Internal Continuous Assessment in the form of Journal writing, Practical Viva-voce, Attendance (As per CBCS R.6.8.3)	10%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Expected to gain hands own training to design and conduct of practicals relevant to the specialization
2.	Experience to handle Laboratory Equipments and other accessories for achieving the objectives of the experiments.
3.	Method of data collection and analysis to draw inferences.
4.	Know-how of the computer based analysis

Suggested References:	
Sr. No.	References
1.	Electronic Communication Systems G. Kennedy, Mc-Graw Hill.
2.	Op-Amps and Linear Integrated Circuits Ramakant A. Gayakwad
3.	Integrated Electronics Millman and Halkias
4.	Rangan C S, Sharma G R and Mani V S V, "Instrumentation Devices and Systems", Tata McGraw-Hill, 1983.

On-line resources to be used if available as reference material
On-line Resources

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