Maharashtra State Board of Technical Education, Mumbai **K-2**

LABORATORY PLANNING (LP)

Academic Year: 2025-26 (Even) **Date:** 15/12/2025
Institute Name: K. K. Wagh Polytechnic, Nashik **Institute Code:** 0078
Program and Code: Electrical Engineering (EE) **Course Code &. Abbr.:** UEE (314323)
Course Name: Utilization of Electrical Energy (UEE) **Name of Faculty:** Ms.S.B.Pund
Class: SYEE-Tesla **Semester:** 4th **Scheme:** K **Course Index:209** **Learning Hrs:**60

• Teaching-Learning & Assessment Scheme:

Course Code	Course Title & Abbr	Course Category	Learning Scheme					Credits	Paper Duration (Hrs.)	Assessment Scheme										
			Actual Contact Hrs/Week			SLH	NLH			Theory				Based on LL & TSL Practical				Based on SL		Total Marks
			CL	TL	LL					FA TH	SA TH	Total		FA-PR		SA-PR		SLA		
										Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	
314323	Utilization of Electrical Energy (UEE)	DSC	4	-	2	2	8	4	3	30	70	100	40	25	10	25 @	10	25	10	175

Abbreviations: CL- Class Room Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment
Legends: @ Internal Assessment, # External Assessment, *# On Line Examination, @$ Internal Online Examination

- **COURSE LEVEL LEARNING OUTCOMES (COS)**

CO1 - Design simple lighting scheme.
CO2 - Select type of electric furnaces according to applications
CO3 - Operate the different electric welding system
CO4 - Select suitable electric drive for a particular application
CO5 - Maintain different electric traction system.

- **COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:**

Pr. No	COs	LLO	Name of Experiments/Assignment/ Sheet/ Job/ Project Activity	Planned Date A/B/C	Actual date of Performance	Remark
1	CO1	LLO1.1	*Identification of different lighting accessories required for various types of lamps.	A-24/12/2025 B-15/12/2025 C-16/12/2025	A- B- C-	
2	CO1	LLO2.1	*Comparison of Lumen output of Fluorescent tube , Metal Halide, CFL and LED	A-31/12/2025 B-22/12/2025 C-23/12/2025	A- B- C-	
3	CO1	LLO3.1	Measurement of illumination at different locations in college using lux meter and compare with standard illumination level as per SP 72: 2023.(National Lighting code).	A-07/01/2026 B-29/12/2025 C-30/12/2025	A- B- C-	
4	CO1	LLO4.1	*Design a heating element as per the given parameters.	A-14/01/2026 B-05/01/2026 C-06/01/2026	A- B- C-	

5	CO1	LLO5.1	*Demonstration of different electrical and safety equipment's used for arc welding.	A-21/01/2026 B-12/01/2026 C-13/01/2026	A- B- C-	
6	CO2	LLO6.1	*Identification of different components required for various heating furnaces.	A-04/02/2026 B-19/01/2026 C-20/01/2026	A- B- C-	
7	CO2	LLO7.1	Selection of suitable current range of Welding generator set and Welding transformer for various thickness of metal job.	A-11/02/2026 B-02/02/2026 C-27/01/2026	A- B- C-	
8	CO2	LLO8.1	*Identification of different defects in arc welding job.	A-18/02/2026 B-09/02/2026 C-03/02/2026	A- B- C-	
9	CO2	LLO9.1	*Identification of different defects in arc welding job.	A-25/02/2026 B-16/02/2026 C-10/02/2026	A- B- C-	
10	CO2	LLO10.1	*Estimation of size of motor as per the specified load cycle.	A-04/03/2026 B-23/02/2026 C-17/02/2026	A- B- C-	
11	CO2	LLO11.1	Identification of the different components of an Elevator.	A-11/03/2026 B-02/03/2026 C-24/02/2026	A- B- C-	
12	CO2	LLO12.1	*Demonstrate indirect resistance Oven used in Laboratory.	A-18/03/2026 B-09/03/2026 C-10/03/2026	A- B- C-	

ASSESSMENT METHODOLOGIES/TOOLS

Formative assessment (Assessment for Learning)

- Two unit tests of 30 marks will be conducted and average of two unit tests are conducted. For formative assessment of Laboratory learning 25 marks. Each practicle will be assessed considering appropriate % weightage to process and product and other instructions of assessment.

Summative Assessment (Assessment of Learning)

- End semester summative assessment of 25 marks for laboratory learning. End semester assessment of 70 marks through offline mode of examination**.**

SUGGESTED MICRO PROJECT / ASSIGNMENT/ ACTIVITIES FOR SPECIFIC LEARNING /SKILLS DEVELOPMENT (SELF LEARNING)

Assignment

- Prepare power point presentation related to heating furnaces.
- Prepare power point presentation related to welding equipment and accessories.
- Prepare power point presentation on Mono and Metro rail systems in India.
- Collect Bombay Lift Act and understand rules to inspect electrical components.
- Select any one electric drive. Explain its suitability for any one industrial application through power point presentation.(Electrical and Mechanical Characteristics)

Micro project

- Prepare report on market survey of various types of lamps(specification, manufacturer, application and cost) and do the comparative analysis.
- Prepare a market survey of various drives(specification, manufacturer, application and cost).
- Design suitable lighting scheme for a laboratory or class room.
- Prepare market survey on Lift and Escalator (specification, manufacturer, application and cost)

SLA marks shall be awarded as per the continuous assessment record.

Ms.S.B.Pund
(Name & Signature of Staff)

Mr. S. B. Pawar
(Name & Signature of HOD)