

**GOVERNMENT POLYTECHNIC, MALKANGIRI
DEPARTMENT OF MECHANICAL ENGINEERING**

LESSON PLAN

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Discipline: Mechanical Engineering	Semester: 4th	Name of the Teaching Faculty: CHINMAYA BRAHMADARSHI MISHRA
Subject: Thermal Engineering-II Lab	No. of days/week class allotted 2	Semester From date:22.12.2025 To date:18.04.2026 No. of Week: 15
Course Outcomes	1. Evaluate the performance characteristics of single cylinder diesel/petrol engine at different loads and draw the heat balance sheet 2. Find the indicated power of individual cylinders of an engine by using morse test 3. Evaluate the performance characteristics Multi stage air compressor 4. Evaluate the co efficient of performance of refrigerator 5. Find the thermal conductivity of material	
Week	Class Day	Theory/Practical Topics
1st	1st	Study of high-pressure boiler with model
	2nd	Study of high-pressure boiler with model
2nd	1st	Study of boiler mountings and accessories
	2nd	Study of boiler mountings and accessories
3rd	1st	Conduct performance test on VCR test rig to determine COP of the refrigerator
	2nd	Conduct performance test on VCR test rig to determine COP of the refrigerator
4th	1st	Conduct performance test on multi stage reciprocating compressor
	2nd	Conduct performance test on multi stage reciprocating compressor
5th	1st	Conduct Morse test to determine the indicated power of individual cylinders
	2nd	Conduct Morse test to determine the indicated power of individual cylinders
6th	1st	Conduct Performance test on 2-S CI/SI engine.
	2nd	Conduct Performance test on 2-S CI/SI engine.
7th	1st	Conduct Performance test on 4-S CI/SI engine.
	2nd	Conduct Performance test on 4-S CI/SI engine.
8th	1st	Conduct Heat balance test on CI/SI engine.
	2nd	Conduct Heat balance test on CI/SI engine.
9th	1st	Conduct Heat balance test on CI/SI engine.
	2nd	Conduct Economical speed test on 4-S CI/SI engine.
10th	1st	Conduct Economical speed test on 4-S CI/SI engine.
	2nd	Conduct Economical speed test on 4-S CI/SI engine.
11th	1st	Thermal conductivity test on 1) Thick slab 2) Composite wall 3) Thick cylinder
	2nd	Thermal conductivity test on 1) Thick slab 2) Composite wall 3) Thick cylinder
12th	1st	Thermal conductivity test on 1) Thick slab 2) Composite wall 3) Thick cylinder
	2nd	Leak detection of refrigeration equipment
13th	1st	Leak detection of refrigeration equipment
	2nd	Leak detection of refrigeration equipment
14th	1st	Leak detection of refrigeration equipment
	2nd	Conduct performance test on A/C test rig to determine COP of the refrigerator
15th	1st	Conduct performance test on A/C test rig to determine COP of the refrigerator
	2nd	Conduct performance test on A/C test rig to determine COP of the refrigerator

Chinmaya Brahmadarshi Mishra

Signature of Faculty

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Signature of HOD/

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22/11/25

Signature of Principal

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Signature of Academic Coordinator