

# GOVT.POLYTECHNIC NAYAGARH

## DEPARTMENT OF MECHANICAL ENGINEERING

### LESSON PLAN

**SUBJECT: THERMAL ENGINEERING-1 LABORATORY (PR-4)**

**PERIODS: 4P/WEEK**

**SEMESTER: 3rd**

**NAME OF FACULTY: ABINAS NAYAK, LECTURER STAGE I**

**SEMESTER FROM :14/07/2025 to 15/11/2025**

**NO. OF WEEKS: 15**

Week	Class Day	Theory / Practical Topics
1st	1st Period	Flash & Fire point tests using Able's/Cleveland/ Pensky Martin Apparatus (Theory of Experiment)
	2nd Period	Flash & Fire point tests using Able's/Cleveland/ Pensky Martin Apparatus (Practical Session)
2nd	1st Period	Flash & Fire point tests (Checking Lab Record with Viva Voce)
	2nd Period	Viscosity measurement using Redwood/Saybolt viscometer (Theory of Experiment)
3rd	1st Period	Viscosity measurement using Redwood/Saybolt viscometer (Practical Session)
	2nd Period	Viscosity measurement (Checking Lab Record with Viva Voce)
4th	1st Period	Calorific value test using Bomb Calorimeter (Theory of Experiment)
	2nd Period	Calorific value test using Bomb Calorimeter (Practical Session)
5th	1st Period	Calorific value test using Junkers Gas Calorimeter (Theory of Experiment)
	2nd Period	Calorific value test using Junkers Gas Calorimeter (Practical Session)
6th	1st Period	Calorific value tests (Checking Lab Record with Viva Voce)
	2nd Period	Carbon residue test using Conradson's apparatus (Theory of Experiment)
7th	1st Period	Carbon residue test using Conradson's apparatus (Practical Session)
	2nd Period	Carbon residue test (Checking Lab Record with Viva Voce)
8th	1st Period	Study of petrol and diesel engine components and Models (Theory & Demonstration)
	2nd Period	Assembling and disassembling of I.C. Engines (Practical Session)
9th	1st Period	Assembling and disassembling of I.C. Engines (Practical Session)
	2nd Period	Assembling and disassembling of I.C. Engines (Checking Lab Record with Viva Voce)
10th	1st Period	Valve timing diagram of Petrol engine (Theory of Experiment)
	2nd Period	Valve timing diagram of Petrol engine (Practical Session)
11th	1st Period	Valve timing diagram of Diesel engine (Theory of Experiment)
	2nd Period	Valve timing diagram of Diesel engine (Practical Session)

12th	1st Period	Port timing diagram of Petrol engine (Theory of Experiment)
	2nd Period	Port timing diagram of Petrol engine (Practical Session)
13th	1st Period	Port timing diagram of Diesel engine (Theory of Experiment)
	2nd Period	Port timing diagram of Diesel engine (Practical Session)
14th	1st Period	Timing Diagrams (Checking Lab Record with Viva Voce)
	2nd Period	Revision & Catch-up
15th	1st Period	Revision & Catch-up
	2nd Period	Final Lab Record Submission / Review

**REFERENCES:**

1. Thermal Engineering – P.L. Ballaney, Khanna Publishers, 2002
2. A Course in Thermal Engineering – S. Domkundwar & C.P. Kothandaraman, Dhanpat Rai & Publication New Delhi.
3. Thermal Engineering – R.S. Khurmi and J.K. Gupta, 18th Edition, S. Chand & Co, New Delhi

*Abinas Nayak*

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Lecturer Stage I