Lesson Plan.

Discipline:		Semester:		Name of the Teaching Faculty:
MECHANICAL		3RD		Er. DEVI PRASAD ACHARYA
Subject:		No. of days/per week class allotted: 4 Periods		Semester From date: 15/09/2022
THERMAL ENGG-1				To date: 22/12/2022
				No of weeks: 15
Month	**Week**	**Availability of Classes**	**Class Day**	**Theory Topics to be covered**
September	1	0	NA	NA
September	2	4	20.09.2022	Briefing about the syllabus. Introduction to Thermodynamic systems, Macroscopic and microscopic views of study, concept of continuum,
			20.09.2022	Thermodynamic properties of a system (Pressure, volume, temperature and units of measurement)
			21.09.2022	Intensive and extensive properties, State and Process,
			21.09.2022	Thermodynamic equilibrium, Quasi-static process
September	3	4	27.09.2022	Conceptual explanation of energy, work and heat
			27.09.2022	Work transfer,
			28.09.2022	Displacement work,
			28.09.2022	Forms of work transfer,
October	4	0	NA	NA
October	5	4	11.10.2022	Modes of heat transfer (Introductory concepts of conduction, convection and radiation)
			11.10.2022	Sensible and latent heat, specific heat
			12.10.2022	Energy and its sources
			12.10.2022	Zeroth Law of thermodynamics, 1st Law of thermodynamics
October	6	4	18.10.2022	Energy as system property, forms of stored energy
			18.10.2022	Application of 1st law of Thermodynamics
			19.10.2022	Numerical on 1st law of Thermodynamics
			19.10.2022	Steady Flow Energy Equation and its application to nozzle turbine and compressor
October	7	4	25.10.2022	Perpetual motion machine of first kind, Limitations of first law, Thermal reservoir
			25.10.2022	
			26.10.2022	Concept of heat engine, heat pump and refrigerator,
			26.10.2022	Statement of Second law of thermodynamics (Clausius and Kelvin Planck), Perpetual motion machine of second kind
November	8	4	01.11.2022	Concept of Heat Engine, Heat Pump & Refrigerator
			01.11.2022	Application of 2nd law of Thermodynamics to Heat Engine, Heat Pump & Refrigerator
			02.11.2022	Determination of efficiencies Heat Engine
			02.11.2022	Determination of COP of Heat Pump & Refrigerator
			05.11.2022	**Class Test-I (Test will be conducted on Saturday 2nd Half)**

November	9	2	09.11.2022	Boyle's Law, Charle's Law, Avogadro's Law
			09.11.2022	Guy Lussac equation, General Gas equation, Characteristic gas constant, Universal Gas constant
November	10	4	15.11.2022	Specific Heats (Cp & Cv) & its relation with R
			15.11.2022	Enthalpy of a gas, Work done during a non-flow process
			16.11.2022	Application of 1st law of Thermodynamics to various non-flow process. (Isothermal & Isobaric processes)
			16.11.2022	Application of 1st law of Thermodynamics to various non-flow process. (Isentropic & Poly-tropic processes)
			17.11.2022	**Internal Assessment**
			18.11.2022	**Internal Assessment**
			19.11.2022	**Internal Assessment**
November	11	4	22.11.2022	Free Expansion & Throttling Process
			22.11.2022	Classification of IC Engines
			23.11.2022	Terminology of IC Engines
			23.11.2022	Concept of CI & SI Engines
November	12	4	29.11.2022	Working of 2 Stroke Petrol Engine
			29.11.2022	Working of 4 Stroke Petrol Engine
			30.11.2022	Working of 2 Stroke Diesel Engine
			30.11.2022	Working of 4 Stroke Diesel Engine
December	13	4	06.12.2022	Difference between 2 stroke & 4 stroke CI & SI engines
			06.12.2022	Concept of Air standard cycles
			07.12.2022	Concept of Air standard cycles
			07.12.2022	Carnot cycle
December	14	4	13.12.2022	Numerical on Carnot cycle
			13.12.2022	Otto cycle
			14.12.2022	Numerical on Otto cycle
			14.12.2022	Diesel cycle
			17.12.2022	**Class Test-II (Test will be conducted on Saturday 2nd Half)**
December	15	4	20.12.2022	Numerical on Diesel cycle
			20.12.2022	Dual cycle
			21.12.2022	Numerical on Dual cycle
			21.12.2022	Fuels & its types
December	16	0	Extra Class	Application of different types of fuels
			Extra Class	Heating values of fuels, Quality of IC engine fuels
			Extra Class	Octane number & Cetane number
			Extra Class	**Revision Class**

14/09/2022

Er. Devi Prasad Acharya
Lecturer in Mechanical Engg.

14/09/2022

HOD, Mechanical Engg.
OSME, Keonjhar

Principal
OSME, Keonjhar