

**GOVT. POLYTECHNIC BOLANGIR**  
**LESSON PLAN**

Discipline : ELECTRICAL		Semester:3rd		Name of the Teaching Faculty : Anandananda Biswal	
Subject :EME		No. of Days / per week class allotted : 4		Semester From date : 20.08.2024 to Date : 08.11.2024 No. of Weesks : 11	
Week	Class Day	Module	Topics		
Dt. 20.08.2024 to Dt.24.08.2024	1st	1	Introduction- importance of this subject for electrical engineering		
	2nd		State Unit of Heat and work, 1st law of thermodynamics		
	3rd		State Laws of perfect gases, difference between ideal gas and real gas. Boyle's law, Charles's law, Gay lussac law, combined gas law		
	4th		Problems on perfect gas First law of Thermodynamics for non-flow system. Different thermodynamic process such as constant volume, constant pressure, isothermal and adiabatic process		
Dt. 26.08.2024 to Dt.31.08.2024	1st	2	Determine relationship of specific heat of gases at constant volume and constant pressure		
	2nd		Formation and properties of steam with temperature enthalpy diagram		
	3rd		Types of steam, dryness fraction. Derivation of enthalpy fordifferent types of steam		
	4th		Study of steam table Problem on properties of steamn		
Dt. 02.09.2024 to Dt.07.09.2024	1st	3	Function of boiler, use of boilers in different industries		
	2nd		Classification of Boilers		
	3rd		Construction and working of Cochran boiler and its application		
	4th		Construction and working of Babcock and Wilcox boiler and its application Boiler mounting: Necessity and description of pressure gauge, safety valve with diagram		
Dt. 09.09.2024 to Dt.14.09.2024	1st	3	Construction & description of water level indicator, feed check valve, fusible plug		
	2nd		Construction and working of Blow off cock and steam stop valves		
	3rd		Boiler accessories, construction and working of economizer		
	4th		Construction and working of Air pre-heater and super heater		
Dt. 16.09.2024 to Dt.21.09.2024	1st	4	Introduction on steam engine. Function of different parts		
	2nd		Construction and working of double acting steam engine		
	3rd		Explanation of theoretical indicator diagram		
	4th		Drawing of Actual indicator diagram and difference between Actual indicator diagram and theoretical indicator diagram		
Dt. 23.09.2024 to Dt.28.09.2024	1st	4	Terminology of steam engine. Description of Mean effective pressure, Diagram factor and Actual mean effective pressure		
	2nd		Derivation of work done without clearance and calculation of mean effective pressure		
	3rd		Derivation of work done with clearance and calculation of mean effective pressure		
	4th		L.H.P, B.H.P and mechanical efficiency		
Dt. 30.09.2024 to Dt.05.10.2024	1st	5	Function and use or steam turbine		
	2nd	6	Classification of steam turbine		
	3rd		Description of construction and working of Impulse turbine		
	4th		Description of construction and working of Reaction turbine Function of condenser and their use.		
	Classification of condenser Function and workings of Jet condenser Construction and working of surface condenser				
Dt. 14.10.2024 to Dt.19.10.2024	1st	7	Function of I.C. engine. Difference between I.C. engine and E.C engine.		
	2nd		Classification of i. c. engine.		
	3rd		I.C. engine parts and their function Difference between two stroke and four stroke engine.		
	4th		Working of two stroke petrol engine and two stroke diesel engine Difference between petrol engine and diesel engine		
Dt. 21.10.2024 to Dt.26.10.2024	1st	8	Definition of fluid. Different fluid properties. Simple problem of it		
	2nd		Intensity of pressure, pressure head, atmospheric pressure, absolute pressure, gauge pressure		
	3rd		Description of Simple manometer, Differential manometer		
	4th		Construction of Bourdon tube pressure gauge, problems on manometer		
Dt. 28.10.2024 to Dt.02.11.2024	1st	9	Continuity equation		
	2nd		Energy and energy head or flowing fluid such as kinetic head, pressure head, datum head, datum head and total head		
	3rd		Statement and explanation of Bernoulli's theorem		
	4th		Problems on continuity equation		
Dt. 04.11.2024 to Dt.08.11.2024	1st	10	Construction and working of hydraulic intensifier, advantages, Disadvantages and uses		
	2nd		Construction and working of hydraulic lift, advantages, disadvantages and uses		
	3rd		Construction and working of accumulator, advantages, disadvantages and uses		
	4th		Construction and working of hydraulic ram advantages, Disadvantages and uses		

*(Signature)*  
27-09-24  
HOD(IIC),  
Mechanical Engg;

Signature of  
Concerned Faculty

*(Signature)*  
27/9/24