



**GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR
SESSION PLAN
3RD SEMESTER, BRANCH-MECHANICAL(GROUP 1)
THERMAL ENGINEERING-1(TH-4)**

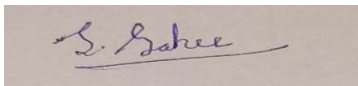
Name of the Faculty –ER. SIBASISH SAHU						
Details to be taken				Actually taken		
SL NO & CHAPTER	No. of Periods assigned by SCTE & VT	Details of the topics	PLANNED DATE	Details of the topics	ACTUAL DATE	Remarks
1. Thermodynamic concept & Terminology	12	1.1 Thermodynamic Systems (closed, open, isolated)	16/09/2022 TO 15/10/2022	1.1 Thermodynamic Systems (closed, open, isolated)	16/09/2022 20/09/2022	
		1.2 Thermodynamic properties of a system (pressure, volume, temperature, entropy, enthalpy, Internal energy and units of measurement).		1.2 Thermodynamic properties of a system (pressure, volume, temperature, entropy, enthalpy, Internal energy and units of measurement).	21/09/2022 23/09/2022	
		1.3 Intensive and extensive properties		1.3 Intensive and extensive properties	24/09/2022	
		1.4 Define thermodynamic processes, path, cycle, state, path function, point function.		1.4 Define thermodynamic processes, path, cycle, state, path function, point function.	27/09/2022	
		1.5 Thermodynamic Equilibrium.		1.5 Thermodynamic Equilibrium.	28/09/2022	
		1.6 Quasi-static Process.		1.6 Quasi-static Process.	30/09/2022	
		1.7 Conceptual explanation of energy and its sources		1.7 Conceptual explanation of energy and its sources	11/10/2022	
		1.8 Work, heat and comparison between the two.		1.8 Work, heat and comparison between the two.	12/10/2022	
		1.9 Mechanical Equivalent of Heat.		1.9 Mechanical Equivalent of Heat.	14/10/2022 15/10/2022	
		1.10 Work transfer, Displacement work		1.10 Work transfer, Displacement work		

<p>2. Thermodynamics</p>	<p>12</p>	<p>2.1 State & explain Zeroth law of thermodynamics. 2.2 State & explain First law of thermodynamics. 2.3 Limitations of First law of thermodynamics 2.4 Application of First law of Thermodynamics (steady flow energy equation and its application to turbine and compressor) 2.4 Second law of thermodynamics (Clausius & Kelvin Planck statements). 2.5 Application of second law in heat engine, heat pump, refrigerator & determination of efficiencies & C.O.P (solve simple numerical</p>	<p>18/10/2022 TO 9/11/2022</p>	<p>2.1 State & explain Zeroth law of thermodynamics. 2.2 State & explain First law of thermodynamics. 2.3 Limitations of First law of thermodynamics 2.4 Application of First law of Thermodynamics (steady flow energy equation and its application to turbine and compressor) 2.4 Second law of thermodynamics (Clausius & Kelvin Planck statements). 2.5 Application of second law in heat engine, heat pump, refrigerator & determination of efficiencies & C.O.P (solve simple numerical</p>	<p>18/10/2022 19/10/2022 21/10/2022 22/10/2022 26/10/2022 28/10/2022 29/10/2022 1/11/2022 2/11/2022 4/11/2022 5/11/2022 9/11/2022</p>	
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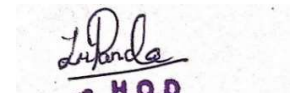
3. Properties Processes of perfect gas	10	3.1 Laws of perfect gas: Boyle's law, Charle's law, Avogadro's law, Dalton's law of partial pressure, Guy lussac law, General gas equation, characteristic gas constant, Universal gas constant.	11/11/2022 TO 29/11/2022	3.1 Laws of perfect gas: Boyle's law, Charle's law, Avogadro's law, Dalton's law of partial pressure, Guy lussac law, General gas equation, characteristic gas constant, Universal gas constant.	11/11/2022 12/11/2022
		3.2 Explain specific heat of gas (Cp and Cv) 3.3 Relation between Cp & Cv. 3.4 Enthalpy of a gas. 3.5 Work done during a non- flow process. 3.6 Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytrophic process) 3.6 Solve simple problems on above. 3.7 Free expansion & throttling process.		3.2 Explain specific heat of gas (Cp and Cv) 3.3 Relation between Cp & Cv. 3.4 Enthalpy of a gas. 3.5 Work done during a non- flow process. 3.6 Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytrophic process) 3.6 Solve simple problems on above. 3.7 Free expansion & throttling process.	15/11/2022 18/11/2022 19/11/2022 22/11/2022 23/11/2022 25/11/2022 26/11/2022 29/11/2022

<p>4. Internal combustion engine</p>	<p>8</p>	<p>4.1 Explain & classify I.C engine. 4.2 Terminology of I.C Engine such as bore, dead centers, stroke volume, piston speed &RPM. 4.3 Explain the working principle of 2-stroke & 4- stroke engine C.I & S.I engine. 4.4 Differentiate between 2-stroke & 4- stroke engine C.I & S.I engine.</p>	<p>30/11/2022 TO 13/12/2022</p>	<p>4.1 Explain & classify I.C engine. 4.2 Terminology of I.C Engine such as bore, dead centers, stroke volume, piston speed &RPM. 4.3 Explain the working principle of 2-stroke & 4- stroke engine C.I & S.I engine. 4.4 Differentiate between 2-stroke & 4- stroke engine C.I & S.I engine.</p>	<p>30/11/2022 2/12/2022 3/12/2022 6/12/2022 7/12/2022 9/12/2022 10/12/2022 13/12/2022</p>	
<p>5. Gas Power Cycle</p>	<p>10</p>	<p>5.1 Carnot cycle 5.2 Otto cycle. 5.3 Diesel cycle. 5.4 Dual cycle. 5.5 Solve simple numerical</p>	<p>14/12/2022 TO 30/12/2022</p>	<p>5.1 Carnot cycle 5.2 Otto cycle. 5.3 Diesel cycle. 5.4 Dual cycle. 5.5 Solve simple numerical</p>	<p>14/12/2022 16/12/2022 17/12/2022 20/12/2022 21/12/2022 23/12/2022 24/12/2022 27/12/2022 28/12/2022 30/12/2022</p>	

<p>6. Fuels and Combustion</p>	<p>8</p>	<p>6.1 Define Fuel. 6.2 Types of fuel. 6.3 Application of different types of fuel. 6.4 Heating values of fuel. 6.5 Quality of I.C engine fuels Octane number, Cetane number</p>	<p>27/12/2022 TO 21/01/2023</p>	<p>6.1 Define Fuel. 6.2 Types of fuel. 6.3 Application of different types of fuel. 6.4 Heating values of fuel. 6.5 Quality of I.C engine fuels Octane number, Cetane number</p> <p>REVISION-</p>	<p>27/12/2022 28/12/2022 30/12/2022 31/12/2022 3/01/2023 4/01/2023 6/01/2023 7/01/2023</p> <p>10/01/2023 11/01/2023 13/01/2023 14/01/2023 20/01/2023 21/01/2023</p>	
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HOD, MECHANICAL



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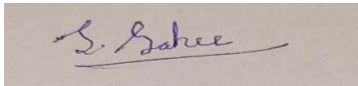
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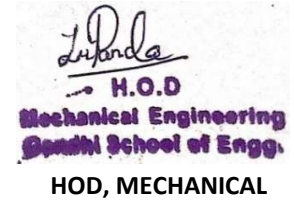
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