

<b>M.Tech Thermal Engineering : I Semester</b>		
<b>S.No.</b>	<b>Course Code</b>	<b>Course Outcome</b>
<b>1.</b>	<b>MTET-101</b>	<ol style="list-style-type: none"> <li>1. Understand the concept of entropy generation in thermodynamic system.</li> <li>2. Do analysis of closed &amp; open thermodynamic system.</li> <li>3. Calculate thermodynamic properties of real gases.</li> <li>4. Analyze thermodynamic property relations of homogenous mixtures.</li> <li>5. Evaluate thermodynamic performance of reacting system &amp; exergetic efficiency of such systems.</li> </ol>
<b>2.</b>	<b>MTET-102</b>	<ol style="list-style-type: none"> <li>1. Apply the concept of continuum &amp; tensor to different fluid flow problems.</li> <li>2. Compare and analyze the concept of differential fluid flow analysis.</li> <li>3. Apply analytical solution for one dimension and two dimension fluid flows.</li> <li>4. Differentiate different types of ideal fluid flow &amp; predict different functions to determine the nature of flow.</li> <li>5. Estimate the solutions of Navier stroke equation &amp; Oseen flows &amp; analyse turbulent flows.</li> </ol>
<b>3.</b>	<b>MTET-103</b>	<ol style="list-style-type: none"> <li>1. Apply the basic principles involved in different heat transfer problems.</li> <li>2. Compare and analyze the concept of transient heat conduction &amp; heat conduction in melting &amp; solidification.</li> <li>3. Estimate forced convection involved in flow across cylinders , spheres etc.</li> <li>4. Analyze the process of thermal radiation in solids.</li> <li>5. Apply analytical methods to solve simple heat and mass transfer problems.</li> </ol>
<b>4.</b>	<b>MTET-111</b>	<ol style="list-style-type: none"> <li>1. Evaluate Earth-Sun angles &amp; potential of energy from Sun.</li> <li>2. Do analysis of solar radiation and solar thermal systems for their utilization.</li> <li>3. Differentiate between methods of solar thermal energy storage systems.</li> <li>4. Analyze different solar photovoltaic systems for specific applications.</li> <li>5. Compare and analyze different economic aspects associated with</li> <li>6. different solar thermal systems.</li> </ol>
<b>M.Tech Thermal Engineering : II Semester</b>		

5.	<b>MTET-201</b>	<ol style="list-style-type: none"> <li>1. Do analysis of laws to different convective heat &amp; mass transfer problems.</li> <li>2. Analyze the concept of differential heat transfer analysis.</li> <li>3. Estimate the laminar heat transfer in ducts.</li> <li>4. Analyze different turbulence models.</li> <li>5. Differentiate different types of heat transfer phenomenon like condensation &amp; boiling and steady &amp; unsteady state molecular diffusion.</li> </ol>
6.	<b>MTET-221</b>	<ol style="list-style-type: none"> <li>1. Estimate the different sources of energy and future planning of policies in India.</li> <li>2. Analyse the different components of thermal power plant.</li> <li>3. Explain different components of Nuclear power plant with safety features.</li> <li>4. Compare and analyze different economic aspects associated with different power generation systems.</li> <li>5. Analyze different environmental aspects of power generation systems.</li> </ol>
7.	<b>MTET-223</b>	<ol style="list-style-type: none"> <li>1. Categorize different types of I.C. engines.</li> <li>2. Evaluate thermodynamic cycles for I.C. engines.</li> <li>3. Analyze combustion in spark ignition engine.</li> <li>4. Explain combustion process in Compression ignition engine.</li> <li>5. Differentiate between environmental impact of emissions from S.I &amp; C.I. engines.</li> </ol>
8.	<b>MTET-225</b>	1. Estimate the different sources of renewable energy and their utilization.
		2. Do analysis of solar radiation and solar thermal systems for their utilization.
		3. Analyse the ocean thermal energy conversion systems and their applications.
		4. Differentiate different types of Hydro energy systems & biomass systems.
		5. Distinguish the methods of energy storage and identify the appropriate methods for specific applications.

<b>9.</b>	<b>MTET-222</b>	<ol style="list-style-type: none"><li>1. Interpret the working principles and applications of refrigeration systems.</li><li>2. Interpret the vapour compression refrigeration system and identify methods for Performance improvement.</li><li>3. Demonstrate the working principles of air, vapour absorption, thermoelectric and estimate the condition of steam and performance of vapour power cycle and vapour compression cycle.</li><li>4. Analyze air-conditioning processes using the principles of psychrometry and estimate various essential properties related to Psychrometry and processes.</li><li>5. Evaluate cooling and heating loads in an air-conditioning system.</li></ol>
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