



<b>Course Title:</b>	Electric Smart Grid		
<b>Course Code:</b>	MTPS-301		
<b>Program:</b>	M.Tech.	Semester III	
<b>Credits:</b>	T 04	P-Nil	Total 04
<b>Course Outcome</b>			
1	Introduction to smart grids and related terminology.		
2	Study of dc distribution and smart grid performance.		
3	Study of dynamic energy systems concepts.		
4	Understanding the energy port as part of the smart grid, policy programs and energy efficiency.		
5	Understanding the efficient electric end and use technology alternatives.		

<b>Course Title:</b>	Power System Operation and Deregulation		
<b>Course Code:</b>	MTPS-302		
<b>Program:</b>	M.Tech.	Semester: III	
<b>Credits:</b>	T-4	P-Nil	Total-4
<b>Course Outcome</b>			
1	Understanding the Optimal Power Flow concepts.		
2	Detailed study of power system security.		
3	Introduction of state estimation in power system.		
4	Understanding the power system deregulation.		
5	Detailed study of available transfer capability.		

<b>Course Title:</b>	Power System Reliability		
<b>Course Code:</b>	MTPS-303		
<b>Program:</b>	M.Tech.	Semester - III	
<b>Credits:</b>	T - 04	P - 00	Total - 04
<b>Course Outcome</b>			
1	Introduction to genral systme reliability analysis.		
2	Evaluation of cumulative probabibility and cumulative frequency of non-identical generating.		
3	Detailed study of operating reserve evaluation.		
4	Discussion about the inter connected system reliability analysis.		
5	Study of distribution system reliability analysis (parallel configuration).		

<b>Course Title:</b>	Renewable Energy System		
<b>Course Code:</b>	MTPS-3101		
<b>Program:</b>	M.Tech	Semester : III	
<b>Credits:</b>	T-4	P-Nil	Total-4
<b>Course Outcome</b>			
1	Photo voltaic power generation ,spectral distribution of energy in solar radiation and other related terms		
2	To study the principles of MHD power generation.		
3	Detailed study of wave energy conversion.		
4	Understanding the miscellaneous energy conversion systems.		
5	Information about the types of fuel cells, H <sub>2</sub> -O <sub>2</sub> Fuel cells, Application of fuel cells Batteries etc		

<b>Course Title:</b>	<b>Power System Stability</b>		
<b>Course Code:</b>	<b>MTPS-3102</b>		
<b>Program:</b>	<b>M.Tech</b>	<b>Semester : III</b>	
<b>Credits:</b>	<b>T-4</b>	<b>P-Nil</b>	<b>Total-4</b>
<b>Course Outcome</b>			
<b>1</b>	<b>Detailed information about the power system stability and it's importance.</b>		
<b>2</b>	<b>Detailed study and analysis of transient stability in power systems.</b>		
<b>3</b>	<b>Detailed study and analysis of small signal stability in power systems.</b>		
<b>4</b>	<b>Detailed study and analysis of voltage stability in power systems.</b>		
<b>5</b>	<b>Understanding the various methods of improving the stability in power systems.</b>		
<b>Course Title:</b>			
<b>Modern Control Theory</b>			
<b>Course Code:</b>	<b>MTPS-3103</b>		
<b>Program:</b>	<b>M.Tech</b>	<b>Semester-III</b>	
<b>Credits:</b>	<b>T-04</b>	<b>P-Nil</b>	<b>Total-04</b>
<b>Course Outcome</b>			
<b>1</b>	<b>Introduction to mathematical preliminaries.</b>		
<b>2</b>	<b>Understanding the state variable analysis.</b>		
<b>3</b>	<b>Detailed study about the nonlinear systems.</b>		
<b>4</b>	<b>Discussion about the stability analysis.</b>		
<b>5</b>	<b>Introduction to optimal control, Formulation of optimal control problems .</b>		
<b>Course Title:</b>			
<b>Advanced Electrical Drives</b>			
<b>Course Code:</b>	<b>MTPS-3201</b>		
<b>Program:</b>	<b>M.Tech</b>	<b>Semester-III</b>	
<b>Credits:</b>	<b>T-04</b>	<b>P-Nil</b>	<b>Total-04</b>
<b>Course Outcome</b>			
<b>1</b>	<b>Introduction and concepts of Electrical Drives.</b>		
<b>2</b>	<b>Detailed study about the DC drive and its related terms.</b>		
<b>3</b>	<b>Understanding the induction motor drive.</b>		
<b>4</b>	<b>Detailed study about the synchronous motor drive.</b>		
<b>5</b>	<b>Study about the special motor drives.</b>		
<b>Course Title:</b>			
<b>Transient Over Voltages &amp; Power System</b>			
<b>Course Code:</b>	<b>MTPS-3202</b>		
<b>Program:</b>	<b>M.Tech</b>	<b>Semester-III</b>	
<b>Credits:</b>	<b>T-04</b>	<b>P-Nil</b>	<b>Total-04</b>
<b>Course Outcome</b>			
<b>1</b>	<b>Detailed study about the transients in power systems.</b>		
<b>2</b>	<b>Understanding the concepts of various types of the transients.</b>		
<b>3</b>	<b>Study of Transient parameter values for transformers,reactors,generators and transmission lines and other concepts</b>		
<b>4</b>	<b>Understanding the basic protection system in the power systems.</b>		
<b>5</b>	<b>Study of generation of high AC and DC-impulse voltages,currents-measurement etc.</b>		

<b>Course Title:</b>	<b>Voltage Stability</b>		
<b>Course Code:</b>	<b>MTPS-3203</b>		
<b>Program:</b>	<b>M.Tech</b>	<b>Semester -III</b>	
<b>Credits:</b>	<b>T-04</b>	<b>P-Nil</b>	<b>Total-04</b>
<b>Course Outcome</b>			
<b>1</b>	<b>Introduction to voltage stability and other basic concepts related to it.</b>		
<b>2</b>	<b>Understanding the graphical analysis of voltage stability.</b>		
<b>3</b>	<b>Detailed study of voltage stability and it's indices.</b>		
<b>4</b>	<b>Understanding the power system load and reactive power compensation.</b>		
<b>5</b>	<b>Study of voltage stability margin and voltage security.</b>		