



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**M.Tech in POWER SYSTEMS**

**I M.Tech I Semester COURSE OUTCOMES**

SL.No.	COURSE CODE:	M9901	COURSE NAME:	POWER SYSTEM OPERATION & CONTROL
1	CO1:	Determine the unit commitment problem for economic load dispatch.		
	CO2:	Get the knowledge of load frequency control of single area system with and without control.		
	CO3:	Get the knowledge of load frequency control of two area system with and without control.		
	CO4:	Know the effect of generation with limited energy supply.		
	CO5:	Determine the interchange evaluation in interconnected power systems.		
2	COURSE CODE:	M4302	COURSE NAME:	ANALYSIS OF POWER ELECTRONIC CONVERTERS
	CO1:	Describe and analyze the operation of AC-DC converters.		
	CO2:	Analyze the operation of power factor correction converters.		
	CO3:	Analyze the operation of three phase inverters with PWM control.		
	CO4:	Study the principles of operation of multi- level inverters and their applications.		
3	COURSE CODE:	M9904	COURSE NAME:	ELECTRICAL DISTRIBUTION AUTOMATION (ELECTIVE-I)
	CO1:	Analyze a distribution system.		
	CO2:	Design equipment for distribution system and sub-stations.		
	CO3:	Design protective systems and co-ordinate the devices.		
	CO4:	Understand of capacitive compensation.		
4	COURSE CODE:	M4306	COURSE NAME:	RENEWABLE ENERGY TECHNOLOGIES (ELECTIVE-I)
	CO1:	Understand various general aspects of renewable energy systems.		
	CO2:	Analyze and design induction generator for power generation from wind.		
	CO3:	Design MPPT controller for solar power utilization.		
	CO4:	Utilize fuel cell systems for power generation.		
5	COURSE CODE:	M5601	COURSE NAME:	POWER SYSTEM DEREGULATION (ELECTIVE-I)
	CO1:	Understand of operation of deregulated electricity market systems.		
	CO2:	Typical issues in electricity markets.		
	CO3:	Analyse various types of electricity market operational and control issues using new mathematical models.		
	CO4:	Understand LMP's wheeling transactions and congestion management.		
6	COURSE CODE:	M6204	COURSE NAME:	HVDC TRANSMISSION (ELECTIVE-II)
	CO1:	Understand the various schemes of HVDC transmission.		
	CO2:	Understand the basic HVDC transmission equipment.		
	CO3:	Understand the control of HVDC systems.		
	CO4:	Understand the interaction between HVAC and HVDC system.		
	CO5:	Understand the various protection schemes of HVDC engineering.		
CO6:	Understand the various schemes of HVDC transmission.			

	<b>COURSE CODE:</b>	<b>M9905</b>	<b>COURSE NAME:</b>	<b>ADVANCED POWER SYSTEMS PROTECTION (ELECTIVE-II)</b>
<b>7</b>	<b>CO1:</b>	Know the classifications and applications of static relays.		
	<b>CO2:</b>	Understand the application of comparators.		
	<b>CO3:</b>	Understand the static version of different types of relays.		
	<b>CO4:</b>	Understand the numerical protection techniques.		
	<b>COURSE CODE:</b>	<b>M5602</b>	<b>COURSE NAME:</b>	<b>POWER SYSTEM RELIABILITY (ELECTIVE-II)</b>
<b>8</b>	<b>CO1:</b>	Understand reliability analysis applied to power systems.		
	<b>CO2:</b>	Understand Markov Chains and application to power systems.		
	<b>CO3:</b>	Perform stability analysis of generation systems.		
	<b>CO4:</b>	Understand decomposition techniques applied to power system.		
	<b>COURSE CODE:</b>	<b>M5604</b>	<b>COURSE NAME:</b>	<b>POWER SYSTEMS LABORATORY</b>
<b>9</b>	<b>CO1:</b>	After the Completion of lab they will understand procedure for determination of various parameters used in power system as well as performance of transmission line.		
	<b>COURSE CODE:</b>	<b>M5603</b>	<b>COURSE NAME:</b>	<b>POWER SYSTEM SIMULATION LABORATORY – I</b>
<b>10</b>	<b>CO1:</b>	Analyse the performance of the various transmission lines at different loading conditions.		
	<b>CO2:</b>	Perform the load flow study on distribution systems.		
	<b>CO3:</b>	Calculate the different line parameters of 3-phase symmetrical and unsymmetrical transmission lines		
	<b>CO4:</b>	Compute the reflection and refraction coefficients of voltages and currents in the transmissions		
	<b>CO5:</b>	Form the Z- and Y-bus matrices for the given power transmission system		

**PRINCIPAL**