



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

M.Tech in POWER SYSTEMS

I M.Tech II Semester COURSE OUTCOMES

SL.No.	COURSE CODE:	N9904	COURSE NAME:	POWER SYSTEM DYNAMICS AND STABILITY
1	CO1:	Determine the model of synchronous machines.		
	CO2:	Know the stability studies of synchronous machines.		
	CO3:	Get the knowledge of solution methods of transient stability.		
	CO4:	Know the effect of different excitation systems in power systems.		
	COURSE CODE:	N9901	COURSE NAME:	REAL TIME CONTROL OF POWER SYSTEMS
2	CO1:	Understand state estimation, security and contingency evaluation.		
	CO2:	Understand about Supervisory control and data acquisition.		
	CO3:	Real time software application to state estimation.		
	CO4:	Understand application of AI in power system.		
	COURSE CODE:	N6205	COURSE NAME:	EHVAC TRANSMISSION (ELECTIVE-III)
3	CO1:	Calculate the transmission line parameters.		
	CO2:	Calculate the field effects on EHV and UHV AC lines.		
	CO3:	Determine the corona, RI and audible noise in EHV and UHV lines.		
	CO4:	Analyse voltage control and compensation problems in EHV and UHV transmission systems		
	CO5:	Understand reactive power compensation using SVC and TCR		
	COURSE CODE:	N6206	COURSE NAME:	FLEXIBLE AC TRANSMISSION SYSTEMS (ELECTIVE-III)
4	CO1:	Know the performance improvement of transmission system with FACTS.		
	CO2:	Get the knowledge of effect of static shunt and series compensation.		
	CO3:	Know the principle of operation and various controls of UPFC		
	CO4:	Determine an appropriate FACTS device for different types of applications.		
	COURSE CODE:	N6207	COURSE NAME:	HYBRID ELECTRIC VEHICLES (ELECTIVE-III)
5	CO1:	Know the concept of electric vehicles and hybrid electric vehicles.		
	CO2:	Familiar with different motors used for hybrid electric vehicles.		
	CO3:	Understand the power converters used in hybrid electric vehicles		
	CO4:	Know different batteries and other energy storage systems.		
	COURSE CODE:	N5601	COURSE NAME:	GENERATION AND MEASUREMENT OF HIGH VOLTAGES (ELECTIVE-IV)
6	CO1:	Understand numerical computation of electrostatic problems.		
	CO2:	Understand the techniques of generation of high AC, DC and transient voltages.		

CO3:	Measure high AC, DC and transient voltages.
CO4:	Measure high AC, DC and transient currents.

7		COURSE CODE:	N5602	COURSE NAME:	EVOLUTIONARY ALGORITHMS AND APPLICATIONS (ELECTIVE-IV)
	CO1:	State and formulate the optimization problem, without and with constraints, by using designvariables from an engineering design problem.			
	CO2:	Apply classical optimization techniques to minimize or maximize a multi-variable objectivefunction, without or with constraints, and arrive at an optimal solution			
	CO3:	Formulate a mathematical model and apply linear programming technique by using Simplex method. Also extend the concept of dual Simplex method for optimal solutions			
	CO4:	Apply gradient and non-gradient methods to nonlinear optimization problems and use interioror exterior penalty functions for the constraints to derive the optimal solutions.			
	CO5:	Apply Genetic algorithms for simple electrical problems and able to solve practical problemsusing PSO.			
8		COURSE CODE:	N5603	COURSE NAME:	PROGRAMMABLE LOGIC CONTROLLERS & APPLICATIONS (ELECTIVE-IV)
	CO1:	Understand the PLCs and their I/O modules.			
	CO2:	Develop control algorithms to PLC using ladder logic etc.			
	CO3:	Manage PLC registers for effective utilization in different applications.			
	CO4:	Handle data functions and control of two axis and their axis robots with PLC.			
	CO5:	Design PID controller with PLC.			
9		COURSE CODE:	N5604	COURSE NAME:	POWER SYSTEM SIMULATION LABORATORY-II
	CO1:	The student should analyze load flow solution obtained using GS and NR methods, symmetrical and unsymmetrical faults, Transient stability and load frequency deviation in single and two area systems			
10		COURSE CODE:	N5605	COURSE NAME:	POWER CONVERTERS LABORATORY
	CO1:	Students are able to implement the converter and inverters in real time applications.			

PRINCIPAL