22EEHO103	HO103 POWER SYSTEM STATE ESTIMATION AND SECURITY CONTROL SEM											
PREREQUIS												
	ion, Transmission and Distribution System; Power		L	Т	P		TH					
System Analys	-	Hours\Week	3	0	0		3					
Course Object	ives:			1								
1. To acqui	To acquire fundamental knowledge on power system state estimation.											
	liarise on network observability analysis.											
	o get conceptual aspects in power system state estimation and strategies to enhance the secure power											
system of		C				•						
UNIT I	INTRODUCTION			9	0	0	9					
	n- Energy management system- SCADA system- Ener											
	pts of reliability, security and stability - State transition		rategies-	Data	acqu	uisi	itio					
	alation techniques, MODEMS, Power line carrier comr	nunication.										
UNIT II	9	0	0	•								
	POWER SYSTEM STATE ESTIMATION			/	v	•	9					
Static state est	mation: Active and reactive power bus measurements			ts - I	Line		ren					
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Text Books:								
1.	Ali Abur, "Power System State Estimation Theory and Implementation", Marcel Dekker, 2004.							
2.	Wood, A.J., Wollenberg, B.F., and Sheble, G.B., "Power Generation, Operation and Control", John Wiley							
	and Sons, 3rd Edition, 2013.							
3.	Mahalanabis, Kothari and Ahson, "Computer Aided Power System Analysis and Control", Tata McGraw							
	Hill Publishers, 1991.							
Reference Books:								
1.	Abhijit Chakrabarti and Sunita Halder, "Power System Analysis Operation and Control", PHI Learning,							
	2010.							
2.	G.L. Kusic, "Computer Aided Power System Analysis", Prentice Hall of India, 1989.							

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Course Outcomes: Bloom's Taxono						
Upon cor	nple	Mapped				
CO1	:	Understand the conceptual aspects in power system state estimation.	L2: Understanding			
CO2	:	Demonstrate various state estimation methods.	L3: Applying			
CO3	:	Acquire proficiency to perform observability analysis.	L4: Analysing			
CO4	:	Demonstrate the distribution state estimation.	L3: Applying			
CO5	:	Realize the security assessment and enhancement strategies.	L3: Applying			

COURSE ARTICULATION MATRIX															
COs\ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO 1	1	3	3	1	1		1				1	2	1	3	1
CO 2	1	2	3	2	2		2				1	2	1	3	1
CO 3	1	2	3	2	2		2				1	2	1	2	1
CO 4	1	2	2	1	1		1				1	2	1	2	1
CO 5	1	2	3	2	2		2				1	2	1	1	1
Avg	1	2.2	2.8	1.6	1.6	0	1.6	0	0	0	1	2	1	2.2	1
3/2/1 – indicates strength of correlation (3- High, 2-Medium, 1-Low)															