



**VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
(AUTONOMOUS)
DEPARTMENT OF ELECTRICAL AND ELECTROONICS ENGINEERING
LESSON PLAN**



SUB.CODE& NAME : **U14EE735** & Power System Economics and Control Techniques

YEAR / SEMESTER: IV YEAR A&B / VII SEMESTER

Sessio n No.	Topics to be Covered	Duration in minutes	Teaching Aid	Ref.Book
UNIT-I SYSTEM LOADS AND FACTORS				
1	Types of load	45	Black Board	T1&T2
2	Components of system loads	45	Black Board	T1&T2
3	Load curves	45	Black Board	T1&T2
4	Load factor, demand factor	45	Black Board	T1&T2
5	Diversity factor, Capacity factor, Utilization factor	45	Black Board	T1&T2
6	Base load and peak load stations	45	Black Board	T1&T2
7	Reserve Capacity and requirements	45	Black Board	T1&T2
8	Load Forecasting Electrical Tariff	45	Black Board	T1&T2
9	Types of tariff	45	Black Board	T1&T2
UNIT- II ECONOMIC LOAD DISPATCH				
1	Economic Load Dispatch	45	Black Board	T1&T2
2	Characteristics of generation unit	45	Black Board	T1&t2
3	Characteristics of generation unit-cotn..	45	Black Board	T1&t2
4	Co-ordination equations with and without transmission loss	45	Black Board	T1&t2
5	General problem formulation and common constraints	45	Black Board	T1&t2
6	Unit Commitment	45	Black Board	T1&t2
7	Unit Commitment-cotn	45	Black Board	T1&t2
8	Constraints in unit commitment	45	Black Board	T1&t2
9	Solution methods	45	Black Board	T1&t2

UNIT –III LOAD STEADY AND TRANSIENT STATE RESPONSE				
1	Load frequency control	45	Black Board	T1&t2
2	Generator, Prime mover	45	Black Board	T1&t2
3	Governor & Load models	45	Black Board	T1&t2
4	LFC of a single area and two area systems	45	Black Board	T1&t2
5	Tie line bias control	45	Black Board	T1&t2
6	Steady state and transient response	45	Black Board	T1&t2
7	Automatic Voltage Regulator	45	Black Board	T1&t2
8	Exciter and Generator models	45	Black Board	T1&t2
9	Steady state and transient response	45	Black Board	T1&t2
UNIT – IV COMPENSATORS				
1	Reactive power and Voltage control	45	Black Board	T1&T2
2	Load Compensation	45	Black Board	T1&T2
3	Power factor correction	45	Black Board	T1&T2
4	Voltage regulation	45	Black Board	T1&T2
5	Load balancing	45	Black Board	T1&T2
6	Maximum load ability of transmission lines	45	Black Board	T1&T2
7	Line Compensation	45	Black Board	T1&T2
8	Static shunt capacitor/ inductor-tap	45	Black Board	T1&T2
9	Changing transformer, VAR compensators	45	Black Board	
UNIT V– RECENT TRENDS AND RESTRUCTURING OF POWER SYSTEMS				
1	Recent trends in real time control of power systems	45	Black Board	T1&T2
2		45	Black Board	T1&T2
3	Power system control centers with SCADA	45	Black Board	T1&T2
4	Power system control centers with EMS	45	Black Board	T1&T2
5	Restructuring of power system	45	Black Board	T1&T2
6	Fundamentals and operational	45	Black Board	T1&T2

	restrictions			
7	Fundamentals and operational restrictions	45	Black Board	T1&T2
8	Introduction to Smart Grid	45	Black Board	T1&T2
9	Revision	45	Black Board	

TEXT BOOK

1. Allen J. Wood, Bruce F. Wollenberg, 'Power Generation Operation and Control', Wiley India
2nd
Edition, 2009
2. Abhijit Chakrabarti & Sunita Halder, 'Power system Analysis-Operation & Control', PHI New
Delhi,
3rd Edition, 2010.