Detailed Teaching Plan

Lecture No.	Unit No.	Topic to be covered	Books & Page Nos.	Notes Page Nos.	Slide Nos.	A/V Resource
1	1	Various sources of Electrical Power Generation: Hydro, thermal, nuclear, solar, wind, bio-mass, geo thermal, OTEC, etc.	V.K. Mehta	1- 10		
2	1	Hydroelectric power station (HPS): Energy conversion process, plantlayout.	—"—	—"—		
3	1	Choice of site and constituents of hydroelectric power plant	—"—	—"—		
4	1	Components of Hydroelectric power station (HPS):	—"—	—"—		
5	1	line diagram of HPS and main cycles	—"—	—"—		
6	1	Hydrograph and simple calculation of electrical power generation,	—"—	—"—		
7	1	Classification of HPS- based on; Head	—"—	—"—		
8	1	Classification of HPS- based on; Storage and pondage	—"—	—"—		
9	1	Classification of HPS- based on; types of hydro turbines	—"—	—"—		
10	2	Energy conversion process of thermal and nuclear power plant	—"—	—"—		
11	2	Criteria for the site selection for Thermal power plant	—"—	—"—		
12	2	Draw the line diagram of thermal power station and main cycles	—"—	—"—		

Detailed Teaching Plan

Lecture No.	Unit No.	Topic to be covered	Books & Page Nos.	Notes Page Nos.	Slide Nos.	A/V Resource
13	2	Components of Thermal power station (TPS):	V.K. Mehta			
14	2	Components of Thermal power station (TPS):	—"—			
15	2	Criteria for the site selection for Nuclear power plant	—"—			
16	2	Draw the line diagram of Nuclear power station and main cycles	—"—			
17	2	Components of Nuclear power station (NPS):	—"—			
18	2	Reactors: Main parts, Types and its Control	—"—			
19	3	Structure of electrical power system.	—"—			
20	3	Connected load, Maximum demand, average demand, Demand factor, load factor, diversity factor, plant capacity factor and plant use factor	—"—			
21	3	Load curve and Load duration curve.	—"—			
22	3	Base load and peak load on generating stations.	—"—			
23	3	Relationship between units generated per year, maximum demand and Load factor	—"—			
24	3	Cost of electrical energy and related numerical problems	—"—			

Detailed Teaching Plan

Lecture No.	Unit No.	Topic to be covered	Books & Page Nos.	Notes Page Nos.	Slide Nos.	A/V Resource
25	3	Cost of electrical energy and related numerical problems	V.K. Mehta			
26	3	Transmission line parameters: Resistances, inductances and capacitances of transmission line	—"—			
27	3	Skin effect and factors effecting the skin effects.	—"—			
28	3	Proximity Effect, Stranding and bundle conductor	—"—			
29	4	Classification of transmission lines –Short, medium and long.	—"—			
30	4	Performance of short transmission lines, voltage regulation and efficiency	—"—			
31	4	Performance of Medium transmission lines (End condenser method)	—"—			
32	4	Performance of Medium transmission lines (Nominal Pi method)	—"—			
33	4	Performance of Medium transmission lines (Nominal T method)	—"—			
34	4	Ferranti effect, and line losses.	—"—			
35	4	Corona Loss and its minimization techniques	—"—			
36	4	Type of Line insulators and Failure of insulators	—"—			
37	4	String efficiency, methods of improving string efficiency	—"—			

Detailed Teaching Plan

Lecture No.	Unit No.	Topic to be covered	Books & Page Nos.	Notes Page Nos.	Slide Nos.	A/V Resource
38	5	Feeders, distributors and service mains	V.K. Mehta & J.B. Gupta			
39	5	Selection of conductor size based on current for distribution systems	—"—			
40	5	Voltage drops in D.C. distributors	—"—			
41	5	Voltage drops in D.C. distributors (Numerical)	—"—			
42	5	Voltages drop in A.C. distributors.	—"—			
43	5	Types of underground power cables	—"—			
44	5	Types of underground power cables	—"—			
45	5	Construction of power cables	—"—			
46	5	Laying of underground power cables.	—"—			
47	5	Faults in Power cables	—"—			
			—"—			

Signature of Lecturer

Signature of HOD