

Department of Electrical & Electronics Engineering

Lesson Plan & Work-done Diary for AY:2024-25, EVEN Semester

Course with Code: Electrical Power Generation & Economics / BEE405A					Faculty: Ms. Swapna H		Semester & Section: IV	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1		Hydroelectric Power Plants: Hydrology, Hydrological cycle, run off and stream flow. Hydrograph, flow duration curve, Mass curve	ICT					
2		Reservoir capacity, dam storage, merits and demerits of hydroelectric power plants	ICT					
3		Elements of the plant and Classification of the plants based on water flow regulation,	ICT					
4		Water turbines – Pelton wheel, Francis, Kaplan and propeller turbines.	ICT					
5		Characteristic of water turbines Governing of turbines, selection of water turbines	ICT					
6		Underground, small hydro and pumped storage plants.	ICT					
7		Governing of Turbines and followed by Evaluation on the above topics	ICT					
8		VTU QP Discussion & SRS Conduction on Module-1	ICT					

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MODULE-2								
9		Steam Power Plants: Introduction, Efficiency of steam plants, Merits and demerits of Plants.	ICT					
10		Selection of site, Steam turbines	Chalk & Talk					
11		Working of steam plant, Power plant equipment and layout	ICT					
12		Fuels and fuel handling, Fuel combustion and combustion equipment	ICT					
13		Coal burners, Fluidized bed combustion, Combustion control, Ash handling, Dust collection, Draught systems, Feed water, Steam power plant controls and plant auxiliaries.	ICT					
14		Diesel Power Plant: Introduction, Merits and demerits, selection site and Applications.	ICT					
15		Elements of diesel power plant	Chalk & Talk					
16		Gas Turbine Power Plant: Introduction Merits and demerits, selection site, Fuels for gas turbines.	ICT					
17		Elements of simple gas turbine power plant, Methods of improving thermal efficiency of a simple steam power plant, Closed cycle gas turbine power plants.	ICT					
18		Comparison of gas power plant with steam and diesel power plants.	Chalk & Talk ICT					
19		VTU QP Discussion & SRS Conduction on Module-2	ICT					

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MODULE 3								
20		Nuclear Power Plants: Introduction, Economics of nuclear plants, Merits and demerits,	ICT					
21		Selection of site, Nuclear reaction, Nuclear fission process	Chalk & Talk					
22		Nuclear plant and layout, Nuclear reactor and its control	Chalk & Talk					
23		Classification of reactors: PWR, BWR	ICT					
24		Classification of reactors : Liquid Metal type, fast breeder reactor	ICT					
25		Effects of nuclear plants, Disposal of nuclear waste and effluent,	ICT					
26		shielding. Safety Measures for Nuclear power plant	ICT					
27		VTU QP Discussion & SRS Conduction on Module-3	ICT					

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MODULE 4								
28		Substations: Introduction to Substation equipment.	ICT					
29		Classification of substations – indoor and outdoor	Chalk & Talk					
30		Selection of site for substation, Busbar arrangement schemes and single line diagrams of Substations.	Chalk & Talk					
31		Interconnection of power stations.	ICT					
32		Introduction to gas insulated substation, Advantages and economics of Gas insulated substation.	ICT					
33		Grounding: Introduction, Difference between grounded and ungrounded system.	ICT					
34		System grounding – ungrounded, solid grounding, resistance grounding and reactance grounding	Chalk & Talk					
35		Resonant grounding. Earthing transformer.	Chalk & Talk					
36		VTU QP Discussion & SRS Conduction on Module-4	ICT					

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MODULE 5								
37		Economics: Introduction, Effect of variable load on power system. Classification of costs	ICT					
38		,Cost analysis, Interest and Depreciation, Methods of determination of depreciation	Chalk & Talk					
39		Economics of Power generation, different terms considered for power plants and their significance, load sharing.	Chalk & Talk					
40		Tariffs, objective, factors affecting the tariff. Types of tariff. Types of consumers and their tariff	Chalk & Talk					
41		Power factor, disadvantages and causes for low power factor, Advantages of improved power factor	Chalk & Talk					
42		VTU QP Discussion	Chalk & Talk					

	Activity	Planned	Actual	Remarks
1	Theory Classes	45		
2	Assignments/Quizzes/ Self study	03		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	03		
5	ICT based Teaching (% of usage in Curriculum)	68%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	