

Department of Electrical & Electronics Engineering

Lesson Plan & Work-done Diary for AY: 2023-24, ODD Semester

Course with Code: Power System Analysis I- 21EE53				Faculty: Dr. Shakunthala C			Semester & Section: V	
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.		Representation Of Power System Components Introduction about the subject, syllabus discussion	Chalk and Talk					
2.		Single-phase Representation of Balanced Three-Phase Networks	Chalk and Talk					
3.		One-Line Diagram	Chalk and Talk					
4.		Impedance or Reactance Diagram, Numerical Problems	Chalk and Talk					
5.		Per Unit (PU) System, Numerical problems	Chalk and Talk					
6.		Steady-State Model of Synchronous Machine, Power transformer, Transmission line and loads	Chalk and Talk					
7.		Steady-State Model of Transmission line and loads	Chalk and Talk					
8.		Numerical problems on per unit system	Chalk and Talk					
9.		Numerical problems on per unit system	Chalk and Talk					

10		Numerical problems and Summary of Module 1 and VTU Question paper discussion	Chalk and Talk					
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MODULE-3								
11.		Symmetrical Component Introduction,	Chalk and Talk					
12.		Phase Shift in Star-Delta Transformers	Chalk and Talk					
13.		Sequence Impedances of TransmissionLines	Chalk and Talk					
14.		Sequence Impedances and SequenceNetwork of Power System	Chalk and Talk					
15.		Sequence Impedances and Networks ofSynchronous Machine,	Chalk and Talk					
16.		Sequence Impedances of Transmission Lines	Chalk and Talk					
17.		Sequence Impedances and Networks of Transformers	Chalk and Talk					
18.		Construction of Sequence Networks of a Power System	Chalk and Talk					
19.		Sequence Impedance of SynchronousGenerator						

20.		Numerical Problems on Sequence Networks and VTU Question paperdiscussion Summary of Module3						
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MODULE-4								
21		Unsymmetrical Fault Analysis Introduction						
22		Symmetrical Component Analysisof Unsymmetrical Faults						
23		Single Line-To-Ground (LG) Fault,						
24		I IA Result analysis Discussion and Numericals on Single Line-To-Ground(LG) Fault						
25		Line-To-Line (LL) Fault						
26		Numericals on Line-To-Line (LL) Fault						
27		Double Line-To-Ground (LLG) Fault						
28		Numericals on Double Line-To-Ground (LLG) Fault						
29		Open Conductor Faults						
30		Open Conductor Faults- Numericals Summary of Module 4 and VTU Question paper discussion						

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MODULE-5								
31		Power System Stability: Introduction						
32		Dynamics of a Synchronous Machine						
33		Power Angle Equation Salient and Non – Salient pole Synchronous Machines						
34		Power Angle Equation Salient and Non – Salient pole Synchronous Machines continued						
35		Simple Systems, numerical problems						
36		Steady-State Stability						
37		II IA Result analysis and Transient Stability, Numericals						
38		Equal Area Criterion						
39		Numericals on Equal Area Criterion						
40		Factors Affecting Transient Stability Summary of Module 5 and VTU Question paper discussion						

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MODULE-2								
41		Symmetrical Fault Analysis, Introduction						
42		Transient on a Transmission Line						
43		Transient on a Transmission Line						
44		Short Circuit of a Synchronous Machine (On No Load)						
45		Numericals on Short Circuit of a Synchronous Machine (On No Load)						
46		Short Circuit of a Loaded Synchronous Machine						
47		Numericals on Short Circuit of a Loaded Synchronous Machine						
48		Selection of Circuit Breakers						
49		Numericals on Selection of Circuit Breakers						
50		Numericals and Summary of Module 2 and VTU Question paper discussion						

	Activity	Planned	Actual	Remarks
1	Theory Classes	50		
2	Assignments/ Self-study	2		
3	Quiz/Seminar/Group discussion	1		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	30%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	