

## Lesson Plan

Subject: EPS-3

Total No. of chapters : 7

Branch : Electrical Engineering

Semester : 6<sup>th</sup>

Lecture Planned :56

Lecture SN	Unit	Topic	Day & Date	Remarks
1	Introduction to Switchgear	Switchgear, Essential features of Switchgear	Wed, Feb 15, 23	
2		Switchgear elements and its operation	Thu, Feb 16, 23	
3		Bus-bar arrangements	Fri, Feb 17, 23	
4			Wed, Feb 22, 23	
5		Concept of short-circuit, short circuit current	Thu, Feb 23, 23	
6	Power System Faults	Types of faults: symmetrical faults	Fri, Feb 24, 23	
7		unsymmetrical faults	Sat, Feb 25, 23	
8		Analysis of L-to-L faults	Wed, Mar 1, 23	
9		Analysis of L-to-G faults	Thu, Mar 2, 23	
10		Analysis of L-L-G faults	Fri, Mar 3, 23	
11		Review of Chapter 1&2	Sat, Mar 4, 23	
12	Fuses	Advantages and disadvantages of fuse, Desirable characteristics of fuse element, fuse element materials	Thu, Mar 9, 23	
13		Important terms related to fuse: current rating of fuse element, fusing current fusing factor, cut-off current, arcing time and breaking capacity	Fri, Mar 10, 23	
14		LV fuse: semi-enclosed rewritable fuse and HRC fuse-their construction and Working	Wed, Mar 15, 23	
15		HV fuse: cartridge type, liquid type and metal clad type-their construction & Working	Thu, Mar 16, 23	
16	Circuit Breakers	Difference between Switch, Isolator and Circuit Breakers	Fri, Mar 17, 23	
17		Function of Isolator and Circuit breaker, Difference between Fuse and Circuit Breaker	Sat, Mar 18, 23	
18		Arc phenomenon in circuit breaker	Wed, Mar 22, 23	
19		CLASS TEST-1	Thu, Mar 23, 23	
20		principles and methods of arc extinction	Fri, Mar 24, 23	
21		Terms related to circuit breaker: arc voltage, re-striking voltage and recovery voltage	Sat, Mar 25, 23	
22		Construction, working principles, types and applications of Air-Blast Circuit Breaker	Wed, Mar 29, 23	
23		Construction, working principles, types and applications of Oil Circuit Breaker	Fri, Mar 31, 23	
24		Construction, working principles, types and applications of Vacuum Circuit Breaker	Sat, Apr 1, 23	
25		Construction, working principles, types and applications of SF6 Circuit Breaker	Wed, Apr 5, 23	
26		Comparison between various types of Circuit Breakers, Circuit breaker rating: breaking capacity, making capacity and short-time rating	Thu, Apr 6, 23	
27		Introduction: fundamental requirement of relay, function of relay	Wed, Apr 12, 23	
28		Electromagnetic attraction type relay	Thu, Apr 13, 23	

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29		CLASS TEST-2	Wed, Apr 19, 23	
30		Electromagnetic induction type relays	Thu, Apr 20, 23	
31		Instantaneous relay, Inverse Time Relay,	Fri, Apr 21, 23	
32		Definite Time lag relay	Wed, Apr 26, 23	
33	Protective Relays	Relays Terminology: Pick-up Current, Current Setting, Plug Setting Multiplier (PSM),	Thu, Apr 27, 23	
34		Time Setting Multiplier (TSM), Time/PSM Curve	Fri, Apr 28, 23	
35		Distance or Impedance Relay	Sat, Apr 29, 23	
36		definite-distance and time distance impedance Relay	Wed, May 3, 23	
37		Differential Relays: current differential	Thu, May 4, 23	
38		voltage balance differential relay	Sat, May 6, 23	
39		Static and Microprocessor based relays	Wed, May 10, 23	
40		Static and Microprocessor based relays Applications	Thu, May 11, 23	
41		Differential Protection Scheme for Alternators	Fri, May 12, 23	
42		Protection Schemes for Transformer, Buchholz relay	Wed, May 17, 23	
43	Protection Schemes in Power System	Merz-price voltage balance protection scheme for bus-bar and transmission line	Thu, May 18, 23	
44		Earth fault or Leakage Protection	Fri, May 19, 23	
45		Over-voltage Causes, voltage surge	Sat, May 20, 23	
46	Over-voltage Protection	Lightening, lightening arresters such as rod gap, horn gap	Wed, May 24, 23	
47		multi-gap, expulsion type and valve type arrester	Thu, May 25, 23	
48		Brief idea about surge absorber	Fri, May 26, 23	
49		Transmission Line and substation protection against over-voltages	Sat, May 27, 23	
50		Review of syllabus	Wed, May 31, 23	
51		Review of syllabus	Thu, Jun 1, 23	
52		Review of syllabus	Fri, Jun 2, 23	
53		Review of syllabus	Sat, Jun 3, 23	
54		Review of syllabus	Wed, Jun 7, 23	
55		Review of syllabus	Thu, Jun 8, 23	
56		Review of syllabus	Fri, Jun 9, 23	

Subject Teacher:

HOD/01c