

LESSON PLAN(SUMMER-2026)

VENUS GROUP OF EDUCATIONAL & RESEARCH INSTITUTES,BAHANAGA,BALASORE-756042

Discipline:Electrical Engineering		Semester: 6th	Name of the teaching faculty: Pritiranjana Lenka
Subject: TESTING AND MAINTENANCE OF ELECTRICAL MACHINE		No of days per week class allotted:4	Semester from date:22/12/2025 to date:18/04/2026, No of weeks: 15
1	1st	1st	Installation, Commissioning and Testing of Machine:
2		2nd	Inspection of arrival of machine and inspection procedure before its installation
3		3rd	Generalized procedure of installation of Electrical machines.
4		4th	Electric wiring for motors and switch gears.
5	2nd	1st	General requirement for Electric Installation according to Indian Electricity rules
6		2nd	Necessity of starters and relays for both DC and AC machines.
7		3rd	Testing before giving supply and testing report.
8		4th	Installation, Commissioning and Testing of Transformer
9	3rd	1st	Basic idea on dispatch, inspection, storage and handling of transformer
10		2nd	Civil construction feature regarding connection like ventilation, noise level, space for free movement.
11		3rd	Foundation and drainage of oil.
12		4th	Cabling and cable box for transformer.
13	4th	1st	Provision for fire protection.
14		2nd	Provision for bushing support location of switch gear.
15		3rd	Steps for commissioning fitting of all accessories.
16		4th	Filling of oil, drying out.
17	5th	1st	Charging the breather with fresh silica gel.
18		2nd	Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
19		3rd	Fixing of protection circuits and setting of relays
20		4th	Installation, Commissioning & Testing of Sub-station.

21	6th	1st	Design and planning of indoor substation.
22		2nd	General requirement of layout of indoor substation with key diagram.
23		3rd	Consideration of safe operation of substation
24		4th	Installation of outdoor substation
25	7th	1st	Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding,
26		2nd	testing of transformer oil, protection fittings, construction of mounting, earthing arrangement and final commissioning.
27		3rd	Testing and commissioning of substation.
28		4th	Installation of control and relay panels.
29	8th	1st	Preliminary preparation.
30		2nd	Sequence card for erection of switch gear equipments
31		3rd	Location of place
32		4th	Unpacking
33	9th	1st	Foundation
34		2nd	Erection
35		3rd	Relays
36		4th	Bus-bar earthing connection,
37	10th	1st	Earthing
38		2nd	Connection to main cable.
39		3rd	Safety precaution
40		4th	Installation of outdoor circuit breaker
41	11th	1st	Receipt and storage.
42		2nd	Civil works
43		3rd	Various steps for installation
44		4th	Pre-commissioning tests.

45	12th	1st	Maintenance
46		2nd	Fundamental of maintenance.
47		3rd	Preventive maintenance and planning
48		4th	Daily, Weekly, Monthly, Half-yearly and Yearly maintenance
49	13th	1st	Advantages of Preventive maintenance
50		2nd	Breakdown maintenance
51		3rd	List of tools / instruments and materials used for maintenance.
52		4th	Making or Preparing Maintenance schedule of DC machines
53	14th	1st	Induction machines, Synchronous machines
54		2nd	Transformer, Transmission line
55		3rd	Distribution lines
56		4th	Underground cables,
57	15th	1st	Circuit breakers
58		2nd	Switch gear and protective relays and substations
59		3rd	SF-6 circuit breakers
60		4th	Batteries in substation