

Lesson Plan

	Discipline:Electrical Engineering	Semester-6th Summer 2024	Name of the Teaching Faculty: Sri Nigam Prasad Mohapatra
Sl. No.	Subject:-Testing And Maintenance of Electrical Machine	No. Of Days/Week class allotted:05	Semester From date: 16/01/2024 To date: 26/04/2024. No of weeks: 15
	Weeks/Months	Class Day	Topic
1	1st Week	1st (16.01.2024)	1.1. Inspection of arrival of machine and inspection procedure before its installation.
		2nd(17.01.2024)	1.1. Inspection of arrival of machine and inspection procedure before its
		3rd(17.01.2024)	1.1. Inspection of arrival of machine and inspection procedure before its
		4th(18.01.2024)	1.2. Generalized procedure of installation of
		5th (18.01.2024)	1.3. Electric wiring for motors and switch gears.
2	2nd Week	1st(23.01.2024)	1.3. Electric wiring for motors and switch gears.
		2nd(24.01.2024)	1.4. General requirement for Electric Installation according to Indian Electricity
		3rd(24.01.2024)	1.5. Necessity of starters and relays for both DC and AC machines.
		4th(25.01.2024)	1.5. Necessity of starters and relays for both DC and AC machines.
		5th(25.01.2024)	1.5. Necessity of starters and relays for both DC and AC machines.
3	3rd Week	1st(30.01.2024)	1.6. Testing before giving supply and testing report.
		2nd(31.01.2024)	1.6. Testing before giving supply and testing report.
		3rd(31.01.2024)	2. 1 Basic idea on dispatch, inspection, storage and handling of transformer.
		4th(01.02.2024)	2. 1 Basic idea on dispatch, inspection, storage and handling of transformer.
		5th(01.02.2024)	2. 2 Civil construction feature regarding connection like ventilation, noise level, space for free movement.2. 3 Foundation and drainage of oil.
4	4th Week	1st(06.02.2024)	2. 4 Cabling and cable box for transformer.
		2nd(07.02.2024)	2. 5 Provision for fire protection.
		3rd(07.02.2024)	2. 6 Provision for bushing support location of switch gear.
		4th(08.02.2024)	2. 6 Provision for bushing support location of switch gear.
		5th(08.02.2024)	2. 7 Steps for commissioning fitting of all accessories.
5	5th Week	1st(13.02.2024)	2. 8 Filling of oil, drying out.
		2nd(15.02.2024)	2. 8 Filling of oil, drying out.
		3rd(15.02.2024)	2. 9 Charging the breather with fresh silica gel.
6	6th Week	1st(20.02.2024)	2. 9 Charging the breather with fresh silica gel.
		2nd(21.02.2024)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover,
		3rd(21.02.2024)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
		4th(22.02.2024)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover,

		5th(22.02.2024)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
7	7th Week	1st(27.02.2024)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
		2nd(28.02.2024)	2. 11 Fixing of protection circuits and setting of relays.
		3rd(28.02.2024)	3 . 1 Design and planning of indoor substation.
		4th(29.02.2024)	3 . 1 Design and planning of indoor substation.
		5th(29.02.2024)	3 . 2 General requirement of layout of indoor substation with key diagram.
8	8th Week	1st(06.03.2024)	3 . 2 General requirement of layout of indoor substation with key diagram.
		2nd(06.03.2024)	3 . 3 Consideration of safe operation of substation
		3rd(07.03.2024)	3.4.1 Selection of site, transport & receipt of transformer, checking of insulation resistance of the
		4th(07.03.2024)	protection fittings, construction of mounting, earthing arrangement. and final commissioning.
9	9th Week	1st((12.03.2024)	3.5.2. Preliminary preparation
		2nd(13.03.2024)	3.5.3. Sequence card for erection of switch gear
		3rd(13.03.2024)	3.5.5. Unpacking 3.5.6. Foundation
		4th(14.03.2024)	3.5.7. Erection 3.5.8. Relays
		5th(14.03.2024)	3 . 6 Bus-bar earthing connection, Earthing.
10	10th Week	1st(19.03.2024)	3.6.1. Connection to main cable.
		2nd(20.03.2024)	3.6.2. Safety precaution
		3rd(20.03.2024)	3 . 7 Installation of outdoor circuit breaker: 3.7.1. Receipt and storage
		4th(21.03.2024)	3 . 7 Installation of outdoor circuit breaker: 3.7.1. Receipt and storage
		5th(21.03.2024)	3 . 7 Installation of outdoor circuit breaker: 3.7.1. Receipt and storage
11	11th Week	1st(27.03.2024)	3.7.2. Civil works
		2nd(27.03.2024)	3.7.2. Civil works
		3rd(28.03.2024)	3.7.3. Various steps for installation
		4th(28.03.2024)	3 . 8 Pre-commissioning tests
12	12th Week	1st(02.04.2024)	4.1 Fundamental of maintenance.
		2nd(03.04.2024)	4.2 Preventive maintenance and planning
		3rd(03.04.2024)	4.3 Advantages of Preventive maintenance:
		4th(04.04.2024)	4.4 Breakdown maintenance: List of tools
		5th(04.04.2024)	4.4 Breakdown maintenance: List of tools
13	13th Week	1st(09.04.2024)	instruments and materials used for maintenance
		2nd(10.04.2024)	instruments and materials used for maintenance
		3rd(10.04.2024)	Making or Preparing Maintenance schedule of DC
		4th(11.04.2024)	Making or Preparing Maintenance schedule of DC
		5th(11.04.2024)	Induction machines, Synchronous machines
14	14th Week	1st(16.04.2024)	Induction machines, Synchronous machines
		2nd(18.04.2024)	Transformer

15	15th Week	3rd(18.04.2024)	Transformer
		1st(23.04.2024)	Transmission line, Distribution lines,
		2nd(24.04.2024)	Underground cables, Circuit breakers,
		3rd(24.04.2024)	SF-6 circuit breakers,
		4th(25.04.2024)	SF-6 circuit breakers,
		5th(25.04.2024)	Batteries in substation.