

Lesson Plan			
	Discipline:Electrical Engineering	Semester-6th Summer 2023 SEC-A	Name of the Teaching Faculty: Sri Hrusikesh Nayak
Sl. No.	Subject:-Testing And Maintenance of Electrical Machine	No. Of Days/Week class allotted:05	Semester From date: 14/02/2023 To date: 23/05/2023. No of weeks: 15
	Weeks/Months	Class Day	Topic
1	1st Week	1st (14.02.2023)	1.1. Inspection of arrival of machine and inspection procedure before its installation.
		2nd(15.02.2023)	1.1. Inspection of arrival of machine and inspection procedure before its installation.
		3rd(16.02.2023)	1.1. Inspection of arrival of machine and inspection procedure before its installation.
		4th (17.02.2023)	1.2. Generalized procedure of installation of Electrical machines.
2	2nd Week	1st(20.02.2023)	1.2. Generalized procedure of installation of Electrical machines.
		2nd(21.02.2023)	1.3. Electric wiring for motors and switch gears.
		3rd(22.02.2023)	1.3. Electric wiring for motors and switch gears.
		4th(23.02.2023)	1.4. General requirement for Electric Installation according to Indian Electricity rules.
		5th(24.02.2023)	1.4. General requirement for Electric Installation according to Indian Electricity rules.
3	3rd Week	1st(27.02.2023)	1.5. Necessity of starters and relays for both DC and AC machines.
		2nd(28.02.2023)	1.5. Necessity of starters and relays for both DC and AC machines.
		3rd(01.03.2023)	1.5. Necessity of starters and relays for both DC and AC machines.
		4th(02.03.2023)	1.6. Testing before giving supply and testing report.
		5th(03.03.2023)	1.6. Testing before giving supply and testing report.
4	4th Week	1st(06.03.2023)	2. 1 Basic idea on dispatch, inspection, storage and handling of transformer.
		2nd(09.03.2023)	2. 1 Basic idea on dispatch, inspection, storage and handling of transformer.
		3rd(10.03.2023)	2. 2 Civil construction feature regarding connection like ventilation, noise level, space for free movement.2. 3 Foundation and drainage of oil.
5	5th Week	1st(13.03.2023)	2. 4 Cabling and cable box for transformer.
		2nd(14.03.2023)	2. 5 Provision for fire protection.
		3rd(15.03.2023)	2. 6 Provision for bushing support location of switch gear.
		4th(16.03.2023)	2. 6 Provision for bushing support location of switch gear.
		5th(17.03.2023)	2. 7 Steps for commissioning fitting of all accessories.
6	6th Week	1st(20.03.2023)	2. 8 Filling of oil, drying out.
		2nd(21.03.2023)	2. 8 Filling of oil, drying out.
		3rd(22.03.2023)	2. 9 Charging the breather with fresh silica gel.
		4th(23.03.2023)	2. 9 Charging the breather with fresh silica gel.
		5th(24.03.2023)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
7	7th Week	1st(27.03.2023)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
		2nd(28.03.2023)	2. 10 Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing.
		3rd(29.03.2023)	2. 11 Fixing of protection circuits and setting of relays.
		4th(31.03.2023)	3 . 1 Design and planning of indoor substation.

8	8th Week	1st(03.04.2023)	3 . 2 General requirement of layout of indoor substation with key diagram.
		2nd(04.04.2023)	3 . 2 General requirement of layout of indoor substation with key diagram.
		3rd(05.04.2023)	3 . 3 Consideration of safe operation of substation
		4th(06.04.2023)	3.4.1 Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding, testing of transformer oil,
9	9th Week	1st(10.04.2023)	3.4.1 Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding, testing of transformer oil,
		2nd(11.04.2023)	protection fittings, construction of mounting, earthing arrangement. and final commissioning.
		3rd(12.04.2023)	protection fittings, construction of mounting, earthing arrangement. and final commissioning.
		4th(13.04.2023)	3.5.2. Preliminary preparation
10	10th Week	1st(17.04.2023)	3.5.3. Sequence card for erection of switch gear equipments. 3.5.4. Location of place
		2nd(18.04.2023)	3.5.5. Unpacking 3.5.6. Foundation
		3rd(19.04.2023)	3.5.7. Erection 3.5.8. Relays
		4th(20.04.2023)	3 . 6 Bus-bar earthing connection, Earthing.
		5th(21.04.2023)	3.6.1. Connection to main cable.
11	11th Week	1st(24.04.2023)	3.6.2. Safety precaution
		2nd(25.04.2023)	3 . 7 Installation of outdoor circuit breaker: 3.7.1. Receipt and storage
		3rd(26.04.2023)	3.7.2. Civil works
		4th(27.04.2023)	3.7.3. Various steps for installation
		5th(28.04.2023)	3 . 8 Pre-commissioning tests
12	12th Week	1st(01.05.2023)	3 . 8 Pre-commissioning tests
		2nd(02.05.2023)	4.1 Fundamental of maintenance.
		3rd(03.05.2023)	4.2 Preventive maintenance and planning
		4th(04.05.2023)	4.3 Advantages of Preventive maintenance:
13	13th Week	1st(08.05.2023)	4.4 Breakdown maintenance: List of tools
		2nd(09.05.2023)	instruments and materials used for maintenance
		3rd(10.05.2023)	instruments and materials used for maintenance
		4th(11.05.2023)	Making or Preparing Maintenance schedule of DC machines
		5th(12.05.2023)	Making or Preparing Maintenance schedule of DC machines
14	14th Week	1st(15.05.2023)	Induction machines, Synchronous machines
		2nd(16.05.2023)	Transformer
		3rd(17.05.2023)	Transmission line, Distribution lines,
		4th(18.05.2023)	Underground cables, Circuit breakers,
15	15th Week	1st(22.05.2023)	SF-6 circuit breakers,
		2nd(23.05.2023)	Batteries in substation.

