

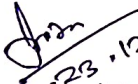
LESSON PLAN

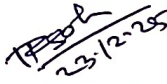
GIET(POLY),JAGATPURCUTTACK

DISCIPLINE-- Electrical Engg.	SEMESTER-- 6 TH	NAME OF THE TEACHING FACULTY-- AMIYA RANJAN DAS
SUBJECT- :TESTNG AND MAINTENANCE OF ELECTRICAL MAC HINES (TH-4)	NO.OF DAYS PER WEEK CLASS ALLOTTED- 4+1{TUTORIAL }	SEMESTER: FROM--22.12.2025 TO--18.04.2026 NO OF WEEKS--15
WEEK	CLASS/DAY	THEORY/PRACTICAL TOPICS
1 st	1 st	1.Installation,commissioning and Testing of machine. 1.1-Inspection of arrival of machine and inspection procedure before its installation.
	2 nd	1.1-Inspection of arrival of machine and inspection procedure before its installation (contd..)
	3 rd	1.1-Inspection of arrival of machine and inspection procedure before its installation (contd..)
	4 th	1.2-Generalized procedure of installation of electrical machines.
	5 th	TUTORIAL
2 nd	1 st	1.2-Generalized procedure of installation of electrical machines (contd..)
	2 nd	1.2-Generalized procedure of installation of electrical machines (contd..)
	3 rd	1.3-Elctric wiring for motors and switch gears.
	4 th	1.3-Elctric wiring for motors and switch gears (contd..)
	5 th	TUTORIAL
3 rd	1 st	1.3-Elctric wiring for motors and switch gears (contd..)
	2 nd	1.4-General requirement for electric installation according to Indian electricity rules.
	3 rd	1.4-General requirement for electric installation according to Indian electricity rules (contd..)
	4 th	1.4-General requirement for electric installation according to Indian electricity rules (contd..)
	5 th	TUTORIAL
4 th	1 st	1.5-Necessity of starters and relays for both DC and AC machines.
	2 nd	1.5-Necessity of starters and relays for both DC and AC machines (contd..)
	3 rd	1.6-Testing before giving supply and testing report.
	4 th	2.Installation,commissioning and Testing of Transformer. 2.1-Basic idea on dispatch, inspection, storage and handling of transformer.
	5 th	TUTORIAL
5 th	1 st	2.1-Basic idea on dispatch, inspection, storage and handling of transformer (contd..)
	2 nd	2.2-Civil construction feature regarding connection like ventilation, noise level, space for free movement.
	3 rd	2.2-Civil construction feature regarding connection like ventilation, noise level, space for free movement (contd..)
	4 th	2.2-Civil construction feature regarding connection like ventilation, noise level, space for free movement (contd..)
	5 th	TUTORIAL
6 TH	1 st	2.3-Foundation and drainage of oil.
	2 nd	2.4-Cabling and cable box for transformer.
	3 rd	2.5-Provision for fire protection.
	4 th	2.6-Provision for bushings support location of switch gear.
	5 th	TUTORIAL
7 TH	1 st	2.7-Steps for commissioning fitting of all accessories.
	2 nd	2.8-Filling of oil, drying out.
	3 rd	2.9-Charging the breather with fresh silicagel.

	4 th	neutral earthing.
	5 th	TUTORIAL
8 TH	1 st	2.10-Cleaning of bushing, fixing of conductor & cables, earthing of tank and cover, neutral earthing (contd..)
	2 nd	2.11-Fixing of protection circuits and setting of relays.
	3 rd	3. Installation, commissioning and Testing of Substation.
	4 th	3.1-Design and planning of indoor substation. 3.2-General requirement of layout of indoor substation with key diagram.
	5 th	TUTORIAL
9 TH	1 st	3.3-Consideration of safe operation of substation.
	2 nd	3.4-Installation of outdoor substation. 3.4.1-Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding, testing of transformer oil, protection fittings, construction of mounting, earthing arrangement & final commissioning.
	3 rd	3.4.1-Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding, testing of transformer oil, protection fittings, construction of mounting, earthing arrangement & final commissioning (contd..)
	4 th	3.4.1-Selection of site, transport & receipt of transformer, checking of insulation resistance of the winding, testing of transformer oil, protection fittings, construction of mounting, earthing arrangement & final commissioning (contd..)
	5 th	TUTORIAL
10 TH	1 st	3.5-Testing and commissioning of substation. 3.5.1-Installation of control and relay panels.
	2 nd	3.5.2-Preliminary preparation. 3.5.3-Sequence card for erection of switch gear equipments.
	3 rd	3.5.4-Location of place. 3.5.5-Unpacking 3.5.6-Foundation.
	4 th	3.5.7-Erection. 3.5.8-Relays.
	5 th	TUTORIAL
11 TH	1 st	3.6-Bus-bare earthing connection, earthing. 3.6.1-Connection to main cable.
	2 nd	3.6.2-Safety precaution.
	3 rd	3.7-Installation of outdoor circuit breaker. 3.7.1-Receipt and storage.
	4 th	3.7.2-Civil works. 3.7.3-Various steps for installation.
	5 th	TUTORIAL
12 TH	1 st	3.7.4-Pre-commissioning tests.
	2 nd	4. Maintenance.
	3 rd	4.1-Fundamental of maintenance.
	4 th	4.2-Preventive maintenance and planning. (Daily, weekly, monthly, Half-yearly & Yearly maintenance)
	5 th	4.2-Preventive maintenance and planning. (Daily, weekly, monthly, Half-yearly & Yearly maintenance) (contd..)
	1 st	4.2-Preventive maintenance and planning. (Daily, weekly, monthly, Half-yearly & Yearly maintenance) (contd..) 4.3-Advantages of preventive maintenance.
	2 nd	4.4-Breakdown maintenance. List of tools/Instruments & materials used for maintenance.

13TH	3rd	Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation.
	4th	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
14TH	5th	TUTORIAL
	1st	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	2nd	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	3rd	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	4th	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
15TH	5th	TUTORIAL
	1st	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	2nd	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	3rd	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	4th	4.5-Making or preparing maintenance schedule of DC Machines, Synchronous machines, Transformer, Transmission line, Distribution lines, Underground cables, Circuit breakers, Switchgear & protective relays & Substations, SF-6 circuit breakers, Batteries in substation. (contd..)
	5th	TUTORIAL


 Sign of lecturer
 23.12.25


 sign of sr. lecturer
 Head of Dept. (HOD)
 Electrical & ETC F...
 G.E.T (POLY), ...


 Sign of principal
 23.12.25