

# Lesson Plan

**Name of the faculty :** Mr. Dayanand (Theory)  
**Discipline :** Electrical  
**Semester :** 6th  
**Subject :** INSTALLATION AND MAINTENANCE OF ELECTRICAL EQUIPMENT  
**Lesson Plan Duration :** 15 weeks (from January 18 to April 2018)

## Work load (Lecture/Practical) per week (55 minutes) : Lectures-04

Week	Theory	
	Lecture day	Topic (Including assignment/test)
1st	1st	Tools, accessories and instruments required for installation
	2nd	Maintenance and repair work Knowledge of Indian Electricity rules
	3rd	Safety codes, causes and prevention of accidents
	4th	Artificial respiration of an electrocuted person, workmen's safety device
2nd	5th	Domestic Installation, Introduction
	6th	Testing of electrical installation of a building i.e Testing of insulation resistance to earth
	7th	Testing of insulation and resistance between conductors , Continuity or open circuit test
	8th	Installation of transmission and Distribution Lines,Erection of steel structures,
3rd	9th	Connecting jumpers, tee-off points
	10th	Joints and dead ends; crossing of roads, streets
	11th	Power/telecommunication lines and railway line
	12th	Earthing of transmission lines and guarding, spacing and configuration of conductors
4th	13th	Types of arrangement for suspension and strain insulators
	14th	Bird guards, anti-climbing devices and danger plates; sizes of conductor
	15th	Earthwire and guy wires, Testing and Commissioning.
	16th	Laying of service lines, earthing,
5th	17th	Workprovision of service fuses, installation of energy meters
	18th	Assignment
	19th	Assignment work
	20th	Sessional test
6th	21th	Installation of Underground Cables Inspection, storage,
	22th	Transportation and handling of cables, cable handling equipment
	23th	Cable laying introduction and one method of laying
	24th	Cable laying depths other methods methods
7th	25th	Clearances from other services such as: water pipes, sewerage, gas pipes,
	26th	Power and telecommunication cables and coordination with these service
	27th	Introduction to cable filling compounds, epoxy resins and hardeners
	28th	Cable jointing and terminations, testing and commissioning
8th	29th	Installation of Transformers Elementary idea regarding inspection and handling of transformers
	30th	Installation of power transformers
	31th	Installation of distribution transformers
	32th	Earthing system
9th	33th	Installation of pole mounted substation
	34th	Assignment work
	35th	Assignment work
	36th	Sessional test
10th	37th	Plinth mounted and grid substations
	38th	Installation of different components of substations viz. busbars, isolators
	39th	CT and PT, lightning arrestors, control and relay panels
	40th	HT/LT circuit breakers
	41th	Handling and inspection of electric motors

11th	42th	Handling and inspection of generators (AC and DC)
	43th	Drying out medium voltage distribution panels
	44th	Testing and commissioning
12th	45th	Definition and types of maintenance
	46th	Maintenance schedules, procedures
	47th	Authorized persons, danger notice, caution notice, permit to work
	48th	Arranging of shutdowns personally and temporary earths cancellation of permit and restoration of supply
13th	49th	Patrolling and visual inspection of lines - points to be noted during patrolling from ground; special inspections and night inspections
	50th	Location of faults using Meggar, effect of open or loose neutral connections
	51th	Provision of proper fuses on service lines and their effect on system, causes of dim and flickering lights.
	52th	Maintenance schedule of transmission and distribution system
14th	53th	Transformer maintenance and points to be attended to in respect of various items of equipment
	54th	Checking of insulation resistance, transformer oil level BDV test of oil
	55th	Measurement of earth resistance Maintenance schedule of distribution transformers
	56th	Checking and maintenance of busbars, isolating switche
15th	57th	HT/LT circuit breakers, LT switches. Power transformers
	58th	Maintenance schedule of grid substation
	59th	Over hauling of motors, preventive maintenance
	60th	Trouble shooting of electric motors & Maintenance schedule of AC and DC motors