

Lesson Plan

Name of Faculty		Visiting Faculty		
Discipline		Electrical Engineering		
Semester		3 rd		
Subject		Estimating and costing in Electrical Engineering		
Lesson Plan Duration		From Sept 2020 to Nov2020		
Work load (Theory + Practical) Per Week		[04+02]		
Week	Day	Theory Topic/ Assignment/ Test	Practical Day	Topic
1 st	1	1 Introduction	Day1	Framing of Tender and reply to tender to get job/project
	2	Purpose of estimating and costing		
	3	Performa for making estimates, Preparation of materials schedule, Costing, price list		
2 nd	1	Preparation of tender document, Net price list	Day1	Identification of wiring for different applications
	2	Market survey, Overhead charges		
	3	Labour charges, EPM and FPM, Contingency, Profit		
3 rd	1	Purchase system, Enquiries, Comparative statements, Payment of bills, orders for supply	Day1	Practical Quiz No.1/ Revision and file checking
	2	Assignment /revision of unit 1 st		
	3	Class Test (1 st unit)		
4 th	1	Unit-2: Types of wiring: Cleat, batten	Day1	Prepare an estimate for a Two room residential building as per given plan
	2	Casing capping and conduit wiring, Comparison of different wiring systems		
	3	Design of wiring schemes for particular situation of domestic and industrial installation.		
5 th	1	Wiring accessories used for Electrical Installation Use of protective devices i.e. MCB	Day1	Practical Quiz No.2/ Revision and file checking
	2	ELCB ,Use of wire-gauge and table		
	3	Revision/ queries of unit-2		
6 th	1	Tentative 1 st sessional test	Day1	Prepare an estimate for service connection for residential building having connected load -kW
	2	Evaluation of sessional marks etc. Display and analysis of sessional marks		
	3	Unit-3 Domestic installations , Electrical layout of Domestic Installation		
7 th	1	Standard practice as per IS and IE rules, Planning of circuits, sub circuits	Day1	Practical Quiz No.3/ Revision and file checking
	2	Industrial installations Position of different accessories		
	3	Preparing estimates including cost as per , schedule rate pattern and actual market rate		
8 th	1	Industrial Installation : Planning of installation for single phase, Motors of different rating	Day1	Mid-term Viva—voce and practical assessment
	2	Designing for single phase motors of different ratings		
	3	Electrical circuit diagram for Industrial installations, Starters for Industrial installations		
9 th	1	Preparation of list of materials for Industrial installations	Day1	Visit a nearby substation and list the components with diagram
	2	Estimating and costing exercises on workshop with single-phase motor load		
	3	Estimating and costing exercises on workshop with		

		3-phase motor load and the light load		
10 th	1	Service line connections estimate for domestic up to 10 KW from pole to energy meter.	Day1	Assignments and quiz/class tests
	2	Service line connections estimate for Industrial loads up to 20 KW over-head & underground connection from pole to energy meter		
	3	Class test /assignment 3 rd unit		
11 th	1	Problem solving/checking	Day1	Laboratory and practical work drawing single and wiring diagram
	2	Unit 4th Estimating Materials Required Transmission and distribution lines overhead planning and designing of lines with different fixtures based on unit cost calculations		
	3	Types of substations, substation schemes and components		
12 th	1	Estimate of 11/0.4 KV pole mounted substation up to 200 KVA rating	Day1	Viva—voce/class test
	2	Methods of earthing of substations		
	3	Key Diagram of 66 KV/11KV		
13 th	1	Key Diagram of 11 KV/0.4 KV Substation	Day1	Practical Quiz / Revision and file checking
	2	Single line diagram, layout sketching of outdoor, indoor 11kV sub-station		
	3	Single line diagram, layout sketching of outdoor, indoor 33kV substation		
14 th	1	Class test /assignment 4 th unit	Day1	Practical Quiz / Revision and file checking
	2	Problem solving/checking		
	3	Unit-5: Preparation of Tender Documents		
15 th	1	Tender – constituents finalization, specimen tender	Day1	Internal practical evaluation
	2	HSBTE old Question paper solution		
	3	HSBTE old Question paper solution		