

"PVC" NSSK Govt. Polytechnic Bilaspur at Kalol (H.P.)

Lesson Plan (Theory)

Branch : Electrical Engg.

Semester: 6th

Subject : Estimating & Costing in Elect. Engg.


Session: Feb 2023 – Jun 2023

Teacher : Ashwani Kumar

Class Room:

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Rem.
1	12	Introduction	Estimating, Purpose of estimating and costing, proforma for making estimates, catalogue, costing, price list, tender document, net price list, market survey, overhead charges, labor charges, electrical point method and fixed percentage method, contingency, profit, purchase system, enquiries, comparative statements, orders for supply, payment of bills. Tenders – it's constituents, types and procedure.	R1,R2,R3	
2	12	Wiring Systems and Protection Devices	Cleat, batten, casing capping and conduit wiring, comparison of different wiring systems, selection and design of wiring schemes for particular situation (domestic and Industrial). Selection of wires and cables, wiring accessories and use of protective devices such as fuse, MCB, ELCB and their selection. Use of wire-gauge and tables.	-do-	
3	20	Estimating and Costing of Domestic & Industrial Electrical Installations	<p>Domestic installations: Standard practices as per IS and IE rules. Planning of circuits, sub-circuits and position of different accessories, electrical layout, preparing estimates including cost as per schedule rate pattern and actual market rate.</p> <p>Industrial installations: relevant IE rules and standard practices, planning, designing and estimation of installation for single phase motors of different ratings, electrical circuit diagram, starters, preparation of list of materials, estimating and costing exercises on workshop with single-phase, 3-phase motor load and the lighting load (3-phase supply system).</p> <p>Service line connections estimate for domestic and Industrial loads (overhead and Under- ground connections) from pole to energy meter.</p>	-do-	

			Earthing Systems Estimation: IS specifications regarding earthing, types of earthing, List of materials required for earthing, Design of earth wire/strip and electrode for domestic and industrial installation.		
4	12	Estimating of Transmission /Distribution Lines & Substations	<p>Transmission and distribution lines (over-head and underground) planning and designing of lines with different fixtures, based on unit cost calculations.</p> <p>Substation: Types of substations, substation schemes and components, estimate of 11/0.4 kV pole mounted substation up to 200 kVA rating, earthing of substations, Key Diagram of 66 kV/33kV/11kV Substation.</p>	-do-	



Signature of Teacher with Date



Signature of OIC/EE

Teaching Resources:

- R1. A Course in Electrical Installation, Estimating and Costing by J.B. Gupta, SK Kataria and Son (KATSON), New Delhi.
- R2. A Textbook on Electrical Workshop Practices by Dr. Umesh Rathore and Naresh Kumar Sharma, KATSON Publication, New Delhi.
- R3. <http://www.electrical4u.com>