


"PVC" NSSK Govt. Polytechnic Bilaspur at Kalol
Lecture Planning (Theory)

Branch : **Electrical Engg.**
 Subject : **ELECTRICAL ESTIMATING AND CONTRACTING**
 Teacher : **Jyoti Bala**

Semester: **4th**
 Session: **Jan-May, 25**
 Class Room : **L4**

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1.	1-10	Electric Installation and Safety	Scope and features of National electric code 2011Types of electrical installation Fundamental principles for electrical installation Permit to work, safety instructions and safety practices. Purpose of estimating and costing.	R1,R2, R3,R4,R5,R6	
2.	11-19	Estimation and Costing	Meaning and purpose of - rough estimate, detailed estimate, supplementary estimate, annual maintenance estimate and revised estimate Factors to be considered while preparation of detailed estimate and economical execution of work Contracts. Concepts of contracts, types of contracts, contractor, role of contractor Tenders and Quotations- Type of tender, tender notice, preparation of tender document, and method of opening of tender, Quotation, quotation format, comparison between tender and quotation Comparative statement, format comparative statement. Order format, placing of purchasing order.Principles of execution of works, planning, organizing and completion of work, Billing of work	-do-	
3.	20-30	Non-Industrial Installations	Types of Non-industrial installations-- Office buildings, shopping and commercial centre, residential installation, Electric service and supply Design consideration of electrical installation in commercial buildings. Design procedure of installation- steps involved in detail, Estimating and costing of unit earthing of commercial installation. Design electrical installation scheme of commercial complex.Erection, Inspection and testing of installation as per NEC	-do-	
4.	31-41	Industrial Installation	Classification of industrial buildings Classification based on power consumption, Drawing of wiring diagram and single-line diagram for single phase and three phase Motors.Design consideration in industrial installations Design procedure of installation-detailed steps Design electrical installation scheme of factory/small industrial unit. Preparation	-do-	

			of material schedule and detailed estimation Installation and estimation of agricultural pump and flour mill.	
5.	42-49	Public Lighting Installation	Classification of outdoor installations streetlight/ public lighting installation Street light pole structures. Selection of equipments, sources used in street light installations. Cables, recommended types and sizes of cable. Control of street light installation. Design, estimation and costing of street light. Preparation of tenders and abstracts.	-do-
6	50-56	Distribution Lines and LT Substation	Introduction to overhead and underground distribution line. Materials used for distribution line HT and LV Cables used for distribution line, factors determining selection of LT/ HT power Cables, cable laying and cable termination method according to IS Design, estimation and costing of HT LT overhead line and underground cabling. Types of 11 KV Distribution substations their line diagram, Estimation of load, Load factor, diversity factor and determination of rating of distribution. Transformer. Design, estimation and costing of outdoor and indoor 11 KV substation	


 Signature of Teacher with Date 29/01/25


 Signature of HOD (EE)

Reference Resource:

- R1: Raina, K.B. ; Dr. S. K. Bhattacharya New Age International Publisher First, Reprint 2010, Electrical Design Estimating and Costing ISBN: 978-81-224-0363-3
- R2. Allagappan., N. S. Ekambarram, Tata Mc-Graw Hill Publishing Co. Ltd, Electrical Estimating and Costing, ISBN 13: 9780074624784.
- R3. Singh, Surjit Ravi Deep Singh, Dhanpat Rai and Sons, Electrical Estimating and Costing, ISBN 13:1234567150995
- R4. Gupta, J.B. S.K. Kataria and Sons Reprint Edition, A Course in Electrical Installation Estimating and Costing ISBN 10: 935014279113: 978-9350142790.
- R5. Bureau of Indian Standard. IS: 732-1989, Code of Practice for Electrical Wiring Installation
- R6. Bureau of Indian Standard. SP-30:2011, National Electrical Code 2011

PVC^o NSSK Govt. Polytechnic Bilaspur at Kalol
Practical Planning & Coverage

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Semester: 4th
Session: Jan 25 - May 25
Lab Name :

Practical No.	Description of Practical	Reference for Procedure/ Write up	Likely Dates	Actual Dates	Sign
1	Prepare a tender notice for purchasing a transformer of 200 KVA for commercial installation.	Lab Manual			
2.	Prepare a quotation for purchasing different electrical material required.	Lab Manual			
3.	Prepare a comparative statement for above material Prepare purchase order for the same	Lab Manual			
4.	Design drawing, estimating and costing of hall / Cinema Theater / commercial installation Prepare report and draw sheet.	Lab Manual			
5	Design electrical installation scheme for any one factory /small industrial unit. Draw detailed wiring diagram. Prepare material schedule and detailed estimate. Prepare report and draw sheet.	Lab Manual			
6	Estimate with a proposal of the electrical Installation of street light scheme for small premises after designing.	Lab Manual			
7	Estimate with a proposal of the L.T. line installation. Prepare report and draw sheet.	Lab Manual			
8	Estimate with a proposal of the 500 KVA, 11/0.433 KV outdoor substation and prepare a report	Lab Manual			

Signature of Teacher with Date

Signature of HOD (EE)