



C.U.SHAH UNIVERSITY – WADHWAN CITY

FACULTY OF: - Technology and Engineering (Diploma Engineering)

DEPARTMENT OF: - Electrical Engineering

SEMESTER: - V

CODE: - 2TE05EWC1

NAME – Electrical Wiring, Estimating and Costing (EWC)

Teaching & Evaluation Scheme:-

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme								Total Marks
		Th	Tu	Pr	Total		Theory				Practical (Marks)				
							Sessional Exam		University Exam		Internal		University		
							Marks	Hours	Marks	Hours	Pr	TW	Pr	TW	
2TE05EWC1	Electrical Wiring, Estimating and Costing (EWC)	04	00	02	06	05	30	1.5	70	03	--	20	30	--	150

Objectives:-

- Basic Knowledge of Different Types of Electrical Wirings.
- Use of Common Hand tools for Electrical Wiring and Repairing of Equipment.
- To Get General Idea about Purchase System, Estimation and Costing of Materials.

Prerequisites: - Needs of Consumers and Types of Electrical Energy with its Safety.

Course Outlines:-

Sr. No.	Course Contents	No Of Hours
1	Elements of Estimating and Costing Definition Of Estimation and Costing, Schedule of Rates, Catalogues, Market Survey and Source Selection, Recording of Estimates, Determination of Required Quantity Of Material, Labour Conditions, Cost, Overhead Charges, Purchase System, Comparative Statement, Purchase Orders, Payment of Bills.	8
2	Electrical Wiring General Electrical Accessories and Insulating Materials, Electrical Symbols, Wires, Cables, Uses of Common Hand Tools, Different Types of Wiring System and Wiring Procedure, Merits, Demerits and Comparison of Different Types of Wiring, Tube light Wiring, Stair case Wiring, Godown Wiring, Cori door, Bed room Wiring, Wiring Domestic and Industrial Panel Wiring, I.E. Rules For Wiring Including Electricity Supply Act-1948.	7
3	Estimating and Costing Of Domestic and Industrial Wiring Layout and Wiring Diagram For Domestic Wiring, Load Calculation, Cable Selection and Earthing, Selection of Switchgear, Quantity and Cost of Material Required For Domestic Wiring-Overall Estimating and Costing, I.E. Rules, Layout For Industrial Wiring, Load Calculation Cable Selection, Earthing, Selection of Switchgear, Overall Estimating and Costing, I.E. Rules	12

4	Estimating and Costing Of Service Connection Service Connections, Types Of Service Connections, Method Of Installation of Service Connection (one-Phase And Three-Phase), Survey Work For Domestic and Industrial Service Connection, Lay Out/ Wiring Diagram of Service Connection, List Of Materials and Accessories along With Specifications, Estimation and Costing of Different Types of Service Connections For Domestic and Industrial Application (Single-Phase And Three-Phase), I.E. Rules Pertaining To Overhead and Underground Service Connection.	8
5	Estimating And Costing Of Transmission System Types of Transmission System, Materials and Accessories Required for Transmission System, Lay out, Calculation of Numbers of Line Supports /Pole, Span Lengths, Factors Governing Height Of Pole, Size and material of Conductor For Transmission Line, Overhead Line Insulators, Stays set, Earthing of Lines, Conductors Configuration Spacing and Clearances, Guarding of Overhead Lines, Estimation and costing of Different Types of Overhead and underground Transmission line, I.E. Rules for Transmission System,	9
6	Estimating And Costing Of Distribution System Types of Distribution System, Materials and Accessories Required for the Overhead Distribution System, Estimate for 440 V, 3-Phase, 4 Wires or 3 Wires Overhead Distribution System, I.E. Rules Pertaining to Overhead Lines, Underground Distribution System, Materials and Accessories Required for Underground Distribution System, Estimate for 440 V, 3-Phase, 4 Wires or 3 Wires Underground Distribution System, I.E. Rules Pertaining to Underground System.	8

List of Experiments:-

- Carryout Tube Light Wiring and List out The Materials and Accessories.
- Carryout Godawn Wiring and List out The Materials and Accessories.
- Select Appropriate Wiring and List Materials and Accessories For Given Project.
- Estimating and Costing of a Domestic Installation with Concept of Illumination Design. (Residential Building, Laboratory Room or Drawing Hall Etc).
- Estimating and Costing of Industrial Installation. (Work Shop, Agriculture, Flour Mill Etc)
- Estimating and Costing of Overhead Service Connection. (Single Phase And Three Phase).
- Estimating and Costing of Underground Service Connection (Single Phase And Three Phases).
- Estimating and Costing of Overhead Transmission Line (Three Wires Three Phase System).
- Estimating and Costing of Underground Transmission Line.
- Estimating and Costing of Overhead, 440 V, 3-Phase, 4 Wire Or 3 Wire Distribution Line.
- Estimating and Costing Of Underground, Distribution Line.
- After Visit Draw the Wiring Diagram of Any Domestic Installation by using CAD Software.
- After Visit Draw the Wiring Diagram Of Any Industrial Installation by Using CAD Software.

Learning Outcomes:-

- Able to Install Different Types Electrical Wiring.
- Able to Prepare Lay out for Different Installation.
- Able to Make Proper Estimation and Costing of Electrical Project.

Books Recommended:-

- Electrical Wiring, Estimating and Costing. by **S.L. Uppal** , Khanna Publisher
- Electrical Costing, Estimating and Contracting. by **S.K. Bhattacharya** , TTTI, Chandigarh
- Electrical Estimating and Costing. by **M.N. Bajpai**, Saroj publication.
- I.E. rules gadget