

Program : Diploma in Electrical and Electronics Engineering	
Course Code : 5039A	Course Title: Electrical Estimation Laboratory
Semester : 5	Credits: 1.5
Course Category: Program Elective	
Periods per week: 3 (L:0 T:0 P:3)	Periods per semester: 45

Course Objectives:

- To apply standard practices and procedures for electrical installation
- To familiarize with the procedures for preparing estimates and tendering.

Course Prerequisites:

Topic	Course code	Course name	Semester
Basics of electrical installation estimation		Electrical Installation design & Estimation	4

Course Outcomes:

On completion of the course, the students will be able to:

CO _n	Description	Duration (Hours)	Cognitive Level
CO1	Prepare the quotation and tender for the purchase of electrical equipment and materials.	9	Applying
CO2	Interpret the salient features of National Electrical Code and other relevant national standards applicable for electrical installations in India.	9	Applying
CO3	Develop detailed wiring diagram for house building electrification.	12	Applying
CO4	Develop proposals/single line diagrams for electrical installations in specified premises.	9	Applying
	Lab exam	6	

CO-PO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3						3
CO2	2					3	
CO3	3						

CO4	3		3				
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3-Strongly mapped, 2-Moderately mapped, 1-Weakly mapped

Course Outline

Module Outcome	Description	Duration (Hours)	Cognitive level
CO1	Prepare the quotation and tender for the purchase of electrical equipment and materials.		
M1.01	1.Develop/ Prepare a quotation for purchasing different materials required for the electrification of a residential building having a connected load below 5kW (Individual work). 2.Also prepare a comparative statement and purchase order (Group work).	6	Applying
M1.02	1.Develop/Prepare a tender notice for purchasing a transformer for a typical commercial installation (Individual work). 2.Also prepare a comparative statement and purchase order (Group work).	3	Applying
CO2	Interpret the salient features of National Electrical Code and other relevant national standards applicable for electrical installations in India.		
M2.01	Make use of various electricity standard codes and (BIS& IEC) to Prepare a list of standards and codes for the following. a. Code of practice for wiring. b. Earthing. c. Installation of Medium Voltage motors. d. Installation of Medium Voltage generator. e. Installation of Power and distribution Transformers. f. Fire and safety g. Energy conservation. h. Selection of motors for AC drives. i. Installation of lightning arresters. May be given any code relevant to the field of study.	6	Understanding
M2.02	Prepare a report on the salient features of National electrical code.	3	Understanding
	Series Test I	3	
CO3	Develop detailed wiring diagram for house building electrification.		

M3.01	Draw a detailed wiring diagram for the electrification of a house building with at least 3 light circuits and 2 power circuits.	6	Applying
M3.02	Draw a detailed wiring diagram for the electrification of a house building with a connected load above 5kW.	6	Applying
CO4	Develop proposals/single line diagrams for electrical installations in specified premises.		
M4.01	Prepare a proposal (Layout, design and estimation) for installing street lights in the college premises with required diagrams, estimates etc. as per the BIS regulations.	3	Applying
M4.02	Draw the single line diagram for the power distribution scheme in the college premises.	6	Applying
	Series Test II	3	

Text / Reference:

T/R	BookTitle/Author
T1	Electrical Design Estimating and Costing - Raina, K.B.; Dr. S. K. Bhattacharya New Age International
T2	Electrical Estimating and Costing Allagappan., N. S. Ekambarram, Tata Mc-Graw Hill Publishing Co. Ltd,
T3	Electrical Wiring, Estimating and Costing. Dr.S.L.Uppal, New age international (p) limited
T4	Electrical Estimating and Costing Singh, Surjit Ravi Deep Singh, Dhanpat Rai and Sons,
T5	A Course in Electrical Installation Estimating - Gupta, J.B. S.K. Kataria and Sons Edition, and Costing
R4	Bureau of Indian Standard. SP-30:2011, National Electrical Code 2011
R5	Bureau of Indian Standard. IS: 732-1989, Code of Practice for Electrical Wiring Installation

Online Resources:

Sl.No	Website Link
1	https://bis.gov.in/index.php/standards/technical-department/electrotechnical/
2	http://www.electricaltechnology.org/2015/05/earthing-and-electrical-grounding-types-of-earthing.html
3	http://www.cpwd.gov.in/Publication/Internal2013.pdf
	http://www.ceikerala.gov.in/
	http://www.kseb.in/index.php?lang=en