

ELECTRICAL WIRING ESTIMATION AND COSTING

Course Code	23EE2602	Year	III	Semester	II
Course Category	Open Elective-II	Branch	EEE	Course Type	Theory
Credits	3	L-T-P	3-0-0	Prerequisites	NIL
Continuous Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Understands about electrical equipment symbols, wiring connection and motor control techniques.
CO2	Apply the installation techniques to plan and assess electrical systems for various buildings and industrial applications. (L3)
CO3	Examine the components and economic aspects of electrical installations and substation. (L4)
CO4	Apply starting and control techniques to assess AC motor protection and wiring. (L3)
CO5	Prepare a report on electrical equipment, wiring connection and motor control techniques

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1															
CO2	3											2	2	1	
CO3		3										2	2	1	
CO4	3											2	2	1	
CO5									3	3			2	1	

SYLLABUS		
Unit No.	Contents	Mapped CO
I	Electrical Symbols and Simple Electrical Circuits Identification of electrical symbols - Electrical wiring Diagrams - Methods of representation of wiring diagrams - Introduction to simple light and fan circuits - system of connection of appliances and accessories.	CO1 CO2 CO3 CO5
II	Design Considerations of Electrical Installations Electric supply system - Three-phase four wire distribution system - protection of electric installation against overload - short circuit and earth fault - earthing - neutral and earth wire - types of loads - systems of wiring - permissible of voltage drops and sizes of wires - estimating and costing of	CO1 CO2 CO3 CO5

	electrical installations.	
III	Electrical Installation for Different Types of Buildings and Small Industries Electrical installations for electrical buildings - estimating and costing of material - simple examples on electrical installation for residential buildings - electrical installations for commercial buildings - electrical installation for small industries-case study.	CO1 CO2 CO4 CO5
IV	Substations Introduction - types of substations - outdoor substations-pole mounted type - indoor substations-floor mounted type - simple examples on quantity estimation-case study.	CO1 CO2 CO4 CO5
V	Motor control circuits Introduction to AC motors - starting of three phase squirrel cage induction motors - starting of wound rotor motors - starting of synchronous motors - contractor control circuit components - basic control circuits - motor protection – Schematic and wiring diagrams for motor control circuits.	CO1 CO2 CO3 CO5

Learning Resources	
Text Books:	
1. Electrical Design and Estimation Costing - K. B. Raina and S.K.Bhattacharya – New Age International Publishers - 2007.	
Reference Books:	
1. Electrical wiring estimating and costing – S.L.Uppal and G.C.Garg – Khanna publishers - 6 th edition - 1987.	
2. A course in electrical installation estimating and costing – J.B.Gupta –Kataria SK & Sons - 2013.	
E-Resources:	
1. https://onlinecourses.swayam2.ac.in/nou25_ec07/preview	