

Installation &
Estimating

Lesson Plan

2024(1)

Subject :-Electrical Estimate(Code) TH-1Name of faculty:-

Harekrishna Sahoo

Semester :-6thClass allotted p/w

Branch :- Electrical engg.

Discipline	Semester:-6th	From date:-16/01/24 To date:26/04/24	Teaching Aid
Subject:	No. of days/ per week p/w: 5	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	16/01/24 – 20/01/24	INDIAN ELECTRICITY RULES 1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage (low, medium, high, EH), live, dead, cut-out, conduit, system, danger, Installation, earthing system, span, volt, switch gear, etc. 1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46	White board & marker
2	22/01/24 to 27/01/24	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70. 1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91	White board & marker
3	29/01/24 To 03/02/24	ELECTRICAL INSTALLATIONS 2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.	White board & marker
4	5/2/24 To 10/2/24	ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing	White board & marker
5	12/2/24 To 17/02/24	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of subcircuits.	White board & marker
6	19/02/24 To 24/2/24	INTERNAL WIRING 3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications. 3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m2 with given light,	White board & marker

		fan & plug points.	
	26/2/24 To 2/3/24	<p>3.3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m2 with given light, fan & plug points.</p> <p>3.4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m2 with given light, fan & plug points.</p> <p>3.5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m2 and load within 10 KW</p>	White board & marker
8	4/3/24 To 9/3/24	<p>OVER HEAD INSTALLATION</p> <p>4.1. Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.</p>	White board & marker
9	11/3/24 To 16/3/24	4.2. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation	White board & marker
10	18/3/24 To 23/3/24	4.3. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.	White board & marker
11	27/3/24 To 30/3/24	4.4. Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR.	White board & marker
12	2/4/24 To 6/4/24	<p>OVER HEAD SERVICE LINES</p> <p>5.1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.</p> <p>5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.</p> <p>5.3 Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separa</p>	White board & marker & smart board
13	8/4/24 To 13/4/24	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire	White board & marker
14	15/4/24 To 20/4/24	5.5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.	White board & marker

	22/4/24 To 26/4/24	ESTIMATING FOR DISTRIBUTION SUBSTATIONS 6. 1 Prepare one materials estimate for following types of transformer substations. 6.1.1 Pole mounted substation. 6.1.2 Plinth Mounted substation	White board & marker & smart board
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Bejnem Keshari Parida
Signature of HOD

Harekrishna Sahu
Signature of faculty