

<b>Discipline:</b> Electrical Engineering	<b>Semester:</b> 6 <sup>th</sup> Semester 2023-Summer	<b>Name of the Teaching Faculty:</b> Shri Deepak Patra, Lect. Electrical Engg
<b>Subject:</b> Utilization of Electrical Installation and Estimating(EIE)	<b>No. of Days/week Class Allotted:</b> 75	<b>Semester from date:</b> 13/02/2023 <b>to date:</b> 23/05/2023 <b>No of weeks:</b> 14
<b>Class no</b>	<b>Class Date</b>	<b>Theory Topics</b>
1	13.02.2023	Introduction to the Subject
2	14.02.2023	<b>INDIAN ELECTRICITY RULES</b>
3	15.02.2023	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.
4	16.02.2023	General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
5	18.02.2023 (9.00 am – 9.50 am)	
6	18.02.2023	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.
7	20.02.2023	
8	21.02.2023	OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91
9	23.02.2023	
10	25.02.2023 (9.00 am – 9.50 am)	<b>ELECTRICAL INSTALLATIONS</b> Electrical installations, domestics, Industrial, Wiring System, Internal distribution of Electrical Energy
11	25.02.2023	Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection.
12	27.02.2023	Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.
13	28.02.2023	<b>ACCESSORIES:</b> Main switch and distribution boards, conduits, conduit accessories and fittings,
14	01.03.2023	lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units.
15	02.03.2023	Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed.
16	04.03.2023	Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing.
17	06.03.2023	<b>LIGHTING SCHEME:</b> Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations,
18	09.03.2023 (9.00 am – 9.50 am)	Street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets),
19	09.03.2023	Determination of total load, determination of Number of



		sub-circuits.
20	11.03.2023	<b>INTERNAL WIRING</b> Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring,
21	13.03.2023	Conduit wiring, their advantage and disadvantages comparison and applications.
22	14.03.2023	Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m <sup>2</sup> with given light, fan & plug points.
23	15.03.2023	
24	16.03.2023	
25	18.03.2023	
26	20.03.2023	Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandah within 25 m <sup>2</sup> with given light, fan & plug points.
27	21.03.2023	
28	22.03.2023	Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m <sup>2</sup> with given light, fan & plug points.
29	23.03.2023	
30	(9.00 am – 9.50 am)	
31	23.03.2023	
32	25.03.2023	Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m <sup>2</sup> and load within 10 KW.
33	27.03.2023	
34	28.03.2023	
35	29.03.2023	
36	03.04.2023	<b>OVER HEAD INSTALLATION</b> 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
37	04.04.2023	Pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators,
38	05.04.2023	Types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.
39	06.04.2023	
40	08.04.2023	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
41	10.04.2023	
42	11.04.2023	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
43	12.04.2023	



44	13.04.2023	<b>OVER HEAD SERVICE LINES</b> Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.
45	15.04.2023	Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
45	17.04.2023 (9.00 am – 9.50 am)	
46	17.04.2023	Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separate energy meter
47	18.04.2023	
48	19.04.2023	Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
49	20.04.2023	
50	22.04.2023	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
51	22.04.2023 (9.00 am – 9.50 am)	
52	24.04.2023	<b>ESTIMATING FOR DISTRIBUTION SUBSTATIONS</b>
53	25.04.2023	Prepare one materials estimate for Pole mounted substation.
54	26.04.2023	Prepare one materials estimate for Plinth Mounted substation.
55	27.04.2023	
56	29.04.2023 (9.00 am – 9.50 am)	Revision of Module-1
57	29.04.2023	Revision of Module-1
58	01.05.2023	Revision of Module-2
59	02.05.2023	Revision of Module-2
60	03.05.2023	Revision of Module-3
61	04.05.2023	Revision of Module-3
62	06.05.2023	Revision of Module-4
63	08.05.2023	Revision of Module-4
64	09.05.2023	Revision of Module-5
65	10.05.2023 (9.00 am – 9.50 am)	Revision of Module-5
66	10.05.2023	Revision of Module-6
67	11.05.2023	Revision of Module-6
68	13.05.2023	Discussion of probable questions and answers-1
69	15.05.2023	Discussion of probable questions and answers-2
70	16.05.2023	Discussion of probable questions and answers-3
71	17.05.2023	Discussion of probable questions and answers-4
72	18.05.2023	Discussion of probable questions and answers-5
73	20.05.2023	Discussion of probable questions and answers-6
74	22.05.2023	Discussion of probable questions and answers-7
75	23.05.2023	Discussion of probable questions and answers-8

*Day*  
08/01/23

*P.O.*  
08/01/23  
(HOD, Electrical)