

Lesson Plan

Lesson Plan			
	Discipline:Electrical Engineering	Semester-6th SUMMER 2023 (Sec-A)	Name of the Teaching Faculty:Priyabrata Palasing Nayak
Sl. No.	Subject ELECTRICAL INSTALLATION AND ESTIMATING	No. Of Days/Week class allotted:05	Semester From date: 14.02.2023 to date: 23.05.2023 No of weeks: 15
	Weeks/Months	Class Day	Topic
1	1st Week	1st (14.02.2023)	1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage(low, medium, high, EH), live, dead, cut-out, conduit, system
		2nd (15.02.2023)	danger, Installation, earthing system, span, volt, switch gear, etc.
		3rd (15.02.2023)	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
		4th (17.02.2023)	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
2	2nd Week	1st (20.02.2023)	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56
		2nd (21.02.2023)	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91
		3rd (22.02.2023)	Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy.
		4th (22.02.2023)	Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection.
		5th (24.02.2023)	Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.
3	3rd Week	1st (27.02.2023)	2. 2 ACCESSORIES: Main switch and distribution boards,
		2nd(28.02.2023)	conduit accessories and fittings, lighting accessories and fittings, fuses,
		3rd(01.03.2023)	important definitions, determination of size of fuse – wire, fuse units. Earthing conductor,
		4th(01.03.2023)	earthing, IS specifications regarding earthing of electrical installations,points to be earthed
		5th(03.03.2023)	Determination of size of earth wire and earth plate for domestic and industrial installations.
4	4th Week	1st(06.03.2023)	Material required for GI pipe earthing.
		2nd (10.03.2023)	2. 3 LIGHTING SCHEME: Aspects of good lighting services.
5	5th Week	1st (13.03.2023)	Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations
		2nd (14.03.2023)	street lighting, general rules for wiring, determination of number of points
		3rd(15.03.2023)	determination of total load, determination of Number of sub-circuit.
		4th(15.03.2023)	3 . 1 Type of internal wiring, cleat wiring, CTS wiring

		5th(17.03.2023)	wooden casing capping, metal sheathed wiring, conduit wiring,
6	6th Week	1st(20.03.2023)	their advantage and disadvantages comparison and applications
		2nd(21.03.2023)	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, fan & plug points.
		3rd(22.03.2023)	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, fan & plug points.
		4th(22.03.2023)	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, fan & plug points.
		5th (24.04.2023)	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, fan & plug points.
7	7th Week	1st(27.04.2023)	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, fan & plug points.
		2nd(28.04.2023)	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, fan & plug points.
		3rd(29.04.2023)	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, fan & plug points.
		4th(29.04.2023)	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, fan & plug points.
		5th(31.04.2023)	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, fan & plug points.
8	8th Week	1st(03.04.2023)	4.1. Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials
		2nd(04.04.2023)	Problem Solve
		3rd(05.04.2023)	4.1 determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays
		4th(05.04.2023)	4.2 conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators
9	9th Week	1st(10.04.2023)	4.1 lighting arresters, danger plates, anti-climbing devices, bird guards
		2nd(11.04.2023)	4.1 beads of jumpers, jumpers, tee-offs, guarding of overhead lines.
		3rd(12.04.2023)	Problem Solve
		4th(12.04.2023)	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving
10	10th Week	1st(17.04.2023)	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving
		2nd(18.04.2023)	4.2 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
		3rd(19.04.2023)	4.2 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.

		4th(19.04.2023)	4.2 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
		5th(21.04.2023)	4.3 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
11	11th Week	1st(24.04.2023)	4.3 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
		2nd(25.04.2023)	4.4 Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum
		3rd(26.04.2023)	4.4 standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity
		4th(26.04.2023)	4.4 voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR.
		5th(28.04.2023)	5.1 Components of service lines, service line (cables and conductors),
12	12th Week	1st(01.05.2023)	Problem Solve
		2nd(02.05.2023)	Problem Solve
		3rd(03.05.2023)	5.1 bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.
		4th(03.05.2023)	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
13	13th Week	1st(08.05.2023)	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
		2nd(09.05.2023)	5.3 Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separate energy meter.
		3rd(10.05.2023)	5.3 Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separate energy meter.
		4th(10.05.2023)	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
		5th(12.05.2023)	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
	14th Week	1st(15.05.2023)	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
		2nd(16.05.2023)	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.
		3rd(17.05.2023)	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.
		4th(17.05.2023)	6. 1 Prepare one materials estimate for following types of transformer substations.
	15th Week	1st(22.05.2023)	6.1.1 Pole mounted substation.
		2nd(23.05.2023)	6.1.2 Plinth Mounted substation.