Lesson Plan			
	Discipline:Electrical Engineering	Semester-6th SUMMER 2024	Name of the Teachng Faculty: Sri RAJESH KUMAR SAHOO
Sl. No.	Subject ELECTRICAL INSTALLATION AND ESTIMATING SEC-A	No. Of Days/Week class alloted:05	Semester From date: 16.01.2024 to date: 26.04.2024. No of weeks: 15
	Weeks/Months	Class Day	Topic
1	1st Week	1st(17.1.2024)	1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage(low, medium, high, EH), live, dead, cut-out, conduit, system
		2nd(19.1.2024)	danger, Installation, earthing system, span, volt, switch gear, etc.
		3rd(20.1.2024)	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
2	2nd Week	1st(22.1.2024)	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.
		2nd(22.1.2024)	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91
		3rd(24.1.2024)	Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy.
		4th(27.1.2024)	Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.
3	3rd Week	1st(29.1.2024)	2. 2 ACCESSORIES: Main switch and distribution boards,
		2nd(29.1.2024)	conduit accessories and fittings, lighting accessories and fittings, fuses,
		3rd(31.1.2024)	important definitions, determination of size of fuse – wire, fuse units. Earthing conductor,
		4th(2.2.2024)	earthing, IS specifications regarding earthing of electrical installations,points to be earthed
		5th(3.2.2024)	Determination of size of earth wire and earth plate for domestic and industrial installations.
4	4th Week	1st(5.2.2024)	Material required for GI pipe earthing.
		2nd(5.2.2024)	2. 3 LIGHTING SCHEME: Aspects of good lighting services.
		3rd(7.2.2024)	Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations
		4th(9.2.2024)	street lighting, general rules for wiring, determination of number of points
		5th(10.2.2024)	determination of total load, determination of Number of sub-circuit.
5	5th Week	1st(12.2.2024)	3 . 1 Type of internal wiring, cleat wiring, CTS wiring
		2nd(12.2.2024)	wooden casing capping, metal sheathed wiring, conduit wiring,
		3rd(16.2.2024)	their advantage and disadvantages comparison and applications
		4th(17.2.2024)	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.
		1st(19.2.2024)	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(19.2.2024)	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

6	6th Week	3rd(20.2.2024)	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
		4th(23.2.2024)	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
		5th(24.2.2024)	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
7	7th Week	1st(26.2.2024)	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
		2nd(26.2.2024)	3.4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine
		3rd(28.2.2024)	3.4 bath, kitchen & verandah within 80m2 with given light, fan & plug points.
		4th(1.3.2024)	Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m2 and load within 10 KW
		5th(2.3.2024)	4.1. Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials
8	8th Week	1st(4.4.2024)	Problem Solve
		2nd(4.3.2024)	4.1 determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays
		3rd(6.3.2024)	4.2 conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators
		4th(9.3.2024)	4.1 lighting arresters, danger plates, anti-climbing devices, bird guards
9	9th Week	1st(11.3.2024)	4.1 beads of jumpers, jumpers, tee-offs, guarding of overhead lines.
		2nd(11.3.2024)	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving
		3rd(13.3.2024)	4.2 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
		4th(15.3.2024)	4.3 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving
		5th(16.3.2024)	4.3 calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
		1st(18.3.2024)	Problem Solve
		2nd(18.3.2024)	4.4 standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity

10	10th Week	3rd(20.3.2024)	4.4 voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR.
		4th(22.3.2024)	4.4 Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum
		5th(23.3.2024)	5.1 Components of service lines, service line (cables and conductors),
11	11th Week	1st(27.3.2024)	5.1 bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.
		2nd(30.3.2024)	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
12	12th Week	1st(3.4.2024)	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(5.4.2024)	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.Problem Solve
		3rd(6.4.2024)	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.
13	13th Week	1st(8.4.2024)	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
		2nd(8.4.2024)	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
		3rd(10.4.2024)	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.Problem Solve
		4th(12.4.2024)	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.
		5th(13.4.2024)	6. 1 Prepare one materials estimate for following types of transformer substations.
14	14th Week	1st(15.4.2024)	6.1.1 Pole mounted substation.
		2nd(15.4.2024)	6.1.2 Plinth Mounted substation.Problem Solve
		3rd(19.4.2024)	6. 1 Prepare one materials estimate for following types of
		4th(20.4.2024)	6.1.1 Pole mounted substation.
15	15th Week	1st(22.4.2024)	Problem Solve
		2nd(22.4.2024)	6. 1 Prepare one materials estimate for following types of
		3rd(24.4.2024)	6.1.1 Pole mounted substation.
		4th(26.4.2024)	6.1.2 Plinth Mounted substation.Problem Solve