LESSON PLAN FOR 6TH SEM ELECTRICAL

Discipline **Electrical Engg.**	Semester:- **6th**	Name of the Teaching Faculty:- **SUDIPTA KUMAR DAS**
Subject: **EI&E**	No of Days/per Week Class Allotted :- **4+ 1{Tutorial)**	Semester From:- **10th March, 2022** To:- **10th June,2022** No of Weeks:-**15**
Week	**Class Day**	**Theory/ Practical Topics**
1st	1st	1. INDIAN ELECTRICITY RULES Definitions, Ampere, Apparatus, Accessible, Bare, cablew, circuit, circuit breaker,conductor voltage (low, medium, high, EH)
	2nd	1.1 live, dead, cut-out, conduit, system,danger, Installation, earthing system, span, volt, switch gear, etc.
	3rd	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
	4th	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55,
	5th	1.3 General conditions relating to supply and use of energy : rule 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70.
2nd	1st	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91
	2nd	2. 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.
	3rd	Types of cables used in internal wiring, multi-stranded cables,voltage grinding of cables, general specifications of cables.
	4th	2. 2 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
	5th	IS specifications regarding earthing of electrical installations, points to be earthed
3rd	1st	Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing.
	2nd	. 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
	3rd	determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits
	4th	3. INTERNAL WIRING 3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping,
	5th	metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.
4th	1st	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m^2 with given light, fan & plug points.
	2nd	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m^2 with given light, fan & plug points.
	3rd	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m^2 with given light, fan & plug points
	4th	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.
	5th	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.(Contd...)
5th	1st	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.
	2nd	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.
	3rd	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.
	4th	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.
	5th	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m^2 and load within 10 KW.

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6th	1st	5. OVER HEAD SERVICE LINES Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.
	2nd	5.1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc
	3rd	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
	4th	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.
	5th	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.(Contd...)
7th	1st	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.
	2nd	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	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
	4th	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
	5th	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.(Contd...)
8th	1st	5.4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.
	2nd	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	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	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	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.
9th	1st	4. OVER HEAD INSTALLATION Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead
	2nd	transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths,
	3rd	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.
	4th	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 consideration using ACSR.
	5th	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 consideration using ACSR.
	6th	Tutorial
10th	1st	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 consideration using ACSR.
	2nd	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 consideration using ACSR.
	3rd	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 consideration using ACSR.
	4th	4.2 Prepare an estimate of materials required for LT distribution line within load of

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		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.
	5th	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.
11th	1st	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.
	2nd	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.
	3rd	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.
	4th	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.
	5th	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 consideration using ACSR.
12th	1st	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 consideration using ACSR.
	2nd	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 consideration using ACSR.
	3rd	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 consideration using ACSR.
	4th	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 consideration using ACSR.
	5th	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 consideration using ACSR.
13th	1st	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 consideration using ACSR.
	2nd	6. ESTIMATING FOR DISTRIBUTION SUBSTATIONS Prepare one materials estimate for following types of transformer substations. Pole mounted substation
	3rd	6.1.1 Pole mounted substation
	4th	6.1.1 Pole mounted substation
	5th	6.1.1 Pole mounted substation
	1st	6.1.1 Pole mounted substation

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14th	2nd	6.1.1 Pole mounted substation
	3rd	6.1.2 Plinth Mounted substation.
	4th	6.1.2 Plinth Mounted substation.
	5th	6.1.2 Plinth Mounted substation.
15th	1st	6.1.2 Plinth Mounted substation.
	2nd	6.1.2 Plinth Mounted substation.
	3rd	Previous year question paper discussion
	4th	Previous year question paper discussion
	5th	Previous year question paper discussion