LESSONPLANFOR 6TH SEMELECTRICAL

Discipline **ElectricalEngg.**	Semester:- **6th**	NameoftheTeachingFaculty:- **SUDIPTAKUMARDAS**
Subject: **EI&E**	NoofDays/per Week Class Allotted :- **4+ 1{Tutorial)**	SemesterFrom:-**16TH January, 2024**To:-**26t April,2024** NoofWeeks:-**15**
Week	**ClassDay**	**Theory/PracticalTopics**
1st	1st	1.INDIANELECTRICITYRULES Definitions,Ampere,Apparatus,Accessible,Bare,cablew,circuit,circuit breaker,conductor voltage (low, medium, high, EH)
	2nd	1.1live,dead,cut-out,conduit,system,danger,Installation,earthingsystem,span,volt,switch gear,etc.
	3rd	1.2Generalsafetyprecautions,rule29,30,31,32,33,34,35,36,40,41,43,44,45,46.
	4th	1.3Generalconditionsrelatingtosupplyanduseofenergy:rule47,48,49,50,51,54,55,
	5th	1.3Generalconditionsrelatingtosupplyanduseofenergy:rule56,57,58,59,60,61,62,63,64, 65,66, 67, 68, 70.
2nd	1st	1.4OHlines:Rule74,75,76,77,78,79,80,86,87,88,89,90,91
	2nd	2. ELECTRICALINSTALLATIONS 2.1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire andcable,conductormaterialsusedincables,insulatingmaterialsmechanical protection.
	3rd	Typesofcablesusedininternalwiring,multi-strandedcables,voltagegrindingof cables,generalspecificationsofcables.
	4th	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings,lightingaccessoriesandfittings, fuses,importantdefinitions,determinationofsizeoffuse – wire, fuse units. Earthing conductor, earthing
	5th	ISspecificationsregardingearthingofelectricalinstallations,pointstobeearthed
3rd	1st	Determinationofsizeofearthwireandearthplatefor domesticandindustrial installations.MaterialrequiredforGIpipeearthing.
	2nd	.2.3LIGHTINGSCHEME:Aspects ofgoodlightingservices.Typesoflighting schemes,designoflightingschemes,factorylighting,publiclighting installations, street lighting, general rules for wiring
	3rd	determinationofnumber ofpoints(light,fan,socket,outlets),determinationof totalload,determination of Number of sub-circuits
	4th	3.INTERNALWIRING 3.1Typeofinternalwiring, cleatwiring,CTSwiring,woodencasingcapping,
	5th	metalsheathedwiring,conduitwiring,theiradvantageanddisadvantages comparison and applications.
4th	1st	3. 2Prepareoneestimateofmaterialsrequiredfor CTSwiringforsmalldomestic installationofone roomandone verandahwithin25m^{2}withgivenlight,fan& plug points.
	2nd	3. 3Prepareoneestimateofmaterialsrequiredfor conduitwiringfor small domesticinstallation ofoneroomand oneverandhawithin25m^{2}withgiven light, fan & plug points.
	3rd	3. 4Prepareoneestimateofmaterialsrequiredfor concealedwiringfor domestic installation of two rooms and one latrine, bath, kitchen & verandahwithin 80m^2 withgivenlight,fan&plugpoints
	4th	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa smallworkshopinstallationabout30m^{2}andloadwithin10KW.
	5th	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa small workshop installation about 30m^2 and load within 10 KW.(Contd...)
5th	1st	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa small workshop installation about 30m^2 and load within 10 KW.
	2nd	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa smallworkshopinstallationabout30m^{2}andloadwithin10KW.
	3rd	3. 5Prepareoneestimateofmaterials requiredfor erectionofconduct wiringtoa small workshop installation about 30m^2 and load within 10 KW.
	4th	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa small workshop installation about 30m^2 and load within 10 KW.
	5th	3. 5Prepareoneestimateofmaterialsrequiredfor erectionofconduct wiringtoa smallworkshopinstallationabout30m^{2}andloadwithin10KW.

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6th	1st	5.OVERHEADSERVICE LINES Componentsofservicelines,serviceline(cablesandconductors),bearerwire, lacing rod. Ariel fuse, service support, energy box and meters etc.
	2nd	5.1Componentsofservicelines,serviceline (cablesandconductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc
	3rd	5.2Prepareandestimatefor providingsinglephasesupplyofload of5 KW(light, fan, socket) to a single stored residential building.
	4th	5.2Prepareandestimateforprovidingsinglephasesupplyofload of5 KW(light, fan,socket)toasinglestoredresidential building.
	5th	5.3Prepareand estimateforprovidingsinglephasesupplyloadof3KWto each floorofadoublestoredbuildinghavingseparateenergymeter.(Contd...)
7th	1st	5.3Prepareandestimatefor providingsinglephasesupplyload of3KWtoeach floor of a double stored building having separate energy meter.
	2nd	5.3Prepareandestimatefor providingsinglephase supplyload of3KWtoeach floor of a double stored building having separate energy meter.
	3rd	5.4Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using insulated wire.
	4th	5.4Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using insulated wire.
	5th	5.4Prepareoneestimateofmaterialsrequiredforservice connectiontoafactory building with load within 15 KW using insulated wire.(Contd...)
8th	1st	5.4Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using insulated wire.
	2nd	5.5Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using bare conductor and insulated wire combined.
	3rd	5.5Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using bare conductor and insulated wire combined.
	4th	5.5Prepareoneestimateofmaterialsrequiredforservice connectiontoa factory building with load within 15 KW using bare conductor and insulated wire combined.
	5th	5.5Prepareoneestimateofmaterialsrequiredforservice connection toa factory building with load within 15 KW using bare conductor and insulated wire combined.
9th	1st	4.OVERHEADINSTALLATION Maincomponentsofoverheadlines,linesupports,factorsGoverningHeightof pole, conductor materials, determination of size of conductor for overhead
	2nd	transmissionline,crossarms,polebracketsandclamps,guysandstays, conductorsconfigurations,spacingandclearances,spanlengths,
	3rd	overheadline insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices,birdguards,beadsofjumpers,jumpers,tee-offs, guardingofoverhead lines.
	4th	4.2Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	5th	4.2Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	6th	Tutorial
10th	1st	4.2Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	2nd	4.2Prepareanestimateofmaterialsrequiredfor LTdistributionline withinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	3rd	4.2Prepareanestimateofmaterialsrequiredfor LT distributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	4th	4.2PrepareanestimateofmaterialsrequiredforLTdistributionlinewithinloadof

		100KWmaximumandstandardspansinvolvingcalculationofthesize of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	5th	4.3.Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
11th	1st	4.3.Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	2nd	4.3.Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	3rd	4.3.Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	4th	4.3.Prepareanestimateofmaterialsrequiredfor LTdistributionlinewithinloadof 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulationconsiderationusingACSR.
	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 capacityandvoltageregulationofthesizeofconductor(fromconductorchart), 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 capacityandvoltageregulationofthesizeofconductor (fromconductor 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), currentcarrying capacityandvoltageregulationofthesizeofconductor(fromconductorchart), 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 capacityandvoltageregulationofthesizeofconductor(fromconductorchart), 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), currentcarrying capacityandvoltageregulationofthesizeofconductor(fromconductorchart), currentcarryingcapacityandvoltageregulationconsiderationusingACSR.
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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 capacityandvoltageregulationofthesizeofconductor(fromconductorchart), current carrying capacity and voltage regulation consideration using ACSR.
	2nd	6.ESTIMATINGFORDISTRIBUTIONSUBSTATIONS Prepareonematerialsestimateforfollowingtypesoftransformersubstations. Pole mounted substation
	3rd	6.1.1Polemounted substation
	4th	6.1.1Polemounted substation
	5th	6.1.1Polemounted substation
	1st	6.1.1Polemounted substation

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14th	2nd	6.1.1Polemounted substation
	3rd	6.1.2PlinthMountedsubstation.
	4th	6.1.2PlinthMountedsubstation.
	5th	6.1.2PlinthMountedsubstation.
15th	1st	6.1.2PlinthMountedsubstation.
	2nd	6.1.2PlinthMountedsubstation.
	3rd	Previousyearquestionpaperdiscussion
	4th	Previousyearquestionpaperdiscussion
	5th	Previousyearquestionpaperdiscussion

8.01.24
Signature of Teaching Faculty

8/01/24
Signature of Sr. Lecturer

Head of Dept. (HOD)
Electrical & ETC E...
G.I.E.T (POLY), ...

08/1/24
Signature of Principal