NILASAILAINSTITUTEOFSCIENCE&TECHNOLOGYSERGARH-756060,BALASORE(ODISHA)
(ApprovedbyAICTE&affiliatedtoSCTE&VT,Odisha)

LESSONPLAN

SUBJECT:Th-4(GENERATION TRANSMISSION & DISTRIBUTION)

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods asper the Syllabus	No. of periods actually needed
1	Generation of electricity	7	7
2	Transmission of electric power	5	5
3	Overhead line	7	7
4	Performance of short & medium lines	7	7
5	EHV transmission	7	7
6	Distribution System	7	7
7	Underground cable	6	6
8	Economic Aspects	6	6
9	Types of tariff	3	3
10	Substation	5	5
	TOTAL	60	60

Discipline:ELECTRICALENGG.	Semester: 4TH	Name of the Teaching Faculty: Er NIRANJAN BARIK
Week	**Class Day**	**Theory/Practical Topics**
1st	1st	**GENERATION OF ELECTRICITY:** Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station**.**
	2nd	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station**.**
	3rd	Elementary idea on generation of electricity from Thermal, Hydel,
	4th	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station**.**
	5th	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station**.**
2nd	1st	Introduction to Solar Power Plant (Photovoltaic cells).
	2nd	Layout diagram of generating stations
	3rd	**TRANSMISSION OF ELECTRICPOWER** Layout of transmission and distribution scheme.
	4th	Voltage Regulation & efficiency of transmission.
	5th	State and explain Kelvin's law for economical size of conductor.
3rd	1st	StateandexplainKelvin'slawforeconomicalsizeofconductor.
	2nd	Coronaandcoronalossontransmissionlines.
	3rd	**OVERHEADLINES** Typesofsupports,sizeandspacingofconductor.
	4th	Typesofconductormaterials.

	5th	Statetypesofinsulatorandcrossarms.
4th	1st	Saginoverheadlinewithsupportatsamelevelanddifferentlevel.(approximate formula effect of wind, ice and temperature on sag)
	2nd	Saginoverheadlinewithsupportatsamelevelanddifferentlevel.(approximate formula effect of wind, ice and temperature on sag)
	3rd	Saginoverheadlinewithsupportatsamelevelanddifferentlevel.(approximate formula effect of wind, ice and temperature on sag)
	4th	Simpleproblemonsag.
	5th	**PERFORMANCEOFSHORT&MEDIUMLINES**Calculationofregulationandefficiency
5th	1st	Calculationofregulationandefficiency
	2nd	Calculationofregulationandefficiency
	3rd	Calculationofregulationandefficiency
	4th	Calculationofregulationandefficiency
	5th	Calculationofregulationandefficiency
6th	1st	Calculationofregulationandefficiency
	2nd	**EHVTRANSMISSION** EHVACtransmission
	3rd	ReasonsforadoptionofEHVACtransmission.
	4th	ReasonsforadoptionofEHVACtransmission.

	5th	ReasonsforadoptionofEHVACtransmission.
7th	1st	ProblemsinvolvedinEHVtransmission
	2nd	HVDCtransmission
	3rd	AdvantagesandLimitationsofHVDCtransmissionsystem
	4th	**DISTRIBUTIONSYSTEMS** IntroductiontoDistributionSystem
	5th	ConnectionSchemesofDistributionSystem:(Radial,RingMainandInterconnected system)
8th	1st	DCdistributionsDistributorfedatoneEnd.
	2nd	Distributorfedatboththeends.
	3rd	Ringdistributors. ACdistributionsystem
	4th	MethodofsolvingACdistributionproblem.
	5th	Threephasefourwirestarconnectedsystemarrangement.
9th	1st	**UNDERGROUNDCABLES** Cableinsulationandclassificationofcables.
	2nd	TypesofL.T.&H.T.cableswithconstructionalfeatures
	3rd	TypesofL.T.&H.T.cableswithconstructionalfeatures

	4th	Methodsofcable lying
	5th	Methodsofcable lying
10th	1st	Localizationofcablefaults:MurrayandVarleylooptestforshortcircuitfault/Earth fault
	2nd	**ECONOMICASPECTS** Causesoflowpowerfactorandmethodsofimprovementofpowerfactorinpower system.
	3rd	Causesoflowpowerfactorandmethodsofimprovementofpowerfactorinpower system.
	4th	Factorsaffectingtheeconomicsofgeneration:(Defineandexplain)
	5th	Load curves. Demandfactor.
11th	1st	Maximumdemand Loadfactor.Diversityfactor
	2nd	PeakloadandBaseloadonpowerstation.
	3rd	**TYPESOFTARIFF** Desirablecharacteristicofatariff
	4th	Desirablecharacteristicofatariff
	5th	Explainflatrate,blockrate,twopartandmaximumdemandtariff.(SolveProblems)
	1st	**SUBSTATION** LayoutofLT,HTandEHTsubstation
	2nd	LayoutofLT,HTandEHTsubstation

12th	3rd	LayoutofLT,HTandEHTsubstation
	4th	EarthingofSubstation,transmissionanddistributionlines.
	5th	EarthingofSubstation,transmissionanddistributionlines.