LESSON PLAN
DEPARTMENTOFCIVILENGINEERING
SAIINSTITUTEOFTECHNOLOGICALSCIENCECHOUDWAR,CUTTACK

SUBJECT: AdvancedConstructionTechniques&Equipments.

Periods:5per week **SEMESTER:**6th

NAMEOFFACULTY:A.NAYAK **ACADEMICYEAR**.2023-24

SemesterFromdate: 16.01.2024 **To Date:** 26.04.2024 **No.ofweeks:**15

Week	Class Day	Theory/Practical Topics
1st	1st	BriefintroductiononAdvancedconstructionmaterials
	2nd	Fibersand Plastics- Typesoffibers-Steel,Carbon,glassfibers
	3rd	Typesofplastics-PVC,RPVC,HDPE,FRP,GRPetc.
	4th	Coloredplasticsheets.Useofplasticasconstruction material
2nd	1st	ArtificialTimbers–Propertiesandusesofartificialtimber.
	2nd	Typesofartificialtimberavailableinmarket,.strengthofartificialtimber
	3rd	Miscellaneousmaterials–Propertiesofacousticsmaterials,
	4th	usesofacousticsmaterials,wallcladdings,
3rd	1st	plasterboards,micro-silica,artificialsand,bondingagents,adhesivesetc.
	2nd	Prefabrication Introduction,necessityandscopeofprefabricationofbuildings,historyofprefabrication
	3rd	currentusesofprefabrication,thetheoryandprocessofprefabrication,
	4th	typesofprefabricatedsystems,classificationofprefabrication,advantagesanddisadvantagesof prefabrication
4th	1st	designprincipleofprefabricatedsystems,typesofprefabricatedelements
	2nd	modularcoordination
	3rd	Indianstandardrecommendationformodular planning.
	4th	EarthquakeResistantConstruction:BuildingConfiguration
5th	1st	LateralLoadresisting structures
	2nd	Buildingcharacteristics
	3rd	Effectofstructuralirregularities-verticalirregularities
	4th	planconfigurationproblems.
6th	1st	Discussion
	2nd	SafetyconsiderationduringadditionalconstructionandalterationofexistingBuildings.
	3rd	Additionalstrengtheningmeasuresinmasonrybuilding-cornerreinforcement
	4th	lintelband,.
7th	1st	sillband,plinth band,
	2nd	roofband,gableband etc
	3rd	IntroductiononRetrofittingofStructures
	4th	Seismicretrofittingofreinforcedconcretebuildings
8th	1st	SourcesofweaknessinRCframe building
	2nd	Classificationofretrofittingtechniquesandtheiruses
	3rd	ColdWaterDistributioninhighrisebuilding,layoutofinstallation
	4th	Hotwatersupply–Generalprinciplesforcentralplants-layout
9th	1st	Sanitation–soilandwastewaterinstallationinhighrisebuildings
	2nd	Electricalservices–i)requirementsinhighrise buildings
	3rd	Layoutofwiring-typesofwiring Fuses and their types

	4th	Earthingandtheiruses
10th	1st	Lighting–Requirementoflighting,Measurementoflightintensity
	2nd	Ventilation: Methodsofventilation–Naturalandartificial
	3rd	Systemsof ventilation
	4th	problemsonventilation
11th	1st	problemsonventilation
	2nd	MechanicalServices-Lifts,Escalator
	3rd	MechanicalServices-Lifts,Escalator
	4th	Elevators–typesanduses
12th	1st	Discussion
	2nd	IntroductiononConstructionandearthmovingequipments
	3rd	Planningandselectionofconstructionequipments
	4th	b)Studyonearthmovingequipmentslikedragline, tractor
13th	1st	bulldozer,Powershovel
	2nd	Discussion
	3rd	c)Studyandusesofcompactingequipmentsliketampingrollers,
	4th	Smoothwheel rollers,
14th	1st	Pneumatictiredrollersandvibratingcompactors
	2nd	d)Owningandoperatingcost –problems
	3rd	Problems
	4th	IntroductiononSoilreinforcingtechniques
15th	1st	Necessityofsoilreinforcing.
	2nd	Usewiremeshandgeo-synthetics. Strengtheningofembankments,
	3rd	Discussion
	4th	Slopestabilizationincuttingandembankmentsbysoilreinforcingtechniques