

GOVERNMENT POLYTECHNIC JAJPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website: <https://www.gpjajpur.org> E-mail: principalgpjajpur@yahoo.co.in Contact: 9437155107

DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

Discipline: Civil Engg	Semester: 6th	Name of the Teaching faculty: Er. Shibasis Panda
Subject: Advanced construction Technology & Equipment Th-3	No of Days/Week class allotted: 4	Semester from Date: 16/01/24 To Date: 26/04/24 No of weeks: 15
Week	Class Day	Topics
1st	1st	Advanced construction materials Fibers and Plastics
	2nd	Use of fibers as construction material
	3rd	properties of Fibers
	4th	PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets.
2nd	1st	Use of plastics as construction material
	2nd	Artificial Timbers – Properties
	3rd	uses of artificial timber
	4th	Types of artificial timber available in market, strength of artificial timber
3rd	1st	Properties and uses of acoustic materials
	2nd	wall claddings, plaster boards, micro-silica, artificial sand
	3rd	bonding agents, adhesives
	4th	Introduction, necessity and scope of prefabrication of buildings
4th	1st	history of prefabrication, current uses of prefabrication
	2nd	Types of prefabricated systems, classification of prefabrication
	3rd	advantages and disadvantages of prefabrication
	4th	The theory and process of prefabrication
5th	1st	design principle of prefabricated systems
	2nd	types of prefabricated elements
	3rd	modular coordination, Indian standard recommendation for modular planning
	4th	Earthquake Resistant Construction, Building Configuration
6th	1st	Lateral Load resisting structures
	2nd	Building characteristics
	3rd	Effect of structural irregularities-vertical irregularities
	4th	plan configuration problems
7th	1st	Safety consideration during additional construction and alteration of existing Buildings
	2nd	Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band
	3rd	plinth band, roof band, gable band
	4th	Retrofitting of Structures

8th	1st	Seismicretrofittingofreinforcedconcretebuildings
	2nd	Seismicretrofittingofreinforcedconcretebuildings
	3rd	Seismicretrofittingofreinforcedconcretebuildings
	4th	SourcesofweaknessinRCframebuilding
9th	1st	Classificationofretrofittingtechniquesandtheiruses
	2nd	Classificationofretrofittingtechniquesandtheiruses
	3rd	BuildingServices,ColdWaterDistributioninhighrisebuilding,layoutof installation
	4th	Hotwatersupply–Generalprinciplesforcentralplants-layout
10th	1st	Sanitation–soilandwastewaterinstallationinhighrisebuildings
	2nd	Electricalservices –i)requirementsinhighrisebuildingsii)Layoutof wiring
	3rd	typesofwiring
	4th	Fusesandtheirtypes
11th	1st	Earthingandtheiruses
	2nd	Lighting–Requirementoflighting,Measurementoflight intensity
	3rd	Ventilation-Methodsofventilation(NaturalandartificialSystemsof ventilation)problemsonventilation
	4th	MechanicalServices-Lifts,Escalator,Elevators–typesanduses
12th	1st	Constructionandearthmovingequipment,Planningand selectionof constructionequipment
	2nd	Constructionandearthmovingequipment,Planningand selectionof constructionequipment
	3rd	Studyonearthmovingequipmentlikedragline,tractor,bulldozer, Powershovel
	4th	Studyandusesofcompactingequipmentliketampingrollers,Smooth wheelrollers,Pneumatictiredrollersandvibrating compactors
13th	1st	Owningandoperatingcost – problems
	2nd	Owningandoperatingcost – problems
	3rd	Owningandoperatingcost – problems
	4th	Owningandoperatingcost – problems
14th	1st	Necessityofsoilreinforcing
	2nd	Uewiremeshandgeo-synthetics
	3rd	Uewiremeshandgeo-synthetics
	4th	Strengtheningofembankments
15th	1st	Strengtheningofembankments
	2nd	Slopestabilizationincuttingandembankmentsbysoilreinforcing techniques
	3rd	Slopestabilizationincuttingandembankmentsbysoilreinforcing techniques
	4th	Slopestabilizationincuttingandembankmentsbysoilreinforcing techniques
16th	1st	CLASSTEST3,PREVIOUSYEARQUESTIONS,QUIZ

LearningResources:

SINo.	AuthorName	NameoftheBook
1	Agrawal&Shrikhande	EarthquakeResistantDesignofStructures
2	SwamiSaran	ReinforcedSoilanditsEngineering applications
3	M.R. Samal	AdvanceConstructionandEquipment

Er. Shibasis Panda
FACULTYSIGNATURE