

ACADEMIC SESSION : SUMMER-2024

Discipline : CIVIL ENGG	Semester :6TH	Name of the Teaching Faculty : DEBASIS LENKA
Subject : ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT	No. of days / week class allotted: 5	Semester From date: 16/01/2024 to 26/04/2024 Nos. of Weeks per semester : 15
Week	Class Day	Theory/ Practical Topics
1 ST	1 st	Types of fibers- Steel, Carbon,,
	2 nd	glass fibers ,Use of fibers as construction material, properties of Fibers.
	3 rd	properties of Fibers., Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.
	4 th	Use of plastic as construction material.,
2 ND	1 st	HDPE, FRP, GRP etc. Colored plastic sheets
	2 nd	Use of plastic as construction material.
	3 rd	Properties and uses of acoustics materials
	4 th	-DO-
3 RD	1 st	wall claddings, plaster boards
	2 nd	micro-silica, artificial sand, bonding agents, adhesives etc.
	3 rd	Introduction, necessity and scope of prefabrication of buildings, history of prefabrication,
	4 th	current uses of prefabrication , types of prefabricated systems,
4 TH	1 st	classification of prefabrication, advantages and disadvantages of prefabrication,
	2 nd	The theory and process of prefabrication,
	3 rd	design principle of prefabricated systems
	4 th	types of prefabricated elements,
5 TH	1 st	modular coordination
	2 nd	Indian standard recommendation for modular planning.
	3 rd	Building Configuration
	4 th	Lateral Load resisting structures
6 TH	1 st	Building characteristics
	2 nd	Effect of structural irregularities-vertical irregularities
	3 rd	plan configuration problems.

	4 th	Safety consideration during additional construction and alteration of existing Buildings
7 TH	1 st	Additional strengthening measures in masonry building- corner reinforcement,
	2 nd	lintel band, sill band, plinth band, roof band, gable band etc
	3 rd	Intoduction on Retrofitting of Structures
	4 th	Seismic retrofitting of reinforced concrete buildings :
8 TH	1 st	Seismic retrofitting of reinforced concrete buildings :
	2 nd	Seismic retrofitting of reinforced concrete buildings :
	3 rd	Sources of weakness in RC frame building
	4 th	Sources of weakness in RC frame building
9 TH	1 st	Classification of retrofitting techniques and their uses
	2 nd	Classification of retrofitting techniques and their uses
	3 rd	Intoduction on Building Services
	4 th	Cold Water Distribution in high rise building, lay out of installation
10 TH	1 st	Hot water supply – General principles for central plants- layout
	2 nd	Sanitation –soil and waste water installation in high rise buildings
	3 rd	Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring iii) Fuses and their types iv)Earthing and their uses
	4 th	Lighting – Requirement of lighting, Measurement of light intensity
11 TH	1 st	Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation
	2 nd	Mechanical Services- Lifts, Escalator, Elevators – types and uses
	3 rd	Intoduction on Construction and earth moving equipments ,
	4 th	Planning and selection of construction equipments
12 th	1 st	Study on earth moving equipments
	2 nd	tractor, bulldozer
	3 rd	Power shovel
	4 th	Study and uses of compacting equipments
13 th	1 st	tamping rollers, Smooth wheel rollers
	2 nd	tamping rollers, Smooth wheel rollers
	3 rd	Pneumatic tired rollers and vibrating compactors

	4 th	Owning and operating cost – problems
14 th	1 st	Intoduction on Soil reinforcing techniques
	2 nd	Necessity of soil reinforcing
	3 rd	Necessity of soil reinforcing
	4 th	Use wire mesh and geo-synthetics
15 th	1 st	Use wire mesh and geo-synthetics
	2 nd	Strengthening of embankments
	3 rd	Slope stabilization in cutting and embankments by soil reinforcing techniques
	4 th	NUMERICALS

Prepared By : *Abhishek*

Lecturer
Civil Engg.

Deek
16-11-24

Approved By:

[Signature]
16/11/24
HOD(Civil)