

Discipline Civil Engg	Semester 6 th	Name of the teaching faculty Mrs Meera Pehray
Subject ACT & E	No of day/ Per week class allotted 04.	Semester from date 12/3/23 to 23/5/24 date No of weeks:- 13
1st		1. <u>Advanced construction materials</u>
1st	1.1	Fibers and Plastics. Types of fibers - Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers.
2nd	2nd	Use of fibers as construction material, properties of Fibers.
3rd	3rd	Types of plastics - PVC, RPVC, HDPE, FRP, GFRP etc. Colored plastic sheets. Use of plastic as construction material.
4th	4th	1.2 Artificial Timbers - Properties and uses of artificial timber. Types of artificial timber available in market strength of artificial timber.
2nd	1st	1.3. Miscellaneous materials -
	2nd	Properties and uses of acoustics
	3rd	materials, wall chaddings, plaster boards, micro-silica,

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4th artificial sand, bonding agents adhesives etc.

5th

2. Prefabrication

1st 2.1. Introduction, necessity and scope of prefabrication of
2nd buildings, history of prefabrication, current uses of prefabrication,
3rd types of prefabricated systems, classification of prefabrication, advantages and
4th disadvantages of prefabrication

4th

1st 2.2. The theory and process of prefabrication, design principle of prefabricated systems
2nd types of prefabricated elements
3rd modular coordination.

4th 2.3. Indian standard recommendation for modular planning

5th

3. Earthquake Resistant Construction

1st 3.1. Building Configuration.
3.2. Lateral Load resistant structures.

2nd 3.3 Building characteristics.

3rd 4th 3.4. Effect of structural

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	4th	irregularities - vertical irregularities, plan configuration problems.
6th	1st	3.5 Safety consideration during additional construction and alteration of existing buildings.
	2nd	
	3rd	3.6 Additional strengthening measures in masonry building - corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc.
	4th	
7th		4. <u>Retrofitting of Structures</u>
	1st	4.1. Seismic retrofitting of reinforced concrete buildings.
	2nd	4.2. - Sources of weakness in RC frame building.
	3rd	4.3. - Classification of
	4th	retrofitting techniques and their uses.
8th		5. <u>Building Services</u>
	1st	5.1 Cold water Distribution
	2nd	in high rise building, lay

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3rd out of installation.

4th 5.2 hot water supply - General principles for central plants - layout

3rd 5.3. Sanitation - soil and waste water installation in high rise buildings.

2nd 5.4 Electrical Services -
(i) requirements in high rise buildings.

3rd ii) Layout of wiring types of wiring.

4th iii) Fuses and their types

iv) Earthing and their uses.

10th 1st 5.5. Lighting - Requirement of lighting, Measurement of light intensity.

3rd 5.6 Ventilation - Methods of ventilation - (Natural and artificial systems of ventilation) problems on ventilation.

4th 5.7. Mechanical Services - Lifts Escalators, Elevators - types and uses.

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11th		<p>6. <u>Construction and earth moving equipments</u> -</p>
	1st	6.1. Planning and selection of construction equipments.
	2nd	6.2 study on earth moving equipments like drag line tractor, bulldozer, Power shovel.
	3rd	6.3. Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors.
	4th	
12th	1st	6.4. Owning and operating cost - problems
		<u>Soil reinforcing techniques</u>
	2nd	7.1 Necessity of soil reinforcing.
	3rd	7.2. Use wire mesh and geo-synthetics.
13th	1st	7.3 Strengthening of embankments. slope stabilization in cutting and

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embankments by soil reinforcing techniques.

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