GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLY), JAGATPUR CUTTACK,		
LESSON PLAN OF 6TH SEMESTER(2025-26) CIVIL ENGINEERING		
DISCIPLINE-CIVIL ENGG.	SEMESTER-6TH	NAME OF THE TEACHING FACULTY-SWAGATIKA SAMAL
SUBJECT-ACT&E (Th.3)	NO. OF DAYS PER WEEK CLASS ALLOTTED- 04	SEMESTER FROM DATE-22/12/25 TO DATE-18/04/26 NO. OF WEEKS-17
WEEK	CLASS DAY	THEORY TOPICS
1ST	1st	**Advanced construction materials** 1.1 Fibers and Plastics-
	2nd	Types of fibers- Steel, Carbon, glass fibers,
	3rd	use of fibers as construction material
	4th	properties of Fibers
2ND	1st	Types of plastics- PVC, RPVC,.
	2nd	HDPE, FRP, GRP,etc
	3rd	Colored plastic sheets.
	4th	Use of plastic as construction material.
3RD	1st	1.2 Artificial Timbers – Properties and uses of artificial timber.
	2nd	Types of artificial timber available in market,
	3rd	strength of artificial timber.
	4th	1.3 Miscellaneous materials – Properties and uses of acoustics materials
4TH	1st	wall claddings, plaster boards
	2nd	micro-silica, artificial sand, bonding agents, adhesives etc.
	3rd	**2.Prefabrication** 2.1 Introduction, necessity
	4TH	scope of prefabrication of buildings
5TH	1st	history of prefabrication, current uses of prefabrication
	2nd	types of prefabricated systems
	3rd	advantages and disadvantages of prefabrication
	4th	classification of prefabrication
6TH	1st	2.2 The theory and process of prefabrication
	2nd	design principle of prefabricated systems
	3rd	types of prefabricated elements, modular coordination
	4th	2.3 Indian standard recommendation for modular planning
7TH	1st	**Earthquake Resistant Construction** 3.1 Building Configuration
	2nd	3.2 Lateral Load resisting structures
	3rd	3.3 Building characteristics
	4th	3.4 Effect of structural irregularities-vertical irregularities
8TH	1st	plan configuration problems
	2nd	3.5 Safety consideration during additional construction and alteration of existing Buildings
	3rd	3.6 Additional strengthening measures in masonry building-corner reinforcement,
	4th	lintel band, sill band, plinth band, roof band, gable band,

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9TH	1st	**Retrofitting of Structures** 4.1 Seismic retrofitting of reinforced concrete buildings :
	2nd	4.2 -Sources of weakness in RC frame building
	3rd	4.3 -Classification of retrofitting techniques
	4th	Uses of retrofitting technique
10TH	1st	5.1 Cold Water Distribution in high rise building,
	2nd	lay out of installation
	3rd	5.2 Hot water supply – General principles for central plants-layout .
	4th	5.3 Sanitation –soil and waste water installation in high rise buildings
11TH	1st	5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring
	2nd	types of wiring iii) Fuses and their types iv)Earthing and their uses
	3rd	5.5 Lighting – Requirement of lighting,
	4th	Measurement of light intensity
12TH	1st	5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation)
	2nd	problems on ventilation
	3rd	, 5.7 Mechanical Services- Lifts, Escalator,
	4th	Elevators – types and uses.
13TH	1st	**Construction and earth moving equipments –** 6.1 Planning and selection of construction equipments
	2nd	6.2 Study on earth moving equipments like drag line, tractor
	3rd	bulldozer, Power shovel
	4th	**Construction and earth moving equipments –** 6.1 Planning and selection of construction equipments
14TH	1st	6.2 Study on earth moving equipments like drag line, tractor,
	2nd	bulldozer, Power shovel
	3rd	.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers
	4th	Study and uses of Pneumatic tired rollers and vibrating compactors
15TH	1st	vibrating compactors
	2nd	6.4 Owning and operating cost – problems
	3rd	problems practice
	4th	Privious year problems practice
16TH	1st	**Soil reinforcing techniques** 7.1 Introduction
	2nd	7.2 Necessity of soil reinforcing
	3rd	Use wire mesh and geo-synthetics
	4th	7.3 Strengthening of embankments
17TH	1st	embankments by soil reinforcing techniques.
	2nd	Slope stabilization in cutting
	3rd	Discussion of important questions and answers
	4th	Previous year question discussion

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23.12.2025
LECTURER

23/12/25
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