

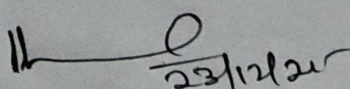
GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLY), JAGATPUR CUTTACK,		
LESSON PLAN OF 6 <sup>TH</sup> SEMESTER(2025-26) CIVIL ENGINEERING		
DISCIPLINE- CIVIL ENGG.	SEMESTER-6 <sup>TH</sup>	NAME OF THE TEACHING FACULTY- SWAGATIKA SAMAL
SUBJECT-ACT&E (Th.3)	NO. OF DAYS PER WEEK CLASS ALLOTTED- 04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

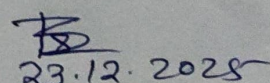
S. Samal



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

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28.12.2025  
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