## SYNERGY SCHOOL OF ENGINEERING, DHENKANAL

LESSON PLAN SESSION: 2024-25

Discipline: Civil Engineering

Semester: 6<sup>th</sup>, S/2025

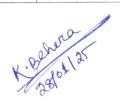
Subject: Advanced Construction
Techniques and Equipment

Semester: 6<sup>th</sup>, S/2025

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Start Date:
End Date:

Week	Class Day	Theory/Practical Topics
	1st	Introduction, Building Configuration,
1st	2nd	Building characteristics
	3rd	Lateral Load resisting structure
	4th	Effect of structural irregularities-vertical irregularities,
2nd	1st	plan configuration problems
	2nd	Additional strengthening measures in masonry building
	3rd	lintel band, sill band, plinth band, roof band, gable band etc.
	4th	lintel band, sill band, plinth band, roof band, gable band repeat and description
3rd	lst	Seismic retrofitting of reinforced concrete buildings
	2nd	Sources of weakness in RC frame building
	3rd	Classification of retrofitting techniques and their uses
	4th	Classification of retrofitting techniques and their description
4 <sup>th</sup>	1st	Cold Water Distribution in high rise building,
	2nd	lay out of installation and types
	3rd	Hot water supply – General principles for central plants-layout
	4th	Expected questions discussion and Practice test
5th	1st	Sanitation in high rise buildings
	2nd	soil and waste water installation in high rise buildings
	3rd	Electrical services – i) requirements in high rise buildings
	4th	Layout of wiring - types of wiring Fuses and their types
6 <sup>th</sup>	1st	iv)Earthing and their uses
	2nd	Lighting – Requirement of lighting, Measurement of lightintensity
	3rd	Ventilation (i) Methods of ventilation
	4th	ii) Systems of ventilation,
7th	1st	Mechanical Services- Lifts, Escalator, Elevators – types and uses
	2nd	Types of fibers, steel carbon and glass.
	3rd	Uses of fibers as construction materials
	4th	Properties of fibers. Types of plastics PVC, RPVC, HDPE,





	1st	FRP, GRP etc. Colored plastic sheets and uses
	2nd	Artificial timbers-properties and uses
8 <sup>th</sup>	3rd	Types and strength of artificial timbers
	4th	Miscellaneous materials
	1st	properties and uses of acoustic materials
	2nd	Wall cladding, plaster boards,
9th	3rd	micro silica, artificial sand
	4th	Bonding agents as construction materials
	1st	adhesives as construction materials
	2nd	Introduction and scope of prefabrication in building
10 <sup>th</sup>	3rd	history of prefabrication, current uses of prefabrication
	4th	Theory and process of prefabrication
	1st	types of prefabricated systems, classification of prefabrication
	2nd	advantages and disadvantages of prefabrication
11th	3rd	design principle of prefabricated systems
	4th	types of prefabricated elements,
	1st	modular coordination
•		Indian standard recommendation for modular planning  Revision and Practice
12 <sup>th</sup>	2nd	Expected questions discussion and Practice test
1241	3rd	Planning and selection of Construction equipment
	4th	Study on earth moving equipment: drag line
	1st	Study on earth moving equipment: tractor
.1	2nd	Study on earth moving equipment: bulldozer
13 <sup>th</sup>	3rd	Study on earth moving equipment: power shovel,
	4th	Study and uses of compacting equipment like tamping roller
	1st	wheel rollers Pneumatic tired rollers
4h	2nd	vibrating compactors
14 <sup>th</sup>	3rd	Owning and operating cost
	4th	a it sinforcing. Use wire mesh and ge
	1st	synthetics. Slope stabilization in cutting and emounts
, eth	2nd	Expected questions discussion and Fractice test
15 <sup>th</sup>	3rd	Expected questions discussion and Practice test
	4th	Expected questions discussion and Practice test

