



RAAJDHANI ENGINEERING COLLEGE, BHUBANESWAR

DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SESSION: 2023-24

Discipline: Civil Engineering	Semester: 6 th	Name of the Faculty: Prof. Md. Aras Ansari
Subject: Advanced Construction Techniques and Equipment (Th.3)	No. of days/week: 05	Session: March 2024- Aug 2024

Week	Class Day	Theory/Practical Topics	Reference Link
1st	1st	Introduction, Building Configuration,	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Building characteristics	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Lateral Load resisting structure	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Effect of structural irregularities-vertical irregularities,	https://archive.nptel.ac.in/courses/105/103/105103206/
2nd	1st	Plan configuration problems	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Additional strengthening measures in masonry building	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Lintel band, sill band, plinth band, roof band, gable band etc.	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Lintel band, sill band, plinth band, roof band, gable band repeat and description	https://archive.nptel.ac.in/courses/105/103/105103206/
3rd	1st	Seismic retrofitting of reinforced concrete buildings	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Sources of weakness in RC frame building	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Classification of retrofitting techniques and their uses	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Classification of retrofitting techniques and their description	https://archive.nptel.ac.in/courses/105/103/105103206/
4th	1st	Cold Water Distribution in high rise building,	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Layout of installation and types	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Hot water supply–General principles for central plants- layout	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Class test	https://archive.nptel.ac.in/courses/105/103/105103206/
5th	1st	Sanitation in high rise buildings	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Soil and waste water installation in high rise buildings	https://archive.nptel.ac.in/courses/105/103/105103206/

	3rd	Electrical services –i)Requirements in high rise buildings	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	ii) Layout of wiring- types of wiring iii) Fuses and their types	https://archive.nptel.ac.in/courses/105/103/105103206/
6 th	1st	iv)Earthing and their uses	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Lighting–Requirement of lighting, Measurement of light intensity	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Ventilation (i)Methods of ventilation	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	ii)Systems of ventilation,	https://archive.nptel.ac.in/courses/105/103/105103206/
7 th	1st	Mechanical Services- Lifts, Escalator, Elevators – types and uses	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Types of fibers, steel carbon and glass.	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Uses of fibers as construction materials	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Properties of fibers. Types of plastics PVC, RPVC, HDPE	https://archive.nptel.ac.in/courses/105/103/105103206/
8 th	1st	FRP, GRP etc. Colored plastic sheets and uses	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Artificial timbers- properties and uses	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Types and strength of artificial timbers	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Miscellaneous materials	https://archive.nptel.ac.in/courses/105/103/105103206/
9 th	1st	Properties and uses of acoustic materials	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Wall cladding, plaster boards,	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Micro silica, artificial and	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Bonding agents as construction materials	https://archive.nptel.ac.in/courses/105/103/105103206/
10 th	1st	Adhesives as construction materials	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Introduction and scope of prefabrication in building	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	History of prefabrication, current uses of prefabrication	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Theory and process of prefabrication	https://archive.nptel.ac.in/courses/105/103/105103206/
11 th	1st	Types of prefabricated systems, classification of prefabrication,	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Advantages and disadvantages of prefabrication	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Design principle of prefabricated systems	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Types of prefabricated elements,	https://archive.nptel.ac.in/courses/105/103/105103206/
12 th	1st	Modular coordination Indian standard recommendation for modular planning	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Revision and Practice	https://archive.nptel.ac.in/courses/105/103/105103206/

	3rd	Class Test	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Planning and selection of Construction equipment	https://archive.nptel.ac.in/courses/105/103/105103206/
13th	1st	Study on earth moving equipment: dragline	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Study on earth moving equipment: tractor	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Study on earth moving equipment: bulldozer	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Study on earth moving equipment: power shovel,	https://archive.nptel.ac.in/courses/105/103/105103206/
14th	1st	Study and uses of compacting equipment like tamping rollers	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Wheel rollers Pneumatic tired rollers	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Vibrating compactors	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Owning and operating cost	https://archive.nptel.ac.in/courses/105/103/105103206/
15th	1st	Necessity of soil reinforcing, Use wire mesh and geo-synthetics. Slope stabilization in cutting and embankments by soil reinforcing techniques.	https://archive.nptel.ac.in/courses/105/103/105103206/
	2nd	Expected questions discussion and Practice test	https://archive.nptel.ac.in/courses/105/103/105103206/
	3rd	Expected questions discussion and Practice test	https://archive.nptel.ac.in/courses/105/103/105103206/
	4th	Expected questions discussion and Practice test	https://archive.nptel.ac.in/courses/105/103/105103206/