

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2023-2024

Discipline: Civil Engineering Engg. Semester: 6th

Subject: Advance Construction Technique & Equipment

Name of the Teaching Faculty: Bikramaditya Bagh

Subject: Advance Construction Technique & Equipment No. of Days/per week class allotted : 04

Semester From Date : 16-01-2024 To Date : 26-04-2024

No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
1	1 st	Advance Construction Material. Fibres, Types of fibres, steel, carbon-glass fibre
	2 nd	Use of fibre as construction material properties of fibre
	3 rd	plastics, Types of plastic, PVC, RPVC, FRP, GRP etc. coloured plastic sheet
	4 th	Use of plastic as construction material
2	1 st	Artificial timber- properties and uses of artificial timber
	2 nd	Types of artificial timber available in market
	3 rd	Strength of artificial timber
	4 th	Miscellaneous materials - Properties and uses of acoustic materials
3	1 st	Wall cladding, plaster board, microsilica
	2 nd	artificial sand, bonding agents, adhesive
	3 rd	Preabrication: Introduction, necessity and scope of preabrication of building
	4 th	history of preabrication, current uses of preabrication

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Week	Class Day	Theory /Practical Topics
4	1 st	Types of prefabrication systems, classification of prefabrication
	2 nd	Advantages and disadvantages of prefabrication
	3 rd	Theory and process of prefabrication
	4 th	Design Principle of prefabricated system
5	1 st	Types of prefabricated elements, modular coordination
	2 nd	Indian standard Recommendation for modular planning
	3 rd	Earthquake Resistant Construction Building configuration
	4 th	Lateral load resisting structures
6	1 st	Building characteristics
	2 nd	Effect of structural irregularities - vertical irregularities
	3 rd	Plan configuration problems
	4 th	Safety consideration during additional construction and alteration of existing building

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7	1 st	Additional strengthening measure in masonry building corner reinforcement, lintel band, sill band
	2 nd	plinth band, roof band, gable band
	3 rd	Retrofitting Structures Seismic retrofitting of reinforced concrete building
	4 th	Seismic retrofitting of reinforced concrete building
8	1 st	Sources of weakness in RC frame building
	2 nd	Sources of weakness in RC frame building
	3 rd	Sources of weakness in RC frame building
	4 th	classification of retrofitting techniques and their uses
9	1 st	classification of retrofitting techniques and their uses
	2 nd	classification of retrofitting technique and their uses
	3 rd	Building Services Cold water distribution in high rise building layout of installation
	4 th	Hot water supply. General principles for central plants layout

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Week	Class Day	Theory /Practical Topics
10	1 st	Sanitation-soil and waste water installation in high rise building
	2 nd	Electricals services - i) requirements in high rise building ii) Layout of wirings - types of wiring
	3 rd	iii) Fuses and their types, iv) Earthing and their uses
	4 th	Lighting: Required of lighting, Measurement of light intensity
11	1 st	Ventilation- Methods of ventilation (Natural and artificial system of ventilation) problems on ventilation
	2 nd	Mechanical services- Lifts, Escalators, Elevators type and uses
	3 rd	Construction and earth moving equipments. Planning and selection of construction equipment
	4 th	Study on earthmoving equipments like dragline, tractor bulldozer, power shovel
12	1 st	Study on earthmoving equipments like dragline, tractor, bulldozer, power shovel
	2 nd	Study on earthmoving equipments like dragline, tractor, bulldozer, power shovel
	3 rd	Study on earthmoving equipments like dragline, tractor, bulldozer, power shovel
	4 th	Study and uses of compacting equipments like tamping rollers

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Week	Class Day	Theory / Practical Topics
13	1 st	Smooth wheel rollers, Pneumatic tired rollers
	2 nd	Vibrating compactors
	3 rd	owning and operating cost problem
	4 th	owning and operating cost problem
14	1 st	Soil reinforcing techniques Necessity of soil reinforcing
	2 nd	Use wire mesh and geo-synthetics
	3 rd	Use wire mesh and geo-synthetics
	4 th	Use wire mesh and geo-synthetics
15	1 st	strengthening of embankments
	2 nd	strengthening of embankments
	3 rd	slope stabilization in cutting
	4 th	embankments by soil reinforcing techniques

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