

MAHAMAYA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCE, NUAPADA

LESSON PLAN (MONTH: FEBRUARY TO MAY 2023)

NAME OF THE FACULTY: Er.SUPRAVA BAG

BRANCH: CIVIL ENGG.

SESSION:2022-23

Subject:- ADVANCED CONSTRUCTION TECHNIQUES AND EQUIPMENT

Semester:-6TH

Week	Class Day	Theory Topics
1st	1 st	introduction to ACTE, defination, aims and objectives
	2 nd	1 Advanced construction materials
	3 rd	1.1 Fibers and Plastics Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers.
	4 th	contd.
	5 th	
	6 th	
2nd	1 st	Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.
	2 nd	contd.
	3 rd	contd.
	4 th	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber.
	5 th	
	6 th	
3rd	1 st	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.
	2 nd	contd.
	3 rd	introduction to prefabrication, 2.1 necessity and scope of prefabrication of buildings, history of prefabrication
	4 th	types of prefabricated systems
	5 th	
	6 th	
4th	1 st	contd.
	2 nd	classification of prefabrication
	3 rd	advantages and disadvantages of prefabrication
	4 th	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination
	5 th	
	6 th	
	1 st	contd.

5th	2 nd	2.3 Indian standard recommendation for modular planning.
	3 rd	3.1 Building Configuration
	4 th	3.2 Lateral Load resisting structures
	5 th	
	6 th	
6th	1 st	3.3 Building characteristics
	2 nd	3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems.
	3 rd	contd.
	4 th	3.5 Safety consideration during additional construction and alteration of existing Buildings.
	5 th	
	6 th	
7th	1 st	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc.
	2 nd	4.1 Seismic retrofitting of reinforced concrete buildings :
	3 rd	contd.
	4 th	4.2 -Sources of weakness in RC frame building
	5 th	
	6 th	
8th	1 st	contd.
	2 nd	contd.
	3 rd	4.3 -Classification of retrofitting techniques and their uses
	4 th	contd.
	5 th	
	6 th	
9th	1 st	5.1 Cold Water Distribution in high rise building
	2 nd	lay out of installation
	3 rd	5.2 Hot water supply – General principles for central plants-layout
	4 th	5.3 Sanitation –soil and waste water installation in high rise buildings
	5 th	
	6 th	
10th	1 st	5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring iii) Fuses and their types iv)Earthing and their uses
	2 nd	5.5 Lighting – Requirement of lighting, Measurement of light intensity
	3 rd	5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation
	4 th	contd.
	5 th	

11th	6 th	
	1 st	5.7 Mechanical Services- Lifts, Escalator, Elevators – types and uses.
	2 nd	contd.
	3 rd	6.1 Planning and selection of construction equipments
	4 th	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel
	5 th	
12th	6 th	
	1 st	contd.
	2 nd	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors
	3 rd	contd.
	4 th	6.4 Owing and operating cost – problems
	5 th	
13th	6 th	
	1 st	7.1 Necessity of soil reinforcing.
	2 nd	7.2 Use wire mesh and geo-synthetics.
	3 rd	contd.
	4 th	contd.
	5 th	
14th	6 th	
	1 st	contd.
	2 nd	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.
	3 rd	contd.
	4 th	contd.
	5 th	
	6 th	

Supriya Bag
Signature of faculty member

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counter signature of HOD