LESSON PLAN SUMMER 2023

DISCIPLINE : CIVIL	Semester : 6th sem (sec. B)	Name of the Teaching faculty: R BHANU	
Subject :- Advanced construction techniques & equipment	No.of Days/ week class allotted : 04 DAYS (04 PERIODS)	Semester from date: 13/02/2023 to 23/05/2023 No. of Weeks :15 Topics to be covered:-	
Week	**Class Day**	**Topics**	**Remarks**
1st WEEK		**1. Advanced construction materials**	
	1st	1.1 Fibers and Plastics Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers. Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.	
	2nd	1.1 Fibers and Plastics Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers. Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.	
	3rd	1.1 Fibers and Plastics Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers. Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.	
2nd WEEK	1st	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber	
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	3rd	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.	
	4th	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.	
3rd WEEK	1st	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.	
	2nd	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.	
	3rd	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.	
		2. Prefabrication	
	4th	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication,	

4th WEEK	1st	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication,	
	2nd	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication,	
	3rd	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication,	
5th WEEK	1st	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination	
	2nd	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination	
	3rd	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination	
	4th	2.3 Indian standard recommendation for modular planning	
6th WEEK		**3. Earthquake Resistant Construction**	
	1st	3.1 Building Configuration	
	2nd	3.2 Lateral Load resisting structures	
	3rd	3.3 Building characteristics	
	4th	3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems.	
7th WEEK	1st	3.5 Safety consideration during additional construction and alteration of existing Buildings.	
	2nd	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc	
	3rd	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc	
8th WEEK	1st	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc	
		4. Retrofitting of Structures	
	2nd	4.1 Seismic retrofitting of reinforced concrete buildings	
	3rd	4.1 Seismic retrofitting of reinforced concrete buildings	
	4th	4.1 Seismic retrofitting of reinforced concrete buildings	
9th WEEK	1st	4.2 -Sources of weakness in RC frame building	
	2nd	4.2 -Sources of weakness in RC frame building	
	3rd	4.3 -Classification of retrofitting techniques and their uses	
	4th	4.3 -Classification of retrofitting techniques and their uses	
10th WEEK	1st	4.3 -Classification of retrofitting techniques and their uses	
		5. Building Services	
	2nd	5.1 Cold Water Distribution in high rise building, lay out of installation	
	3rd	5.2 Hot water supply – General principles for central plants-layout	
	4th	5.3 Sanitation –soil and waste water installation in high rise buildings	

11th WEEK	1st	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	
	2nd	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	
	3rd	5.5 Lighting – Requirement of lighting, Measurement of light intensity	
	4th	5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation	
12th WEEK	1st	5.7 Mechanical Services- Lifts, Escalator, Elevators – types and uses.	
		6. Construction and earth moving equipments	
	2nd	6.1 Planning and selection of construction equipments	
	3rd	6.1 Planning and selection of construction equipments	
	4th	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel	
13th WEEK	1st	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel	
	2nd	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors	
	3rd	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors	
	4th	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors	
14th WEEK	1st	6.4 Owning and operating cost – problems	
	2nd	6.4 Owning and operating cost – problems	
	3rd	6.4 Owning and operating cost – problems	
		7. Soil reinforcing techniques	
	4th	7.1 Necessity of soil reinforcing.	
15th WEEK	1st	7.1 Necessity of soil reinforcing.	
EXTRA CLASS		7.2 Use wire mesh and geo-synthetics	
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		7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques	
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R. Bhagya

SIGNATURE OF FACULTY