

LESSON PLAN

Academic Session :-2026 Summer

Discipline: Civil.Engineering			Name of teaching faculty:Ranjita Rout		
Subject: Advanced Construction Techniques & Equipment(Th.3)			Semester from Date:22/12/ 2026 to 18/04/2026		
Semester: 6th			No. of weeks: 15		4P/week
No. of Days/ week class allotted: 04 period per week(Monday, Tuesday, Wednesday, Friday)					Total period: 60
MONTH	Week	DATE	DAYS/PERIOD	Syllabus to be covered	NO. OF PERIODS AVAILABLE
JANUARY				CHAPTER-1 : Advanced construction materials (10P)	10
	4th			1.1.Fibers and Plastics :	1
		12/22/2025	Monday	1.1.1.Type of fibers-Steel,Carbon, glass fibers,Use of fibers as construction material	1
		12/23/2025	Tuesday	1.1.2.Use of fibers as construction material, properties of fibers	1
		12/24/2025	Wednesday	1.1.3.Type of plastics-PVC, RPVC,HDPE,FRP,GRP etc	1
		12/26/2025	Friday	1.1.4.Colored plastic sheets, Use of plastic as construction material	1
				1.2.Artificial Timbers :	
	5th	12/29/2025	Monday	1.2.1.Properties of and uses of artificial timber	1
		12/30/2025	Tuesday	1.2.2.Type of artificial timber available in market	1
		12/31/2025	Wednesday	1.2.3.Strength of artificial timber	1
				1.3.Miscellaneous materials :	1
	1st	1/2/2026	Friday	1.3.1.Properties and uses of acoustics materials, wall claddings	1
	2nd	1/5/2026	Monday	1.3.2.Properties and uses of Plasters boards, micro silica, artificial sand, bonding agents, adhesives etc	1
		1/6/2026	Tuesday	1.3.3.Bonding agents, Adhesive etc	1
				CHAPTER-2 : Prefabrication(8P)	8

3rd	1/7/2026	Wednesday	2.1.Introduction, necessity and scope of prefabrication of buildings	1
	1/9/2026	Friday	2.2.History of prefabrication, current uses of prefabrication, type of prefabricated systems	1
	1/12/2026	Monday	2.3.Type of prefabricated systems, classification of prefabrication	1
	1/13/2026	Tuesday	2.4.Advantages and disadvantages of prefabrication	1
	1/16/2026	Friday	2.5.The theory and process of prefabrication	1
	1/19/2026	Monday	2.6.Design principle of prefabricated systems, type of prefabricated elements.	1
	1/20/2026	Tuesday	2.7.Type of prefabricated element, modular coordination	1
	1/21/2026	Wednesday	2.8.Indian standard recommendation for modular planning	1
			CHAPTER-3 : Earthquake Resistant Construction(8P)	8
	5th	1/27/2026	Tuesday	3.1.Building configuration, Lateral load resisting structures
	1/28/2026	Wednesday	3.2.Building characteristics	1
	1/30/2026	Friday	3.3.Effect of structural irregularities-vertical irregularities, plan configuration	1
1st	2/2/2026	Monday	3.4.Safety consideration during additional construction	1
	2/3/2026	Tuesday	3.5.Alteration of existing buildings	1
	2/4/2026	Wednesday	3.8.Design of tension members	1
	2/6/2026	Friday	3.8.Design considering strength only	1
2nd	2/9/2026	Monday	3.6.Additional strengthening measures in masonry buildings	1
	2/10/2026	Tuesday	3.7.Corner reinforcement, lintel band, sill band,plinth band, roof band, gable band etc	1
	2/11/2026	Wednesday	3.8.Class Test; Revision	1
		CHAPTER-4 : Retrofitting of Structures(8P)	8	
	2/13/2026	Friday	4.2.Buckling class of cross sections	1

February	3rd	2/16/2026	Monday	4.1.Seismic retrofitting of reinforced concrete building	1
		2/17/2026	Tuesday	4.2.Seismic retrofitting of reinforced concrete buildings	1
		2/18/2026	Wednesday	4.3.Sources of weakness in RC frame buildings	1
	4th	2/20/2026	Friday	4.4.Sources of weakneaa in RC frame buildings	1
		2/23/2026	Monday	4.5.Classification of retrotting techniques	1
		2/24/2026	Tuesday	4.6.Classification of retrofitting techniques	1
		2/25/2026	Wednesday	4.7.Uses of retrofitting techniques	1
	5th	2/27/2026	Friday	4.8. Uses of retrofitting techniques	1
			Saturday	CHAPTER-5 : Building Services(8P)	8
		3/2/2026	Monday	5.1.Cold water Distribution in high rise building, lay out of installation	1
		3/9/2026	Monday	5.2.Hot water supply-General principles for central plants- layout	1
		3/10/2026	Tuesday	5.3.Sanitation-Soil and waste water installation in high rise buildings	1
		1st	3/11/2026	Wednesday	5.4.Electrical services-(i)requirements in high rise buildings. (ii)Lay of wiring type of wiring
	3/13/2026		Friday	5.5.(iii)Fuses and their types,(iv) Earthing and their uses	1
3/16/2026	Monday		5.6.Lighting- Requirement of lighting, measurement of light intensity	1	
MARCH	2nd	3/17/2026	Tuesday	5.7.Ventilation- Methods of ventilation (Natural and artificial system of ventilation)	1
		3/18/2026	Wednesday	5.8.Mechanical services- Lift, Escalator, Elevators-Types and uses	1
			CHAPTER-6 : Construction and earth moving equipments(10P)	10	
	3/20/2026	Friday	6.1.Planning of construction equipments	1	

		3/23/2026	Monday	6.2.Selection of construction equipments	1
	3rd	3/24/2026	Tuesday	6.3.Study on earth moving equipments like drag line ,tractor	
		3/25/2026	Wednesday	6.4.Bulldozer, power shovel	1
		3/30/2026	Monday	6.5.Study of compactinv equipments like tamping rollers, smooth wheel rollers	1
	4th	3/31/2026	Tuesday	6.6.Pneumatic tired rollers and vibrating compactors	1
		4/6/2026	Monday	6.7.Uses of compacting equipments	1
APRIL		4/7/2026	Tuesday	6.5. Tubular tension members	1
		4/8/2026	Wednesday	6.8.Owing and operating cost-Problems	1
		4/10/2026	Friday	6.9.Owing and operating cost-Problems	
		4/13/2026	Monday	6.10.Class test and Revision	1
				CHAPTER-7 : Soil reinforcing techniques(8P)	8
		4/15/2026	Wednesday	7.1.Necessity of soil reinforcing	1
		4/17/2026	Friday	7.2.Use of wire mesh	1
				7.3.Use of geo synthetics	1
				7.4.Strengthening of embankments	1
				7.5.Slope stabilization in cutting by soil reinforcing techniques	1
			EXTRA CLASS		
			7.6.Slope stabilization in embankments by soil reinforcing techniques	1	
			7.7.Class Test	1	
			7.8.Revision	1	