

Lesson Plan

Name of the Faculty : Mrs. Sunita

Discipline : Civil Engineering

L T P

Subject : Modern Construction Technology

Semester : 5th

3 - -

Lesson Plan Duration : 15 Weeks (from Aug. 2025 to Nov. 2025)

Week	Theory		Delivery Date of Lecture	Whether the Lesson Plan Followed? Yes/No
	Lecture Day	Topic (including Assignments / Seminar / Group Discussion / Sessional Tests)		
1 st	1 st	Introduction to the subject and its necessity / Learning outcomes of the subject e-Lecture/Video Lecture /PPTs on the subject matters		
	2 nd	UNIT - I Advanced Construction Materials e-Lecture/Video Lecture /PPTs on Advanced Construction Materials.		
	3 rd	1.1 Fibers: Use and properties of steel, polypropylene, carbon and glass fibers.		
2 nd	1 st	1.2 Plastics: Use and properties of PVC, RPVC, HDPE, FRP, GRP.		
	2 nd	1.3 Miscellaneous Materials: Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, waterproofing materials, adhesives.		
	3 rd	1.4 Use of waste products and industrial by-products in bricks, blocks, concrete and mortar.		
3 rd	1 st	UNIT– II Advanced Concreting Methods and Equipment’s. e-Lecture/Video Lecture /PPTs on Advanced Concreting Methods and Equipment’s.		
	2 nd	2.1 Ready Mix Concrete: Necessity and use of ready mix concrete. Products and equipment’s for ready mix concrete plant. Conveying of ready mix concrete, transit mixers.		
	3 rd	2.2 Vibrators for concrete consolidation: Internal, needle, surface, platform and form vibrators.		
4 th	1 st	2.3 Underwater Concreting: Procedure and equipment’s required for Tremie method, Drop bucket method. Properties, workability and water cement ratio of the concrete.		
	2 nd	2.4 Special concrete: procedure and uses of special concretes, Roller compacted concrete, Self-compacting concrete (SCC),		
	3 rd	Steel fibre reinforced concrete, Foam concrete, shotcreting.		
5 th	1 st	Revision.		
	2 nd	Group discussion / Technical Quiz / Seminar (Assignment-1)		
	3 rd	Sessional Test – I		
6 th	1 st	UNIT III Advanced Technology in Constructions e-Lecture/Video Lecture /PPTs on Advanced Technology in Constructions.		
	2 nd	3.1 Construction of bridges and flyovers: Equipments and machineries required for foundation and super structure.		

	3 rd	3.2 Construction of multi-storeyed Building: Equipments and machinery required for construction of multi-storeyed building such as use of lifts, belt conveyers, pumping of concrete		
7 th	1 st	3.3 Prefabricated construction: Methods of prefabrication, Plant fabrication and site fabrication,		
	2 nd	All prefabricated building elements such as wall panels, slab panels, beams, columns, door and window frames etc.		
	3 rd	Equipments and machineries used for placing and Jointing of prefabricated elements.		
8 th	1 st	3.4 Strengthening of embankments by soil reinforcing techniques using geo-synthetics		
	2 nd	UNIT IV Hoisting and Conveying Equipments e-Lecture/Video Lecture /PPTs on Hoisting and Conveying Equipments		
	3 rd	4.1 Hoisting Equipments: Principles and working of Derrick-Pole, Gin Pole, Crane,		
9 th	1 st	Power driven scotch derrick crane, Hand operated crane, Locomotive crane, Tower crane,		
	2 nd	Lattice Girder, Winches, Elevators, ladders. Crawler cranes, Truck mounted cranes, Gantry cranes, Mast cranes.		
	3 rd	4.2 Conveying Equipments:-Working of belt conveyers, types of belts and conveying mechanism. Capacity and use of dumpers, tractors and trucks.		
10 th	1 st	Revision		
	2 nd	Group discussion / Technical Quiz / Seminar (Assignment-II)		
	3 rd	Sessional Test – II		
11 th	1 st	UNIT V Miscellaneous Machineries and Equipments e-Lecture/Video Lecture /PPTs on Miscellaneous Machineries and Equipments		
	2 nd	5.1 Excavation Equipments: Use, working and output of following machinery – bull dozers,		
	3 rd	scrapers, graders, Clam Shell, trenching equipment,		
12 th	1 st	Tunnel boring machine, Wheel mounted belt loaders, power shovels, JCB, and drag lines.		
	2 nd	5.2 Compacting Equipments: Output of different types of rollers such as plain rollers,		
	3 rd	ship footed rollers, vibratory, pneumatic rollers rammers.		
13 th	1 st	Revision of above topics.		
	2 nd	5.3 Miscellaneous Equipments: Working and selection of equipments, Pile driving equipments, Pile hammers,		
	3 rd	Hot mix bitumen plant, bitumen paver, grouting equipment, guniting equipments,		
14 th	1 st	floor polishing and cutting machine selection of drilling pattern for blasting,		
	2 nd	Bentonite / mud slurry in drilling, Explosives for blasting, Dynamite, process of using explosives.		
	3 rd	Revision		
15 th	1 st	Revision		
	2 nd	Group discussion / Technical Quiz / Seminar (Assignment-III)		
	3 rd	Sessional Test – III		