Department of Civil Engineering			
Name of the Faculty	Ms. Aarti		
Subject	Repair and maintenance of Civil Infrastructure (Lect- 2)		Semester : 6th
Lesson Plan Duration	15 weeks		
Week	Topic		Delivery Date of Lecture
	Lecture Day	(Including Assignments / Seminar / Group Discussion / Sessional Tests)	
1	1st	Introduction to the subject and its necessitpy	
	2nd	Unit-I Need for Maintenance :Introduction	
	3rd	Importance and significance of repair and maintenance of buildings	
2	1st	Meaning of maintenance,Objectives of maintenance	
	2nd	Factors influencing the repair and maintenance	
	3rd	Unit-2 Agencies Causing Deterioration (Sources, Causes, Effects):Introduction	
3	1st	Definition of deterioration/decay,Factors causing deterioration, their classification	
	2nd	Human factors causing deterioration	
	3rd	Chemical factors causing deterioration	
4	1st	Environmental conditions causing deterioration	
	2nd	Miscellaneous factors.	
	3rd	Effects of various agencies of deterioration on various building materials i.e. bricks, timber, concrete, paints, metals, plastics, stones	
5	1st	Unit-3 Investigation and Diagnosis of Defects:Introduction	
	2nd	Systematic approach/procedure of investigation	
	3rd	Sequence of detailed steps for diagnosis of building defects/problems	
6	1st	List non-destructive and others tests on structural elements and materials to evaluate the condition of the building and study of three most commonly used tests	
	2nd	Sessional Test-1	
	3rd	Unit-4 Defects and their root causes:Introduction	
7	1st	Define defects in buildings	
	2nd	Classification of defects	
	3rd	Main causes of building defects in various building elements	
8	1st	Foundations, basements and DPC	
	2nd	Walls,Column and Beams,Roof and Terraces	

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	3rd	Joinery,Decorative and protective finishes, Services,Defects caused by dampnes	
9	1st	Unit-5 Materials for Repair, maintenance and protection:Introduction	
	2nd	Compatibility aspects of repair materials,State application of following materials in repairs,	
	3rd	Anti corrosion coatings	
10	1st	Adhesives/bonding aids, Repair mortars	
	2nd	Curing compounds	
	3rd	Joints sealants,Waterproofing systems for roofs, Protective coatings	
11	1st	Unit-6 Remedial Measures for Building Defects:Introduction	
	2nd	Preventive maintenance considerations,Surface preparation techniques for repair	
	3rd	Crack repair methods, Epoxy injection,Grooving and sealing.	
12	1st	Sessional Test -2	
	2nd	Stitching, Adding reinforcement and grouting, Flexible sealing by sealant	
	3rd	Repair of surface defects of concrete,Bug holes, Form tie holes,Honey comb and larger voids	
13	1st	Repair of corrosion in RCC elements,Steps in repairing,Prevention of corrosion in reinforcement	
	2nd	Material placement techniques with sketches,Pneumatically applied (The gunite techniques),Open top placement,Pouring from the top to repair bottom face,Birds mouth,Dry packing,Form and pump,Preplaced – aggregate concrete,Trowel	
	3rd	Repair of DPC against Rising Dampness, Physical methods, Electrical methods,Chemical methods	
14	1st	Repair of walls,Repair of mortar joints against leakage, Efflorescence removal	
	2nd	Waterproofing of wet areas and roofs, Water proofing of wet areas,Water proofing of flat RCC roofs,	
	3rd	Various water proofing systems and their characteristics	
15	1st	Repair of joints in buildings,Types of sealing joints with different types of sealants.	
	2nd	Techniques for repair of joints,Repair of overhead and underground water tanks	
	3rd	Sessional Test -3	

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