

## **GOVERNMENT POLYTECHNIC MEHAM**

Name of Faculty :-Parveen Beniwal

Discipline :- Civil Engg.

Semester :-5<sup>th</sup>

Subject :- REPAIR AND MAINTENANCE OF BUILDINGS

lesson plan duration :-15 weeks(From Sept 2020 to Dec 2020 )

WEEK	THEORY	
1 <sup>st</sup> week	1 <sup>st</sup> DAY	Importance and significance of repair and maintenance of buildings
	2 <sup>nd</sup> day	Meaning of maintenance
	3 <sup>rd</sup> day	Objective of maintenance
2 <sup>nd</sup> week	1 <sup>st</sup> day	Factors influencing the repairs and maintenance
	2 <sup>nd</sup> day	Definition of deterioration/decay
	3 <sup>rd</sup> day	Factors causing deterioration and their classification
3 <sup>rd</sup> week	1 <sup>st</sup> day	Human factors causing deterioration, Chemical factors causing deterioration, Enviromental condition causing deterioration, Miscellaneous factors
	2 <sup>nd</sup> day	Effects of various agencies of deterioration on various building materials i.e bricks,stones,timber,concrete,paints,metals
	3 <sup>rd</sup> day	
4 <sup>th</sup> week	1 <sup>st</sup> day	Doubt will be taken and revision

	2 <sup>nd</sup> day	Systematic approach/procedure of investigation
	3 <sup>rd</sup> day	Sequence of detailed steps for diagnosis of building defects/problems
5 <sup>th</sup> week	1 <sup>st</sup> day	Revision of 3 <sup>rd</sup> unit
	2 <sup>nd</sup> day	
	3 <sup>rd</sup> day	List non destructive and others tests on structural elements and materials to evaluate the condition of the building
6 <sup>th</sup> week	1 <sup>st</sup> day	Define defects in buildings and classification of defects
	2 <sup>nd</sup> day	Building defects in various building elements Foundations ,basements and DPC,Walls,Column and beams, roof and terrace, and defects caused by dampness
	3 <sup>rd</sup> day	Compatibility aspects of repairs materials  Anti corrosion coatings, Adhesive bonding aids, repairs mortars, curing compound, joints sealants, protective coating
7 <sup>th</sup> week	1 <sup>st</sup> day	Revision of 4 <sup>th</sup> and 5 <sup>th</sup> unit and Doubt will be taken
	2 <sup>nd</sup> day	Preventive maintenance consideration and surface preparation technique for repairs
	3 <sup>rd</sup> day	Crack repairs method  Epoxy injection, Grooving and sealing,stitching,adding reinforcement and grouting
8 <sup>th</sup> week	1 <sup>st</sup> day	Repairs of surface defects of concrete -Bug holes
	2 <sup>nd</sup> day	Form tie holes, honey comb and larger voids -Repairs of corrosion in RCC elements -Steps in repairing
	3 <sup>rd</sup> day	-prevention of corrosion in reinforcement

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9 <sup>th</sup> week	1 <sup>st</sup> day	
	2 <sup>nd</sup> day	Materials placement technique with sketches -Pneumatically applied, open top placement, bird mouth ,dry packing, form and pump, trowel applied method
	3 <sup>rd</sup> ay	Revision and Test will be given
10 <sup>th</sup> week	1 <sup>st</sup> day	Repairs of DPC against rising dampness -physical method, electrical method, chemical method
	2 <sup>nd</sup> day	
	3 <sup>rd</sup> ay	Doubt will be taken
11 <sup>th</sup> week	1 <sup>st</sup> day	Repairs of walls -repairs of mortars joints against leakage -Efflorescence removal
	2 <sup>nd</sup> day	Water proofing of wet areas ,water proofing of flat RCC roofs
	3 <sup>rd</sup> ay	Various water proofing system and their characterstitics
12 <sup>th</sup> week	1 <sup>st</sup> day	Types of sealing joints with different types of sealants
	2 <sup>nd</sup> day	Technique for repairs of joints and repair of overhead and underground water tanks
	3 <sup>rd</sup> ay	Doubt will be taken
13 <sup>th</sup> week	1 <sup>st</sup> day	Revision of 1 <sup>st</sup> unit
	2 <sup>nd</sup> day	Revision of 2 <sup>nd</sup> t unit
	3 <sup>rd</sup> ay	Revision of 3 <sup>rd</sup> unit

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14 <sup>th</sup> wee	1 <sup>st</sup> day	Unit test will be given
	2 <sup>nd</sup> day	Revision of 4 <sup>th</sup> unit
	3 <sup>rd</sup> ay	Revision of 5 <sup>th</sup> unit
15 <sup>th</sup> week	1 <sup>st</sup> day	Revision of 6 <sup>th</sup> unit
	2 <sup>nd</sup> day	DOUBT WILL BE TAKEN
	3 <sup>rd</sup> ay	COMBINED TEST OF ALL UNIT