C		Reg. No.:						
		Question Paper (Code: 55U02					
M.E. DEGREE EXAMINATION, MAY 2018								
Elective								
Structural Engineering								
15PSE502 - FORENSIC ENGINEERING AND REHABILITATION OF STRUCTURES								
(Regulation 2015)								
Dur	ation: Three hours	Answer ALL Qu	Maximum: 100 Marks estions					
1.	PART - A (5 x 1= 5 Marks) 1. To protect the reinforcement fro corrosion in moderate exposure condition the main cover should be CO1- R							
	(a) 80 mm	(b) 60 mm	(c) 30 mm	(d) 25 mm				
2.	Which one of the following is used to protect steel from rusting CO2							
	(a) Zinc oxide ((b) White lead	(c) Molten lead	(d) Red lead				
3.	Closely spaced fine meshes with cementitious mortar are called COS							
	(a) GFRP		(b) CFRP					
	(c) Ferrocement		(d) Hydrophobic	cement				
4.	Mortar or concrete con-	veyed through a pressure	e hose	CO4 -R				
	(a) ShotCrete ((b) Grout	(c) Dry pack	(d) All the above				
5.	are inte	ermediate between coatin	ngs and pore blocker	n CO5- R				

(c) Clloars

(d) All the above

(a) Membranes

(b) Sealers

$PART - B (5 \times 3 = 15 Marks)$

6.	Define cathodic protection.			CO1-U		
7.	What are the importance of maintenance?			CO2-U		
8.	Compare Silanes/Siloxanes.			CO3-Ana		
9.	Write down the disadvantages of shortcrete.			CO4-U		
10.	What do you mean by dilapilated structures?			CO5-U		
PART – C (5 x 16= 80Marks)						
11.	(a)	Explain the various corrosion protection methods.	CO1- U	(16)		
Or						
	(b)	Write the types of Defects in concrete, Masonry Structures, Plastering and in Steel Structures.	CO1- U	(16)		
12.	(a)	Explain the steps Carried out in inspection.	CO2- U	(16)		
		Or				
	(b)	An RCC roof slab and a Madras terrace roof, both are under water leakage problem. Suggest suitable remedial measures for both.	CO2- U	(16)		
13.	(a)	Discuss about chemical admixtures as a repair material.	CO3-U	(16)		
	Or					
	(b)	Explain briefly about SIMCON & its application in retrofitting work.	CO3-U	(16)		
14.	(a)	Explain with neat sketches about the jacketing techniques for the repair of seismically affected beam-column joint in a building.	CO4 -U	(16)		
Or						
	(b)	Explain strengthening techniques with external reinforcement.	CO4 -U	(16)		
15.	(a)	Explain in details the various types of demolition techniques.	CO5- U	(16)		
Or						
	(b)	Explain the various options for strengthening the concrete with low member strength.	CO5-U	(16)		