

M. E. CONSTRUCTION ENGINEERING 2ND YEAR 1ST SEM EXAM - 2025**SUBJECT: Repair and Retrofitting Technique-I****Time : Three hours****Full Marks : 100****(Use separate answer script for each part.)****Part I (50 Marks)**

Question No.		Marks
	Answer any four questions	
Q1.	i) What are the reasons of leakage/ seepage from roof ? ii) Write a short note on Liquid Applied Membrane water proofing system ?	3.5 09
Q2.	i) Draw a sketch showing the development of cracks in a column due to corrosion of reinforcement. ii) Describe the different activities involved in patch repair of a concrete structure subjected to corrosion related distress.	03 9.5
Q3.	i) Why protective coating is applied to structures ? ii) Briefly explain the following in connection with protective coating. a) Resins b) Pigments c) Solvents	3.5 09
Q4.	i) State the importance of surface preparation in repair of concrete structure. ii) Name the different techniques available for surface preparation iii) Describe any one of the techniques for surface preparation	3.5 3 6
Q5.	i) Describe the process of Dry Mix shotcrete. ii) What do you understand by 'Rebound' in case of shotcrete? How can you minimize Rebound in case of shotcrete? iii) Discuss the application of shotcrete in repair as well as in new construction.	4.5 3.5 4.5
Q6.	Describe the process of application and uses of epoxy grout in repair of concrete structures.	12.5
Q7.	Briefly explain the purpose and procedure of Re-alkalization of concrete.	12.5

M.E CONSTRUCTION. ENGG. 2nd YEAR EXAMINATION, 2025**(1st Semester)****SUBJECT Repair and Retrofit Technique - I****(Name in full)**Time : ~~Two hours~~ / Three hours / ~~Four hours~~ / ~~Six hours~~Full Marks 30/100
(15/ 50 Marks for each part)

No of Questions	Part II	Marks
Q1.	What are the differences between the passive and the active strengthening Explain with examples.	10
Q2.	Explain the differences between distress and defect.	10
Q3.	Draw neat sketches for the three different situations of RCC beam jacketing. Explain all three conditions.	15
Q4.	Draw a neat sketch of RCC beam-column junction strengthened by four numbers of angle sections as proposed by Alcocer. Explain this technique.	15