



# ADAMAS UNIVERSITY

## END SEMESTER EXAMINATION

(Academic Session: 2020 – 21)

<b>Name of the Program:</b>	M.Tech. (Construction Engineering & Management)	<b>Semester:</b>	II
<b>Paper Title:</b>	Maintenance and Rehabilitation of Structures	<b>Paper Code:</b>	CEM21017
<b>Maximum Marks:</b>	50	<b>Time Duration:</b>	3 Hrs
<b>Total No. of Questions:</b>	17	<b>Total No of Pages:</b>	02
(Any other information for the student may be mentioned here)		<b>1.</b> At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. <b>2.</b> All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. <b>3.</b> Assumptions made if any, should be stated clearly at the beginning of your answer.	

<b>Group A</b> <b>Answer All the Questions (5 x 1 = 5)</b>			
		Knowledge Level	
1	How can the effect of freezing and thawing be prevented in concrete?	R	CO1
2	Why concrete cover is required?	R	CO2
3	What are the main objectives of maintenance of structure?	R	CO3
4	List out various types of special mortars.	R	CO4
5	Classify demolition techniques.	U	CO5
<b>Group B</b> <b>Answer All the Questions (5 x 2 = 10)</b>			
6 a)	What is Quality audit of concrete construction?	R	CO1
(OR)			
6 b)	Explain Plastic shrinkage cracks in concrete.	U	CO1
7 a)	Illustrate about Alloyed steel or Stainless steel used for corrosion protection.	U	CO2
(OR)			
7 b)	Explain Cathodic protection to prevent corrosion.	U	CO2
8 a)	What are the general considerations to be taken into account for assessment of damage of a structure?	R	CO3
(OR)			
8 b)	What aspects are covered in Daily routine inspection or maintenance?	R	CO3
9 a)	Explain the necessity for developing Polymer concrete.	U	CO4
(OR)			
9 b)	Illustrate about Saw dust concrete as a special concrete.	U	CO4
10 a)	List out the preliminary aspects to be considered prior to site demolition work.	R	CO5
(OR)			
10 b)	Identify the process of preliminary investigation to be done before placing a contract for demolition work.	Ap	CO5

**Group C****Answer All the Questions (7 x 5 = 35)**

11 a)	What are the effects due to chemicals on concrete?	<b>R</b>	<b>CO1</b>
<b>(OR)</b>			
11 b)	Illustrate about permeability as a property of concrete.	<b>U</b>	<b>CO1</b>
12 a)	Explain the effects of corrosion on concrete structures.	<b>U</b>	<b>CO2</b>
<b>(OR)</b>			
12 b)	Illustrate about the construction errors for concrete constructions.	<b>U</b>	<b>CO2</b>
13 a)	Classify the maintenance involved in civil engineering works and discuss in brief.	<b>U</b>	<b>CO3</b>
<b>(OR)</b>			
13 b)	Identify the importance of maintenance work for structures.	<b>Ap</b>	<b>CO3</b>
14 a)	Illustrate about Ferro cement.	<b>U</b>	<b>CO4</b>
<b>(OR)</b>			
14 b)	What is Shotcrete? Discuss briefly.	<b>R</b>	<b>CO4</b>
15 a)	Identify the types and uses of Expansive cement.	<b>Ap</b>	<b>CO4</b>
<b>(OR)</b>			
15 b)	Explain briefly about Sulphur infiltrated concrete.	<b>U</b>	<b>CO4</b>
16 a)	Identify the good practices to be followed for mechanical demolition technique.	<b>Ap</b>	<b>CO5</b>
<b>(OR)</b>			
16 b)	Explain the application criteria of Wrecking ball for demolition work.	<b>U</b>	<b>CO5</b>
17 a)	Explain Piecemeal demolition or demolition by hand.	<b>U</b>	<b>CO5</b>
<b>(OR)</b>			
17 b)	Illustrate about Hydraulic pusher arm machine used for demolition work.	<b>U</b>	<b>CO5</b>