Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S) Examination September 2025 (2019 Scheme)

Course Code: CET456

Course Name: REPAIR AND REHABILITATION OF BUILDINGS

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks. Marks

1	Differentiate between repair and maintenance of building.	(3)
2	State the causes of distress in structures.	(3)
3	Explain how the corrosion activity of reinforcement is measure in concrete?	(3)
4	What are the objectives of the condition survey?	(3)
5	Explain the need of quality assurance of concrete.	(3)
6	Explain sulphate attack. What are the measures to control it?	(3)
7	Describe the properties and uses of Fibre reinforced concrete.	(3)
8	What are the differences between high performance concrete and high strength concrete?	(3)
9	What is shoring and state its purpose.	(3)
10	List the pre-planning activities to be done before demolition of a structure.	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	List the various damages of masonry structures. Which are the possible ways by which damages to masonry buildings can be controlled?	(14)

OR

12	What are the different types of cracks in concrete structure. Explain the causes of cracks in hardened concrete.	(14)

Module II

13	What is semi-destructive test on concrete? Explain any two.	(14)

OR

14	a)	Illustrate the steps carried out in visual inspection of structures.	(8)

b) Explain how the depth of carbonation in concrete is determined. (6)

Module III

15 List the various parameters affecting the quality of concrete construction. Explain any three in detail. (14)

OR

16 a) Explain the need of surface preparation before repair works. Discuss any two methods. (8)

b) What is alkali aggregate reaction? Explain causes and preventive measures of alkali aggregate reaction. (6)

Module IV

17 a) What is vacuum concrete? Explain the procedure, advantages and limitations of vacuum concrete. (8)

b) What is ferrocement? Explain the factors effecting its properties. (6)

OR

18 a) What is self-healing concrete? Explain its preparation, advantages and disadvantages. (8)

b) Explain the importance of maintenance. Differentiate between routine and preventive maintenance. (6)

Module V

19 a) Explain underpinning. What are the structural conditions which requires underpinning? Explain any two underpinning methods. (8)

b) Discuss with a neat sketch about the mechanism of cathodic protection. (6)

OR

20 What is meant by dormant cracks? Describe in detail any four repair techniques for dormant cracks with neat sketches. (14)

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