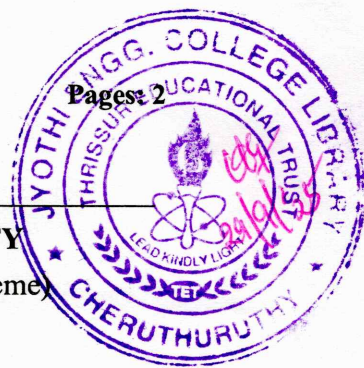


Reg No.: _____

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) |
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OR

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

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