

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER M. TECH DEGREE EXAMINATION
Civil Engineering
(Computer Aided Structural Engineering)
04CE7113—Maintenance and Rehabilitation of Structures

Max. Marks : 60

Duration: 3 Hours

PART A

Answer All Questions

Each question carries 3 marks

1. Explain the mechanism of carbonation induced corrosion.
2. List the factors to be considered while selecting a material for concrete repair.
3. Write a short note on permeability of concrete
4. How can UPV test be used to determine concrete quality?
5. List the precautions to be taken while concreting is done in cold weather.
6. Differentiate between the terms repair and rehabilitation.
7. What are the different types of corrosion inhibitors?
8. Can sea water be used for concreting? Why?

PART B

Each question carries 6 marks

9. Explain the need of quality assurance for construction. List its components.
OR
10. Write a detailed note on thermal properties of concrete.
11. Write a short note on effect of temperature and chemicals on concrete.
OR
12. Write a detailed note on the deterioration mechanisms in concrete.
13. Explain the importance of building Maintenance and list the factors that influence it.
OR
14. With a neat diagram explain Rebound Hammer test.
15. Write a detailed note on use of Expansive cement for concrete repair
OR
16. Explain in detail Ferro cement construction methodology.
17. Explain wet process of shotcreting with a neat diagram
OR
18. With a neat diagrams explain the different methods of underpinning of structures.
19. Write a detailed note on distress in fire damaged structures
OR
20. List the different methods of strengthening of concrete members and explain any two with neat diagrams.