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Question Paper Code: BST214



INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

M.Tech II Semester End Examinations (Supplementary) - January, 2018
Regulation: IARE-R16

REHABILITATION AND RETROFITTING OF STRUCTURES

Time: 3 Hours

(STE)

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT – I

1. (a) Explain the importance of rehabilitation of structures. [7M]
(b) Discuss the various precautions to be taken during construction to avoid deterioration of concrete. [7M]
2. (a) Write a short notes on Repair and Renovation. [7M]
(b) Explain in detail about Restoration, Rehabilitation and Retrofitting. [7M]

UNIT – II

3. (a) List out different ways of controlling the corrosion of steel in concrete. Explain any two methods in detail. [7M]
(b) What are the various types of damages occur in concrete and suggest the mechanisms for damage control. [7M]
4. (a) Discuss the cracking of hardened concrete? Explain various factors effecting hardened concrete. [7M]
(b) What are the various steps to be taken to improve the quality of concrete both in fresh and hardened states. [7M]

UNIT – III

5. (a) Explain PUNDIT test conducted on concrete. [7M]
(b) Explain the tests done to assess corrosion of reinforcement. [7M]
6. (a) What are the factors that affect the rebound reading in rebound hammer testing? Explain briefly. [7M]
(b) Explain the need for evaluation of structures? [7M]

UNIT – IV

7. (a) What are the criteria for selection of repair materials and what factors have to be considered in selecting repair materials? [7M]
(b) What is jacketing? What are the different types of jacketing? [7M]

8. (a) What is shotcreting? What are its advantages and disadvantages? [7M]
(b) Explain jacketing methods used in rehabilitation of structures. [7M]

UNIT – V

9. (a) Write a short note on Building Instrumentation. [7M]
(b) Explain the use of smart sensors for monitoring infrastructures. [7M]
10. (a) Discuss in detail different types of sensors and its applications. [7M]
(b) Explain the active structural health monitoring of structures. [7M]

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