

Model Question Paper

Eighth Semester B.Tech. Degree Examination April-May 2012

(2008 Scheme)

Branch : Civil Engineering

08.806.8: Elective – IV: REPAIR & REHABILITATION OF STRUCTURES

Time : 3 Hours

Max. Marks : 100

Instructions : Answer all questions from Part A and one full question from each Module of Part B

PART – A

1. Discuss about the damages of concrete structures caused by earthquakes.
2. What are the steps to be taken to prevent corrosion of reinforcement?
3. From visual inspection of concrete structures, what are the causes of damages that can be identified?
4. What is Pull Out test?
5. Briefly discuss about repairing of concrete floors.
6. What are the properties and uses of ferrocement?
7. Discuss about the process, 'guniting'.
8. How is jacketing done?

(8x5=40 marks)

PART – B

Module – I

9. (a) Explain about different environmental chemical attacks on concrete structures. What are the preventive measures.
(b) Design and construction operations of RCC structures affect the durability and resistance to damages. Explain the precautions to be taken.

(20 marks)

OR

10. (a) Explain about the environmental factors which damage steel structures. What are the preventive measures to be taken.
(b) Proper inspection and maintenance prevent the deterioration of steel structures due to fatigue. Explain.

(20 marks)

Module – II

11. (a) Explain the diagnosis and assessment of deterioration of structures by ultrasonic pulse velocity method.
(b) Explain Rebound Hammer method of testing of concrete structures. What are the advantages and disadvantages?

(20 marks)

OR

12. (a) Explain Probe Penetration Test for concrete structures. Discuss about its advantages and disadvantages.
(b) Discuss about any one crack detection technique in detail.

(20 marks)

Module – III

13. (a) Explain the methods for repairing spalling and disintegration of concrete.
(b) Discuss about the process of repairing corrosion damage in reinforced concrete structures.

(20 marks)

OR

14. (a) In which type of components and under what condition 'jacketing' is suitable for strengthening of structures. Explain the process.
(b) Discuss in detail about the application of polymers and fibre reinforced concretes in strengthening existing structures.

(20 marks)
