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25/11/13AN

Reg. No. : 

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**Question Paper Code : 31195**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Eighth Semester

Civil Engineering

CE 2071/080100066/CE 811 — REPAIR AND REHABILITATION OF STRUCTURES

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the causes of deterioration of concrete structures?
2. Give the necessity and importance of maintenance.
3. What is the role of cover in RC structures?
4. Define "durable concrete".
5. Write short notes on ferrocement.
6. What are the applications of special concrete?
7. How do repair the cracks by dry pack?
8. Give the methods of corrosion protection techniques.
9. What are chemical disruptions involved in concrete structures?
10. How do arrest the leakage in RC structures?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the damage assessment procedure for evaluating the damaged structures with flow chart diagram.

Or

(b) What is maintenance? Explain the facets and importance of maintenance with various inspection procedures.

12. (a) Relate serviceability and durability of concrete structures under the heading of quality assurance in concrete.

Or

- (b) Explain about the design and construction errors in RC structures with remedial measures.

13. (a) Discuss the functional classification and requirements of repair materials with various aspects.

Or

- (b) Explain the functions and applications of polymer concrete and fibre reinforced concrete as a repair material.

14. (a) What are the techniques available to demolish the structures? Explain any one with detailed case study.

Or

- (b) Write short notes on: (4 × 4 = 16)

- (i) Epoxy injection
- (ii) Corrosion inhibitors
- (iii) Cathodic protection
- (iv) Vacuum concrete

15. (a) How do you repair various types of cracks? Explain with neat sketches.

Or

- (b) Explain about the jacketing and plate bonding techniques in rehabilitation to overcome the low member strength.