

CIVIL
25/4/16 FN

Reg. No.

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Question Paper Code : 52540

B.E/B.Tech. DEGREE EXAMINATION, APRIL 2016

Eighth Semester

Civil Engineering

CE 2071 – REPAIR AND REHABILITATION OF STRUCTURES

(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What is the importance of maintenance ?
2. What is economic appraisal of structure ?
3. What is the role of cover in RC structures ?
4. Define “durable concrete”.
5. Name any two special mortars for repair with applications.
6. List any two properties of concrete chemicals.
7. What is a dry pack ?
8. Brief the mechanism of cathodic protection.
9. List the methods to overcome low member strength in concrete structures.
10. What is the preventive measure to be adopted to make the structure stable against marine exposure ?

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Discuss the procedure of assessment for evaluating a damaged structure. (8)
(ii) Enumerate the various facets of maintenance of a concrete structure. (8)

OR

- (b) Discuss the various causes of deterioration of concrete structures mentioning their effects/symptoms. (16)

12. (a) Explain how quality assurance plays an important role in construction industry. Also explain the parameters affecting the quality of concrete construction.

OR

- (b) What is meant by corrosion of rebars ? Discuss the factors influencing corrosion. Explain the behaviour of concrete structures due to faulty design and construction errors.

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) (i) Explain the various methods of polymer coating applied on the surface of rebar ? (8)
(ii) What is vacuum concrete ? Explain its applications. (8)

OR

- (b) (i) Explain the method of preventing corrosion in the structure. (10)
(ii) Explain how cracks may be sealed by using epoxy injection resin. (6)

15. (a) With simple sketches explain the methods of improving the strength of existing columns and beams.

OR

- (b) Explain the different methods of strengthening the concrete structures against earthquake.