

Reg. No. :

Question Paper Code : 20250

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Eighth Semester

Civil Engineering

CE 6021 — REPAIR AND REHABILITATION OF STRUCTURES

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How do you classify maintenance of structure?
2. What is the importance of maintenance?
3. How does a concrete structure get affected by heat?
4. Write short note on effects of cover thickness.
5. In which situation self compacting concrete is desirable?
6. State the applications of polymer impregnated concrete.
7. Give a short note on underpinning.
8. What are protective surface coatings?
9. What is overlay?
10. How can you develop a demolition strategy?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Briefly explain the various aspects of Inspection. (8)
(ii) Discuss the different causes of deterioration of structures. (8)

Or

- (b) With help of flow chart, describe a detailed assessment procedure for evaluating a damage structure. (16)

12. (a) (i) Discuss in detail the quality assurance for concrete construction. (10)
(ii) Give a detailed account on thermal properties of concrete. (6)

Or

- (b) (i) What is crack? Explain the classification and causes of cracks. (10)
(ii) Write a brief note on permeability of concrete. (6)
13. (a) (i) Illustrate about Fiber reinforced concrete. (8)
(ii) List the methods of testing self-compacting concrete and explain any one method in detail. (8)

Or

- (b) With help of neat sketches elaborate the principle, manufacturing procedure and applications of Sulphur infiltrated concrete. (16)
14. (a) Discuss the step by step procedure for use of epoxy injection to repair cracks in concrete. Also state its applications and limitations. (16)

Or

- (b) (i) Briefly explain the various types of corrosion inhibitors. (8)
(ii) Elucidate the cathodic protection of steel in concrete. (8)
15. (a) (i) Enlist the Strengthening techniques and discuss the factors affecting selection of strengthening method. (8)
(ii) Elaborate the preliminary consideration for strengthening of foundations. (8)

Or

- (b) What are the methods involved in demolition? Explain any two methods in detail. (16)