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BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCE – FIFTH SEMESTER EXAMINATION

CONSTRUCTION FAILURES, REPAIRS AND MAINTENANCE

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define failure and write any two causes of failure.
2. Write a brief note on earthquake effect on foundation.
3. Define settlement and differential settlement.
4. Define geomembranes.
5. Write about masonry cladding.
6. Define spalling of concrete.
7. What are man-made failures?
8. What is rain ponding effect?
9. What are the causes of dampness?
10. State the need for maintenance of buildings.

PART—B

8×5=40

Instructions : (1) Answer **all** questions.

(2) Each question carries **eight** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Describe foundation failure due to load transfer and water level changes.

(OR)

- (b) Explain the failures in sewers and tunnels and also explain the remedies to be taken.

- 12.** (a) Explain (i) revetment and (ii) pitching in surface construction failure.

(OR)

- (b) Explain about failures and mention the control measures involved in abutment in surface construction.

- 13.** (a) Write short notes on the following failures in concrete :

(i) Rusting of embedded steel

(ii) Surface disintegration due to fire

(OR)

- (b) Explain plastering failures and its repairs.

- 14.** (a) How are natural disasters caused? Explain the repairs involved in it.

(OR)

- (b) Explain the causes of collapse failures in structures and mention the control measures.

- 15.** (a) Explain the methods of maintenance for any two types of roads.

(OR)

- (b) Explain the methods of repairs to canal lining.

PART—C

10×1=10

- Instructions :**
- (1) Answer the following question.
 - (2) The question carries **ten** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Explain the failures in earthen bunds and their control measures.

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