

6E3037

Roll No. _____

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B. Tech. VI Sem. (Main & Back) Exam. May/June-2014

Civil Engineering

6CE6.1 Elective Repair and Rehabilitation of Structures

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

Instructions to Candidates:-

Attempt any **five** questions, selecting **one** question from each unit. All Questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly.

Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. _____

2. _____

UNIT-I

- Q.1 (a) Explain the effects of chlorides and sulphate attacks on concrete and their preventive measures. [8]
- (b) Give detail of alkali reaction on the concrete with mechanism of (AAR) and the influencing factor. [8]

OR

- Q.1 (a) Discuss the half cell Potential Methods with its silent factures. [8]
- (b) Draw a neat diagram of corrosion process with its prevention and effects. [8]

UNIT-II

- Q.2 (a) Differentiate destructive testing and non destructive testing of concrete. [8]
- (b) Explain ultra sonic pulse velocity test for measuring the compressive strength of slab or wall. [8]

OR

- Q.2 Write down the complete procedure of following Tests. [16]
- (a) Rebound hammer Test.
- (b) Pull out Test.

UNIT-III

- Q.3 (a) What are the self-curing compound? Also mention the required properties. [8]
- (b) What are the different patching material used for repair? Give small description. [8]

OR

- Q.3 (a) Give the types of polymer resin based coating in detail. [8]
- (b) Make a list of water proofing material and their use and selection. [8]

UNIT-IV

- Q.4 (a) Explain the function of externally bonded plates with neat diagrams. [8]
- (a) Write down the complete process of Jacketing and necessary precaution taken. [8]

OR

Q.4 Write down a short note on following:

[16]

- (a) Grouting
- (b) Shotcrete
- (c) Under water repair
- (d) Equipments for Jacketing.

UNIT-V

Q.5 (a) Make a list of process required for the maintenance of bridge piers.

[8]

(b) A case study of canal rehabilitation.

[8]

OR

Q.5 Write a short note on following:

[16]

- (a) Distress in Building.
- (b) Primary test methods.
- (c) Effect of chlorides.
- (d) F & T abrasion.