

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Repair and Rehabilitation of Structures

Subject Code : 4TE07RRS1

Branch: B.Tech (Civil)

Semester : 7

Date : 01/12/2018

Time : 10:30 To 01:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1 Attempt the following questions:

(14)

- a) Define distress in structure.
- b) What are the objectives of conditional survey?
- c) Enlist the classes of damage and its repair classification.
- d) List the various stages of conditional survey.
- e) Define durability.
- f) Mention the requirements of durability.
- g) Give the methods for controlling sulphate attack in concrete.
- h) List the parameters for selection of repair materials.
- i) Define shotcrete.
- j) Mention the process involved in Shotcreting.
- k) What are the uses of surface hardeners and overlays?
- l) Enlist the various types of sealants.
- m) What is meant by restoration of building.
- n) Why demolition is dangerous.

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions

- (a) Explain the different types of shoring for foundation rehabilitation with sketches. **(08)**
- (b) Explain the two methods of Under-pinning techniques for foundation rehabilitation. **(06)**



- Q-3 Attempt all questions**
- (a) Write short notes on RCC jacketing and Beam jacketing with a neat sketch. **(08)**
 - (b) Enumerate the various causes and repair of leakage from terrace with neat sketches. **(06)**
- Q-4 Attempt all questions**
- (a) Explain the sea water attack in concrete also steps to improve durability of concrete. **(06)**
 - (b) Enumerate the various thermal properties of concrete. **(04)**
 - (c) Write the various causes for permeability of concrete. **(04)**
- Q-5 Attempt all questions**
- (a) Explain the approaches for pre repair evaluation of distress and the process of condition survey with a neat flow chart. **(06)**
 - (b) Discuss the various points to be considered before arriving at the repair strategies. **(04)**
 - (c) Explain the classification of commonly used Non Destructive Evaluation tests. **(04)**
- Q-6 Attempt all questions**
- (a) Describe in brief, the various methods of demolition. **(06)**
 - (b) Explain in detail about the implosion technology of demolition. **(04)**
 - (c) Enumerate the precautions to be taken during the demolition of structure. **(04)**
- Q-7 Attempt all questions**
- (a) Explain the various causes of corrosion and its remedial measures. **(06)**
 - (b) Enumerate the various classifications of repair materials. **(04)**
 - (c) Write short note on carbonation in concrete. **(04)**
- Q-8 Attempt all questions**
- (a) Explain the newly available epoxy products with its composition and application. **(06)**
 - (b) Write short notes on Ferro-cement with its application, properties and advantages. **(04)**
 - (c) Discuss the various water proofing materials applied on concrete surface. **(04)**

