

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Concrete Technology

Subject Code : 4TE03CNT1

Branch: B.Tech (Civil)

Semester : 3

Date : 10/12/2018

Time : 02:30 To 05:30

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) Write the Bogue's compound for cement.
- b) Mention the advantages of super plasticizer.
- c) What are air entraining admixtures?
- d) Expand GGBS.
- e) Write the properties of hardened concrete.
- f) List the types of non- destructive testing of concrete.
- g) What are the various methods of controlling sulphate attack?
- h) Define shrinkage.
- i) What is freezing and thawing effect of concrete?
- j) Define thermal conductivity.
- k) What is meant by creep?
- l) List the available methods of mix design.
- m) Define SCC.
- n) Give the advantages of Ferro- cement.

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

Q-2 Attempt all questions

- (a) Explain the process for manufacturing of cement with neat flowchart and sketches. **(10)**
- (b) Discuss the different types of cement. Explain any one in detail. **(04)**



- Q-3 Attempt all questions**
- (a) Design a mix design for M35 grade of concrete using IS-10262:2009. (Assume suitable data) (10)
 - (b) Write short notes on light weight concrete. (04)
- Q-4 Attempt all questions**
- (a) List out the various tests of aggregate and explain any two in detail. (06)
 - (b) Discuss in detail about the normal consistency test for cement. (04)
 - (c) Write short note on Bulking of sand. (04)
- Q-5 Attempt all questions**
- (a) Explain any two tests available for measurement of workability of concrete. (06)
 - (b) Enumerate the properties of fresh concrete in detail. (04)
 - (c) Explain the accelerated curing test in detail. (04)
- Q-6 Attempt all questions**
- (a) Explain the various classifications of admixtures. (06)
 - (b) What is meant by Alkali Aggregate Reaction and explain it in detail. (04)
 - (c) Write short notes on Retarders and Accelerators. (04)
- Q-7 Attempt all questions**
- (a) Describe the mechanism of corrosion and suitable measures to control corrosion of reinforcement in concrete. (06)
 - (b) Explain the mechanism and equation of Sulphate attack in concrete. (04)
 - (c) Enumerate the various classification of shrinkage in concrete. (04)
- Q-8 Attempt all questions**
- (a) Describe in detail about the various types of polymer concrete. (06)
 - (b) Discuss the applications of Polymer Impregnated concrete. (04)
 - (c) Enlist the various factors affecting properties of FRC with its advantages. (04)

