Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC- SEMESTER-IV - EXAMINATION - SUMMER 2017

Subject Code: X40602 Date: 29/05/2017 **Subject Name: Concrete Technology** Time: 10:30 AM TO 01:00 PM **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. (a) Enlist different types of cement. Write uses of any three types of cement. 0.1 07 (b) Define workability. Describe compacting factor test to measure workability of 07 fresh concrete. 0.2 (a) Why curing of concrete is necessary? Enlist various methods of curing. Explain 07 any one method of curing. **(b)** Explain effect of size, shape and texture of aggregate on concrete. 07 OR (b) Which are the various factors affecting strength of concrete? How does water-**07** cement ratio affect strength of concrete? 0.3 (a) Explain procedure to measure Initial Setting Time and Final Setting Time of 07 cement. (b) Enlist various methods of transporting concrete. Explain any two methods of 07 transporting concrete. OR (a) Explain various factors promoting the Alkali-Aggregate Reaction. **07** 0.3 **(b)** Enlist various types of chemical admixtures and write their functions. 07 (a) Write data required and steps involved in concrete mix design using IS method. 07 0.4 (b) Explain carbonation of concrete? Write procedure to measure depth of **07** carbonation in concrete structure. OR (a) Enlist various non-destructive tests of concrete. Explain Ultrasonic Pulse 0.4 **07** Velocity test of concrete. (b) What do you understand by 'damage assessment'? Enlist various objectives and 07 stages of damage assessment. **Q.5** (a) Write short-note (Any three) 14 (i) Bulking of aggregate (ii) Shotcrete (iii) Under water concrete (iv) Shrinkage. OR Write short-note (Any three) 14 Q.5(i) Segregation (ii) Sulphate attack (iii) Light weight concrete (iv) Fiber reinforced concrete.
