

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2018**

**Subject Code:2140608**

**Date:22/05/2018**

**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.

|      |     |                                                                                                               | MARKS |
|------|-----|---------------------------------------------------------------------------------------------------------------|-------|
| Q.1* | (a) | Explain quality of water for concrete.                                                                        | 03    |
|      | (b) | Enlist factors for promoting alkali aggregate reaction and give measures to control alkali aggregate reaction | 04    |
|      | (c) | Explain Wet process of manufacturing of Portland cement .                                                     | 07    |
| Q.2  | (a) | Enlist various factors affecting shrinkage                                                                    | 03    |
|      | (b) | What is gap grading? Explain it briefly                                                                       | 04    |
|      | (c) | Explain in methods of transportation in concreting.                                                           | 07    |
|      |     | OR                                                                                                            |       |
|      | (c) | What is curing Explain membrane curing                                                                        | 07    |
| Q.3  | (a) | What is compaction? What are the reasons for compaction?                                                      | 03    |
|      | (b) | Briefly Explain segregation                                                                                   | 04    |
|      | (c) | What are the factors affecting workability? Explain in detail                                                 | 07    |
|      |     | OR                                                                                                            |       |
| Q.3  | (a) | How water/cement ratio effect the strength of concrete?                                                       | 03    |
|      | (b) | How end condition of specimen and capping, moisture condition affect strength test result of concrete         | 04    |
|      | (c) | Explain factors affecting on creep of concrete.                                                               | 07    |
| Q.4  | (a) | What are the purpose of admixtures in concrete?                                                               | 03    |
|      | (b) | Discuss bulking of sand.                                                                                      | 04    |
|      | (c) | What is carbonation? What are the factors affecting on carbonation.                                           | 07    |
|      |     | OR                                                                                                            |       |
| Q.4  | (a) | How construction overloads resulting crack.                                                                   | 03    |
|      | (b) | Explain sulphate attack on concrete                                                                           | 04    |
|      | (c) | What are the methods of concrete mix Design? Explain any one.                                                 | 07    |
| Q.5  | (a) | What is the effect of de -icing salts on concrete                                                             | 03    |
|      | (b) | Write short note Areated concrete.                                                                            | 04    |
|      | (c) | What is RMC ? What are its advantages ?                                                                       | 07    |
|      |     | OR                                                                                                            |       |
| Q.5  | (a) | Where are the possibility to use FRC in concrete structures? Enlist advantage of its.                         | 03    |
|      | (b) | Distinguish between nominal mix and Design mix.                                                               | 04    |
|      | (c) | Explain rebound hammer test                                                                                   | 07    |

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