

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-II • EXAMINATION – SUMMER - 2017

Subject Code: 2722015**Date: 31/05/2017****Subject Name: Advances in Concrete Technology and Sustainable Construction Practices****Time: 02:30 PM To 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the damage assessment procedure for concrete. **07**
(b) Explain the various strengthening technique used for beam. **07**
- Q.2** (a) Write in short on “Roller Compacted Concrete” with its specification and uses. **07**
(b) Write in short on “Geopolymer Concrete” with its specifications and uses. **07**
- OR**
- (b) Explain the workability criteria for self-compacting concrete. **07**
- Q.3** (a) Elaborate the concept of sustainable development of concrete technology. Explain in brief the recent advances in concrete technology. **07**
(b) What is the need to use fibers in concrete? State the types of fibers used with its application. **07**
- OR**
- Q.3** (a) Explain the use of epoxy resin in construction industry. Also state its properties that enable it to use it. **07**
(b) How super plasticizers work for fresh concrete? Explain its uses. **07**
- Q.4** (a) What is the effect of silica fume on concrete? Justify your answer with the properties of silica fume. **07**
(b) Explain the curing compounds and their effects on properties of concrete. **07**
- OR**
- Q.4** (a) Explain the use of GGBFS as a replacement of cement or additional material in concrete. Is it improving the strength of concrete? Justify your answer. **07**
(b) How the recycled aggregate can be achieved? What are the basic tests must be performed prior use of it? **07**
- Q.5** (a) Differentiate clearly between high performance concrete and high strength concrete. **07**
(b) How to achieve the “Sprayed Concrete”? Write its specification and its uses. **07**
- OR**
- Q.5** (a) Explain “Light weight Concrete”. **07**
(b) Explain the properties of rice ash husk and justify its uses in concrete. **07**
