GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2722015   **Date: 02/06/2016**

Subject Name: Advances in Concrete Technology and Sustainable Construction Practices

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.**

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

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