

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2017

Subject Code: 2140608

Date: 17/11/2017

Subject Name: Concrete Technology

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.

		MARKS
Q.1	(a) Differentiate between setting and hardening of cement.	03
	(b) Give the Bogue's Compound for Cement and explain their role in hydration process.	04
	(c) Explain dry process for manufacturing of cement.	07
Q.2	(a) Write short note on Bleeding	03
	(b) State any four different types of cement with its use.	04
	(c) Describe the test for determining initial and final setting time of cement. Give IS requirements for setting time for OPC.	07
	OR	
	(c) Define workability of concrete and explain any one test to measure the workability of concrete.	07
Q.3	(a) State the major Compounds of OPC and importance of them	03
	(b) Explain Segregations of concrete in detail	04
	(c) List the factors affecting the workability of concrete and explain any four out of them.	07
	OR	
Q.3	(a) Explain importance of grading of aggregates.	03
	(b) Write short note on Bulking of sand.	04
	(c) Define admixture and state purpose of adding admixtures in concrete.	07
Q.4	(a) Define Durability. Explain its significance.	03
	(b) Write short note on chloride attack.	04
	(c) State factors affecting Compressive strength of concrete and explain any one in detail.	07
	OR	
Q.4	(a) Define Shrinkage. Explain Plastic shrinkage.	03
	(b) Explain Sulphate Attack on concrete	04
	(c) Define Creep. Explain factors affecting creep of concrete.	07
Q.5	(a) Give advantages of Quality control.	03
	(b) Explain importance of plasticizers in concrete	04
	(c) Define nominal mix concrete and design mix concrete. Describe step by step procedure of IS method of mix design.	07
	OR	
Q.5	(a) Define: (i) Mean (ii) Variance (iii) Range.	03
	(b) Enlist factors affecting properties of fibre reinforced concrete.	04
	(c) Explain principle of mix design. Explain parameters and factors influencing mix design.	07
