

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3150610****Date:01/01/2022****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) How water cement ratio effect the strength of concrete?	03
	(b) Explain Qualities of water requires in concrete.	04
	(c) What is durability of concrete? Enlist factors affecting durability of	07
Q.2	(a) What is compaction? Why compaction is needed?	03
	(b) What is gap grading? explain it briefly	04
	(c) Explain Indian Standard Mix design method as per IS:10262:2009 with its salient features	07
OR		
	(c) Explain different methods of curing procedure.	07
Q.3	(a) What is shrinkage? Give the classification of shrinkage.	03
	(b) Explain Segregations of concrete in detail.	04
	(c) Explain principle of mix design. Explain parameters and factors influencing mix design.	07
OR		
Q.3	(a) Give advantages of Quality control.	03
	(b) Explain Bleeding in detail.	04
	(c) Explain Ultrasonic pulse velocity test for hardened concrete	07
Q.4	(a) Enlist minimum six different types of cement	03
	(b) Explain crack repair by injection grouting	04
	(c) Write short note on silica fume	07
OR		
Q.4	(a) How fly ash concrete gain strength in later age? Explain Mechanism	03
	(b) Give the Limitation of Rebound hammer test.	04
	(c) Explain “Alkali Aggregate Reaction”. Explain factors promoting it	07
Q.5	(a) Explain mechanism of sulphate attack on concrete	03
	(b) Explain different types of slump with figure	04
	(c) Define workability. State different methods of it. Describe any one in detail.	07
OR		
Q.5	(a) Enlist factors affecting properties of fibre reinforced concrete.	03
	(b) Explain the effect of cold weather on concrete.	04
	(c) State factors affecting compressive strength of concrete and explain any one in detail.	07
