

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2023

Subject Code: 3144004

Date: 17-01-2024

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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Give difference between setting and hardening of cement.	03
	(b) Explain sulphate attack on concrete.	04
	(c) Explain the dry process for manufacturing of cement with a flowchart.	07
Q.2	(a) Enlist various factors affecting the workability of the concrete.	03
	(b) Enlist various types of curing. Explain any one in detail.	04
	(c) Mention the various tests for workability of concrete. Explain any one in detail.	07
	OR	
	(c) Describe the test procedure to find initial and final setting time of cement.	07
Q.3	(a) Mention the factors affecting for segregation of concrete.	03
	(b) Explain alkali aggregate reaction.	04
	(c) Mention various types of concrete and explain light weight concrete in detail.	07
	OR	
Q.3	(a) What are the objectives of using admixtures in concrete?	03
	(b) Write a short note on Micro cracking of concrete.	04
	(c) Describe and explain Rebound hammer test in detail with the help of a neat sketch.	07
Q.4	(a) Give the factors influencing the Mix design of concrete.	03
	(b) What do you mean by shrinkage? Give classification of shrinkage.	04
	(c) Explain aggregate impact value test in detail.	07
	OR	
Q.4	(a) Explain Gel-space ratio for concrete.	03
	(b) What do you mean by Plum Concrete?	04
	(c) Explain soundness test in detail.	07
Q.5	(a) Define term Fineness modulus. Give the range of Fineness modulus for fine aggregates.	03
	(b) Explain effect of cold weather on concrete.	04
	(c) Give step by step procedure of IS method of mix design for concrete.	07
	OR	
Q.5	(a) Mention the factors affecting the durability of concrete.	03
	(b) Explain bleeding of concrete in detail.	04
	(c) Mention various Non-destructive testing for hardened concrete. Explain pulse velocity method.	07
