

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (New) EXAMINATION – WINTER 2018****Subject Code:2133603****Date:28/11/2018****Subject Name:Introduction to Glass & Ceramic Technology-I(Elective-I)****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.

		MARKS
Q.1	(a) Define what is steatite and talc.	03
	(b) Discuss the difference between Refractoriness & R.U.L?	04
	(c) Describe the making of steatite bodies.	07
Q.2	(a) Explain the network formation in silica.	03
	(b) Describe how cordierite material is derived from Beryl like structure.	04
	(c) Explain the synthesis of alumina by Bayer's process.	07
	OR	
	(c) Explain the occurrences of alumina.	07
Q.3	(a) Define sintering?	03
	(b) Define normal and inverse spinel.	04
	(c) Describe the difference between Conversion and Inversion.	07
	OR	
Q.3	(a) Define Glass.	03
	(b) Describe the Stanworth theory of glass network former, intermediate and modifier.	04
	(c) Discuss in detail borosilicate glass.	07
Q.4	(a) What is glass?	03
	(b) Define natural and sea water magnesia.	04
	(c) Explain the synthesis of Sea water magnesia	07
	OR	
Q.4	(a) Define normal & inverse spinel.	03
	(b) Describe chrome ore structure.	04
	(c) Explain how hydration resistance of natural magnesia be increased.	07
Q.5	(a) Discuss the polymorphic transformation of zirconia.	03
	(b) Explain the difference between nucleation and growth.	04
	(c) Explain classification of refractories based on porosity, acidity and mode of pressing.	07
	OR	
Q.5	(a) Describe what is flint in brief.	03
	(b) Write short notes on Vitreous silica and silica gel	04
	(c) Describe network former, intermediate and modifier with examples.	07
