

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2173614****Date:21/01/2021****Subject Name:Refractories-II****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Differ between R.U.L. and Creep.	03
	(b) Explain the oxidation process in LD converter during liquid steel making.	04
	(c) Discuss the polymorphic transformation of silica. What is meant by refractoriness under load of a material? Explain	07
Q.2	(a) Write a short note on talc	03
	(b) Differ between biotite mica and muscovite mica	04
	(c) Explain the phase diagram of Fe-Fe ₃ C.	07
Q.3	(a) Explain the difference between nucleation and growth.	03
	(b) Write the difference between Spodumene and Lepidolite.	04
	(c) Explain the model of nucleation with mathematical derivation	07
Q.4	(a) What is bursting of magchrome bricks?	03
	(b) What is recrystallization and abnormal grain growth?	04
	(c) Write down the processing of synthesis of mag carbon bricks.	07
Q.5	(a) Describe the occurrences of chrome ore.	03
	(b) Define normal and inverse spinel.	04
	(c) Define steel. Explain different types of steel.	07
Q.6	(a) Why gamma alumina is called pseudo spinel?	03
	(b) Discuss various types of alumina.	04
	(c) Describe synthesis of alumina by Bayer's process.	07
Q.7	(a) What is sea water magnesia?	03
	(b) Write various applications of alumina.	04
	(c) Explain the role of silica, soda ash and alumina in soda lime silica glass.	07

- Q.8**
- (a) Define aluminosilicates with examples. **03**
 - (b) Describe occurrences of alumina. **04**
 - (c) What are raw materials normally used in glass making? Explain the parameters for raw material selection. **07**

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