

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- V (New) EXAMINATION – WINTER 2019

Subject Code: 2153615

Date: 29/11/2019

Subject Name: Processing of Glass & Ceramics

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 chemical vapor deposition	03
	(b) What are the physical properties of metal alkoxides.	04
	(c) Describe the process of tape casting.	07
Q.2	(a) Define what is milling.	03
	(b) What are differences in characteristics between ordinary ball mill and planetary ball mill?	04
	(c) Write own the short note on attrition milling.	07
	OR	
	(c) Write down the significance of ball to powder ratio for planetary ball milling.	07
Q.3	(a) Define cold isostatic pressing.	03
	(b) Describe the parameters for isostatic pressing.	04
	(c) Explain in detail why critical speed of ball milling is important for milling purposes?	07
	OR	
Q.3	(a) Write short notes on spray granulation.	03
	(b) Describe extrusion process.	04
	(c) Differ between hot and cold isostatic pressing. What is jiggering?	07
Q.4	(a) Write down what is cold isostatic pressing.	03
	(b) Explain the glass refining with some examples.	04
	(c) Describe the transformation toughening of zirconia bodies.	07
	OR	
Q.4	(a) Define sol and gel processing.	03
	(b) Explain co precipitation process.	04
	(c) Explain the role of clay, quartz, feldspar in earthenware body making.	07
Q.5	(a) What is jollying?	03
	(b) Describe sintering process.	04
	(c) What are the raw materials normally used in whiteware body making? Explain the parameters for raw material selection.	07
	OR	
Q.5	(a) Define slip casting.	03
	(b) Explain the difference between drain and solid casting.	04
	(c) Explain the mechanism of deflocculation of clay slip in presence of NaOH and silicic acid.	07
