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PRESIDENCY UNIVERSITY

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Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 09:30 AM - 11:00 AM

Course Code: CHE2507 **Course Name:** Industrial Chemistry

Semester: Third Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	44	46

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	List any two applications of Teflon (PTFE).	2	CO1	BT1
2	Define a lubricant and give two examples.	2	CO1	BT1
3	Mention any two uses of Plaster of Paris (POP).	2	CO2	BT1
4	Name two raw materials used in the manufacture of ceramics.	2	CO2	BT1
5	Define gypsum and write its chemical formula.	2	CO2	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the classification of traditional and advanced ceramics with engineering applications.	10	CO2	BT2
7	Discuss the step-by-step manufacturing process of ceramics highlighting the purpose of each stage.	10	CO2	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Given a refractory lining showing signs of damage, determine the likely causes of failure and explain how each cause affects the lining.	10	CO2	BT3
9	Apply your knowledge of cement manufacturing to describe the step-by-step production of Portland cement from raw materials.	10	CO2	BT3

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
10	A polymer sample contains 40 molecules of molecular mass 60 g/mol, 60 molecules of 80 g/mol, 50 molecules of 70 g/mol, and 80 molecules of 100 g/mol. Apply the molecular-weight distribution equations to calculate the number-average molecular weight ($M_{n)}$, weight-average molecular weight (M_w), and polydispersity index (PDI).	10	CO1	BT3
11	Apply the principles of condensation polymerization to explain the synthesis of Nylon 6,6. Describe its improtant properties and applications.	10	CO1	BT3

PART E: Answer Any 1 Following Questions. 10 M

PTO (Please Turn Over)

Q.N.	Questions	M	CO	BT
12	Explain the important properties of natural rubber. Discuss its major limitations and describe the process of vulcanization with its significance.	10	CO1	BT2
13	Discuss the various mechanisms of lubrication and describe the working principle of each mechanism.	10	CO1	BT2