Roll No.											

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 16 – 12- 2025 **Time:** 09:30am – 12:30pm

School: SOE	**Program:** B.Tech.	
Course Code: CHE2507	**Course Name:** INDUSTRIAL CHEMISTRY	
Semester: III	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**
Marks	**12**	**12**	**38**	**38**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	Give two examples of Inorganic rubbers.	**2 Marks**	**L1**	**CO1**
2.	List any two types of advanced (high-technology) ceramics.	**2 Marks**	**L1**	**CO2**
3.	Explain the purpose of flue gas analysis.	**2 Marks**	**L2**	**CO3**
4.	Classify fuels on the basis of physical state with one example.	**2 Marks**	**L2**	**CO3**
5.	Define Fuels.	**2 Marks**	**L1**	**CO3**
6.	Mention any two properties of liquid Fuels.	**2 Marks**	**L1**	**CO3**
7.	Explain the detrimental effects of corrosion on buildings.	**2 Marks**	**L2**	**CO4**
8.	Describe galvanic corrosion.	**2 Marks**	**L2**	**CO4**
9.	List any two factors that affect the rate of corrosion.	**2 Marks**	**L1**	**CO4**
10.	Write two examples of differential metal corrosion.	**2 Marks**	**L1**	**CO4**

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Discuss mechanisms of lubrication: boundary, hydrodynamic, and extreme pressure lubrication.	**10 Marks**	**L2**	**CO1**
	b.	Define and Classify refractories with examples.	**10 Marks**	**L2**	**CO2**
		Or			
12.	**a.**	Describe in detail elastomers and natural rubber, highlighting their structure and properties.	**10 Marks**	**L2**	**CO1**
	b.	Discuss the manufacturing steps of ceramic products.	**10 Marks**	**L2**	**CO2**

13.	**a.**	Classify fuels and discuss characteristics of a good fuel with examples.	**10 Marks**	**L2**	**CO3**
	b.	Illustrate the production of synthetic petrol by outlining any two methods used in industry. State two advantages and two disadvantages of synthetic petrol.	**10 Marks**	**L3**	**CO3**
		Or			
14.	**a.**	Discuss the composition, advantages, and uses of (a) CNG, (b) LPG.	**10 Marks**	**L2**	**CO3**
	b.	What is calorific value? Write the units of calorific value. GCV of a fuel containing 8% hydrogen was found to be 9226 Kcal/Kg. Find out NCV if the ΔHv= 587 kcal/kg.	**10 Marks**	**L3**	**CO3**

15.	**a.**	Explain the concept of differential aeration corrosion with examples.	**10 Marks**	**L2**	**CO4**
	b.	Explain wet corrosion with a suitable example, including all the detailed chemical reactions involved.	**10 Marks**	**L2**	**CO4**
		Or			
16.	**a.**	What is cathodic protection? Explain the principle and working of Sacrificial anodic protection with diagram.	**10 Marks**	**L2**	**CO4**
	b.	Explain the effect of corrosion and factor influencing corrosion rate in detail.	**10 Marks**	**L2**	**CO4**

17.	**a.**	Define power alcohol. Explain its manufacture, advantages, and disadvantages.	**10 Marks**	**L2**	**CO3**
	b.	Distinguish between electroplating and electroless plating.	**10 Marks**	**L2**	**CO4**
		Or			
18.	**a.**	Explain hydrogen fuel and state why it is referred to as a transitional fuel.	**10 Marks**	**L2**	**CO3**
	b.	Explain (i) waterline corrosion and (ii) pitting corrosion, describing each type with appropriate examples.	**10 Marks**	**L2**	**CO4**