



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Semester End Examination; February - 2022

Industrial Chemistry

Time: 3 hrs

Max. Marks: 100

Note: I) PART - A is compulsory. Two marks for each question.

II) PART - B: Answer any Two sub questions (from a, b, c) for Maximum of 18 marks from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
I a.	Define COD and BOD.	2	L1	CO1	PO1
b.	Explain coke point of lubricants.	2	L3	CO3	PO3
c.	Define glass and ceramics.	2	L1	CO1	PO1
d.	Mention the requirements of Paint.	2	L2	CO2	PO2
e.	Explain the ill effect of radioactive pollution.	2	L3	CO3	PO3
II : PART - B		90			
UNIT - I		18			
1 a.	What is Desalination? Illustrate the desalination of seawater by electro dialysis.	9	L2	CO2	PO2
b.	What are boiler scales? Discuss the formation and ill effect of boiler scales.	9	L2	CO2	PO2
c.	Explain the determination of COD of industrial waste water. In a COD test, 15.8 ml and 9.0 ml of 0.25 N FAS solution were required for blank and sample titration respectively. The volume of efficient used is 25 ml. Calculate COD of the sample.	9	L3	CO3	PO3
UNIT - II		18			
2 a.	Explain the productions and industrial applications of hydrogen and noble gases.	9	L2	CO2	PO2
b.	Summarize the terms;				
	i) Viscosity ii) Volatility	9	L3	CO3	PO3
	iii) Fresh point iv) Oiliness				
c.	Describe the functions and applications of lubricants.	9	L3	CO3	PO3
UNIT - III		18			
3 a.	Discuss the characteristics of glass. Explain the following methods of glass manufacture:	9	L2	CO2	PO2
	i) Formation of batch material ii) Melting iii) Annealing				
b.	Explain the general properties of ceramic permeable and impermeable wares and distinguish them.	9	L2	CO2	PO2
c.	Discuss the manufacture and applications of earthen wares and stone wares.	9	L2	CO2	PO2

UNIT - IV**18**

- 4 a. What are colloids? Explain the preparation of colloidal solutions by any two chemical methods. Mention the industrial applications of colloids. 9 L2 CO2 PO2
- b. Discuss the following characteristics of colloidal solutions:
- i) Optical properties 9 L1 CO1 PO1
- ii) Electrical properties
- c. What is emulsion paint? Give the constituents and advantages of emulsion paints. 9 L2 CO2 PO2

UNIT - V**18**

- 5 a. Summarize the following terms:
- i) Photochemical smog 9 L2 CO2 PO2
- ii) Greenhouse effect
- b. What is the importance of ozone layer? Explain the cause of depletion of ozone layer and mention its ill effects. 9 L2 CO2 PO2
- c. What are particulates? Explain the sources and ill effect of dust, smoke, smog and lead dust. 9 L1 CO1 PO1

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