U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Chemical Engineering **Duration: 3 hrs.**
Course Code: 19CH7DCCTN **Max Marks: 100**
Course: Chemical Technology

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	What is the destructive distillation of coal? Elucidate the process highlighting the unit operations and unit processes involved.	CO3	PO2	10
	b)	Explain the LNG and LPG production with a neat flow diagram.	CO3	PO2	10
		OR			
2	a)	Write energy and material balance equations for distillation and evaporation operations, with a diagram.	CO5	PO2	06
	b)	Delineate the Linde-Frankle process to produce oxygen and nitrogen with a neat process flow diagram.	CO2	PO3	14
		UNIT - II			
3	a)	Discuss the major engineering problems encountered in the manufacture of sulfuric acid.	CO6	PO6	06
	b)	With a neat process flow diagram, explain the manufacture of soda ash.	CO4	PO3	14
		OR			
4	a)	Draw the membrane cell. List the relative advantages and disadvantages of membrane cells.	CO4	PO3	10
	b)	Elucidate the manufacture of nitric acid with a neat flow sheet.	CO2	PO3	10
		UNIT - III			
5	a)	With a neat flow sheet, explain the hydrogenation of vegetable oils.	CO3	PO2	14
	b)	Distinguish between soaps and detergents.	CO1	PO2	06
		OR			
6	a)	With a neat flowsheet, explain the manufacture of soaps.	CO3	PO2	12

		b)	List and explain the unit operations in the production of sugar from sugar cane.	***CO4***	***PO3***	**08**
			UNIT - IV			
	7	a)	Discuss the different types of polyethylene.	***CO1***	***PO2***	**06**
		b)	Draw a neat flow sheet for the manufacture of ethyl alcohol.	***CO2***	***PO3***	**10**
		c)	What are the major engineering problems encountered in the fermentation industries?	***CO6***	***PO6***	**04**
			OR			
	8	a)	Explain the manufacture of PVC.	***CO3***	***PO2***	**08**
		b)	Delineate the effluent treatment from sulfate process of pulp making, with a neat flow sheet. What are the chemical reactions encountered in this process?	***CO6***	***PO6***	**12**
			UNIT - V			
	9	a)	What is a biuret? List and explain the unit operations and unit processes in the manufacture of urea, with a neat flow sheet.	***CO3***	***PO2***	**12**
		b)	List the two methods of titanium dioxide production. Explain one method in detail.	***CO1***	***PO2***	**08**
			OR			
	10	a)	What are the two methods of titanium dioxide production? Explain any one of the methods with a flow sheet.	***CO1***	***PO2***	**10**
		b)	List the constituents of paints and explain their significance.	***CO1***	***PO2***	**10**

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