

	(d) List out various types of membrane. Draw diagrams of plate and frame as well as tubular membranes.	04
Q.3	(a) Write down characteristic of Ideal Solutions.	03
	OR	
	(a) Explain Material balance for one component transfer counter current flow for Gas Absorption.	03
	(b) Equilibrium solubility of gases in liquids and effect of temperature and pressure on Gas Absorption.	03
	OR	
	(b) Write down Industrial applications of Gas Absorption	03
	(c) Draw figures for Tray tower and packed tower for gas absorption.	04
	OR	
	(c) Explain Minimum liquid-gas ratio for absorber	04
	(d) Define Tray efficiency- point efficiency, Murphy efficiency, Overall Tray efficiency	04
	OR	
	(d) Write a short note on selection criteria for solvent for Gas absorption	04
Q.4	(a) Write down Industrial applications of Liquid Extraction.	03
	OR	
	(a) Write down Effect of temperature and pressure on solubility for Liquid Extraction.	03
	(b) Describe Equilateral triangular co-ordinates system of three liquids-one pair partially Soluble.	04
	OR	
	(b) Explain single stage Liquid Extraction and Derive equation for quantities of Extract and Raffinate for it	04
	(c) Write a short note on selection criteria for solvent for Liquid Liquid Extraction.	07
Q.5	(a) Write down Industrial applications of leaching.	04
	(b) Describe Preparation of solid for leaching.	04
	(c) Describe In place leaching.	03
	(d) Describe Leaching by Shanks system.	03
