

[Time: - 3 Hours]

[Marks: 70]

- N.B: 1. All questions are compulsory  
2. Figures to the right indicate full marks

- Q.1.a Give the merits and demerits of Simple manometer (3)  
 b Elaborate on interfacial mass transfer (3)  
 c Discuss relative humidity with respect to caking of crystals (2)  
 d Define Economy and Capacity of an Evaporator (2)  
 e Draw neat diagram of vapour-liquid equilibrium of minimum boiling point azeotropic mixture (2)  
 f Write a note on Copper and its alloys (3)
- Q.2.a Explain briefly the principle and working of positive displacement pumps (4)  
 b Classify Crystallizers and discuss the design and working of Vacuum **OR** Swenson Walker Crystallizer (4)  
 c Give an account of Principle and applications of Molecular Distillation (3)
- Q.3.a Classify flowmeters and explain any one in detail (4)  
 b. Outline the working of Expansion Trap (3)  
 c Give an account of parameters to be considered to estimate the refrigeration load (4)
- Q.4.a Explain the terms viscosity, compressibility, surface tension and Reynold's number (4)  
 b Write a note on Thermocouples **OR** Modes of heat transfer (4)  
 c Elaborate on Mier's theory of crystallization (3)
- Q.5.a Give the salient features of Centrifugal Pumps (3)  
 b Describe construction and working of Bubble Cap Columns **OR** Packed Columns (4)  
 c What are Hazards ? Give an account of Fire Hazards (4)
- Q.6.a Define conveying. Explain in detail Pneumatic Conveyors (3)  
 b Describe the design and working of Multiple effect Evaporator (4)  
 c Classify various types of Corrosion and describe any one (4)
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