

(3 HOURS)

[TOTAL MARKS : 80]

N.B. 1) All questions are compulsory.**2) Draw neat and labelled diagrams wherever necessary.**

- a). With neat and labelled diagrams discuss simple manometer. 3M
 b). Explain the concept of mass transfer. 3M
 c). Elaborate factors affecting rate of crystallization. 2M
 d). Define Economy and capacity of evaporation. 2M
 e). Enlist the different methods for distillation of miscible binary liquid system. 2M
 f). Write notes on aluminium as material for plant construction. 3M
 g). Discuss Meir's Theory of Supersaturation. 3M
 h). Discuss expansion traps as evaporator accessories. 2M

Q2.

- a). Discuss principal, construction and working of Rotary pump. 4M
 b). Elaborate design and working of Krystal crystallizer. 4M

OR.

- b). Elaborate design and working of Circulating Magma crystallizer. 4M
 c). Explain principal of molecular distillation unit and give its application. 4M

Q3.

- a). Explain construction and working of Orifice meter. 4M

OR

- a). Explain construction and working of Pitot tube 4M
 b). Elaborate on the construction and working of horizontal tube evaporator. 4M
 c). Discuss Refrigeration. Load in detail. 4M

Q.4

- a). Discuss the experiment for understanding of Bernoulli's theorem. 4M
 b). Define different modes of heat transfer and write notes on Fourier's Law. 4M

OR

- b). Enlist various types of temperature measurement device and explain any one in detail. 4M
 c). Discuss in brief crystal Habit and Crystal Form. 4M

Q.5

- a). Explain design and working of centrifugal pump. 4M
 b). Discuss a fractional distillation. 4M

OR

- b). Elaborate on the construction and working of plate column. 4M
 c). Write note on Chemical hazards. 4M

Q.6

- a). Discuss construction and working of Screw conveyor. 4M
 b). Elaborate on the construction and working of falling film evaporator. 4M
 c). Explain factor affecting rate of corrosion. 4M

OR

- c). Define corrosion and discuss methods to combat corrosion.