[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 working of Bourdon Gauge	(3)
b	Elaborate on mass transfer in Turbulent flow	(3)
c	Discuss factors affecting caking of crystals	(2)
d	Explain methods to improve rate of Evaporation	(2)
e	Draw neat diagram of Simple Distillation Unit	(2)
f	Write a note on Nickel and its alloys as material of construction	(3)
Q.2.a	Explain briefly the principle and working of Rotary pumps	(4)
b	Define crystallization and discuss the design and working of Krystal **OR** Circulating Magma Crystallizer	(4)
c	Give an account of Steam Distillation	(3)
Q.3.a	Classify flowmeters and explain Venturimeter **OR** Pitot tube	(4)
b.	Outline the working of Contact Condensers	(3)
c	Give an account of a Simple Refrigeration system	(4)
Q.4.a	Explain in detail Reynold's Experiment	(4)
b	Write a note on Tubular Heat Exchangers **OR** Modes of heat transfer	(4)
c	Elaborate on stage of Supersaturation and Crysta growth in crystallization	(3)
Q.5.a	Give salient features of Centrifugal Pumps	(3)
b	Explain the principle of fractionation and write a note on Sieve Plate **OR** Bubble Cap Columns	(4)
c	What are Hazards ? Give an account of Chemical Hazards	(4)
Q.6.a	Explain in detail Belt Conveyors	(3)
b	Describe the design and working of Climbing Film Evaporator	(4)
c	Discuss the factors affecting rate of Corrosion **OR** Elaborate on any one type of Corrosion	(4)

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