

[Time: Three Hours]

[Marks:80]

Please check whether you have got the right question paper.

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

- Q.1** a) Classify pressure measurement devices and explain any one in detail. (3)
b) Elaborate on the concept of interfacial mass transfer. (3)
c) Define crystal habit with suitable examples. (2)
d) Enlist the various evaporator accessories. (2)
e) State the theory of steam distillation. (2)
f) Explain Nickel and its alloys as material of construction. (3)
g) Explain in brief crystal growth. (2)
h) What is distillation and explain the term HETP. (3)

- Q.2** a) What do you mean by pumps and write a note on centrifugal pumps. (4)
b) Discuss principle, construction and working of Krystal Crystallizer. (4)

OR

Discuss principle, construction and working of Agitated Batch Crystallizer.

- c) Discuss in details Falling Film molecular distillation still. (4)

- Q.3** a) Discuss in details Venturimeter **OR** Pitot tube. (4)
b) Classify Evaporators and write a note on vapour recompression. (4)
c) State the application of Refrigeration. Explain in detail of Refrigeration Equipment. (4)

- Q.4** a) Explain in details the experiment to study flow of fluids. (4)
b) Enlist modes of heat transfer and write a note on tubular heat exchangers. (4)

OR

What is conduction and discuss Stefan – Boltzmann law.

- c) Discuss in detail Mier's theory of Supersaturation. (4)

- Q.5** a) What are positive displacement pumps and explain any one in details. (4)
b) Describe in details construction and working of Bubble Cap Plate columns. (4)

OR

Discuss in detail Azeotropic distillation.

- c) Write a note on fire extinguishers used in Industry. (4)

- Q.6** a) Classify conveyor system and discuss pneumatic conveyors in detail. (4)
b) Write a note on short tube vertical Evaporator. (4)
c) Define corrosion and discuss any two methods of combating corrosion. (4)

OR

Discuss in detail the factors influencing corrosion.
