

FACULTY**B. Pharmacy 2/4 I – Semester (Supplementary) Examination, Nov 2017****Subject : Pharmaceutical Engineering I****Time : 3 hrs****Max. Marks : 70****Note: Answer all questions. All questions carry equal marks.**

- 1 a) Write the important properties, uses and composition of any two non ferrous metals used in pharmaceutical industry. 7
b) Enlist the various types of corrosion. Discuss the factors that influence the rate of corrosion. 7
- OR**
- c) Explain dimensional formulas and dimensionless equations with suitable examples. 7
d) Write a note on theories of corrosion. 7
- 2 a) Derive an equation for heat transmission through a circular pipe from Fourier's law. 7
b) Write a note on :
i) Vacuum pumps ii) Orifice meter 7
- OR**
- c) Explain Stefan Boltzmann law of thermal radiation. 7
d) Explain the concept of scraped surface heat exchangers. 7
- 3 a) Compare reciprocating pumps with centrifugal pump. 7
b) Write a note on
i) Peristaltic pump ii) Pneumatic conveyor 7
- OR**
- c) With neat sketches, describe the construction and working of
i) Diaphragm valve ii) lobe valve 7
d) Describe the design and working of different types of blowers used for the transportation of gases. 7
- 4 a) Write a note on
i) Humidity chart ii) Wet bulb theory 7
b) What is coefficient of performance of a refrigeration system? Add a note on refrigeration load. 7
- OR**
- c) What are cooling towers? Explain their design and working. 7
d) Explain the importance of refrigeration in pharmacy with suitable examples. What is ton of refrigeration? 4+3
- 5 a) Compare plate and frame filter press with chamber press. 7
b) Discuss the construction and working of a rotary continuous filter. 7
- OR**
- c) Give the construction, working and uses of vertical solid bowl centrifuge. 7
d) With a neat sketch describe the construction, working and uses of rotary continuous filter. 7
