

FACULTY**B. Pharmacy 2/4 I Semester (Suppl.) Examination, April 2016****Subject : Pharmaceutical Engineering I****Time : 3 Hrs****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Discuss the applications, advantages and disadvantages of any two ferrous metals used in pharmaceutical industry. (7)
(b) Explain briefly the theories of corrosion. (7)
OR
(c) Explain the terms "Dimensional formula" and "Dimensional equations" with suitable examples. (7)
(d) Compare plastics with metals as materials of plant construction. (7)
- 2 (a) Derive an equation for the overall heat transfer coefficient. Write its significance. (7)
(b) Compare orifice meter with a venturi meter. (7)
OR
(c) Describe the construction, working, advantages and disadvantages of a double pipe heat exchanger with a neat diagram. (7)
(d) Write a note on various types of condensers. (7)
- 3 (a) With a neat sketch explain the construction, working and applications of reciprocating pump. (7)
(b) Write a note on : (7)
(i) Pneumatic conveyor
(ii) Jet pumps
OR
(c) Compare reciprocating pumps with centrifugal pumps. (7)
(d) Describe the construction, working and uses of (3½ x 2)
(i) diaphragm valve (ii) lobe valve
- 4 (a) Explain the air conditioner with a neat labeled diagram. (7)
(b) Describe a refrigeration system using a compressor. (7)
OR
(c) Write a note on : (3½ x 2)
(i) Cooling towers (ii) Brine systems
(d) Describe the humidity chart. Explain how to use humidity chart. (7)
- 5 (a) Explain the principle, construction and working of chamber press. (9)
(b) Describe the theory of centrifugation. (5)
OR
(c) Describe any two filters used for air filtration. (7)
(d) Select and describe a suitable centrifuge for the separation of slurry containing high percentage of solids. (7)
