

**FACULTY OF PHARMACY****B. Pharmacy II-Year I-Semester (Supplementary) Examination, November 2013****Subject : Pharmaceutical Engineering - I****Time : 3 Hours****Max. Marks: 70****Note: Answer All questions. All questions carry equal marks.**

- 1.(a)(i) Define Corrosion. Classify corrosion and explain about specific site corrosion and biological corrosion and combating methods of these corrosions. (10)
- (ii) Explain compositions, merits and demerits of stainless steel a material for plant construction. (4)
- OR**
- (b)(i) Differentiate steady and unsteady states. (4)
- (ii) Write about any four methods for prevention and control of corrosion. (8)
- 2.(a)(i) State Fourier's law and derive an equation for heat transfer through a cylinder. (7)
- (ii) Explain the principle, construction, working of orifice meter and derive an equation for difference in flow of fluids. (7)
- OR**
- (b)(i) Differentiate between heaters and heat interchangers. Write about the construction, working and advantages of floating - head double pass heater. (8)
- (ii) Give the equation for Reynolds number with units. (3)
- (iii) Define conduction, convection and Radiation with examples. (3)
- 3.(a)(i) Define conveying and explain about principle, construction, working, advantages and disadvantages of Belt conveyor. (9)
- (ii) Write short note on plug cock. (5)
- OR**
- (b)(i) Write about principle, construction, working, merits and demerits of screw conveyors. (8)
- (ii) Explain about peristaltic pumps. (6)
- 4.(a)(i) Explain various types of refrigerants. (3)
- (ii) Explain the theory of refrigeration. (7)
- (iii) Write about the applications of Air conditioning. (4)
- OR**
- (b) Define the following : (6)
- (i) Humidity (ii) Dew point
- (iii) Dry bulb temperature (iv) wet bulb temperature
- (c) Explain the basic construction of a refrigeration cycle. (8)
- 5.(a)(i) What are ideal characters of filter media and explain about various types of materials used as filter media. (6)
- (ii) Write about the principle, construction, working and advantages of super centrifuge. (6)
- (iii) Give Poiseuille's equation with unit. (2)
- OR**
- (b)(i) Write a short note on filter aids. (4)
- (ii) Write about the principle, construction and advantages of meta filters. (7)
- (iii) Give Kozeny Carman equation with units. (3).

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