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Code No. : 4408

FACULTY OF PHARMACY**B.Pharmacy II Year I Sem. (Main) Examination, November/December 2010
PHARMACEUTICAL ENGINEERING — I**

Time : 3 Hours]

[Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

1. a) i) Write about stainless steel as a material of plant construction along with its merits and demerits. 7
ii) Write a note on unit process. 4
iii) Define corrosion. Classify corrosions. 3

OR

- b) i) Explain briefly the theories of corrosion. 5
ii) Write about copper and asbestos as material of plant construction along with their merits and demerits. 5
iii) Write a note on scaling. 4
2. a) Write a short note on :
i) Bernoulli's theorem 5
ii) Reynolds number 5
iii) Heat interchangers. 4

OR

- b) i) Derive an equation for temperature gradients in forced convection. 10
ii) Write a note on Rotameter. 4
3. a) i) Explain the principle, construction and working of belt conveyor with neat diagram. 10
ii) Write a note on Jet pump. 4



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OR**b) Write a short note on :****i) Peristaltic pump** 5**ii) Vacuum pump.** 5**iii) Check valves.** 4**4. a) i) Discuss the various methods used to measure humidity.** 10**ii) Write about the applications of Air conditioning in Pharmacy.** 4**OR****b) i) Discuss in detail about Refrigeration.** 8**ii) Write the methods used for increasing and decreasing humidity.** 6**5. a) i) Suggest a filtration equipment for separation of fine dust particles from air. Write the principle, construction and working of that equipment.** 10**ii) Write the construction of disc centrifuge bowls.** 4**OR****b) i) Write the principle, construction and working of leaf filters.** 8**ii) Write a note on Darcy's equation.** 6