

B.Pharm II Year I Semester (R13) Supplementary Examinations June 2017

PHARMACEUTICAL ENGINEERING – I

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is meant by steady state and unsteady state?
 - What is Reynold's number? write its importance.
 - List out various types of pumps. Give examples.
 - Write the salient features of a conveyor.
 - What are filter aids and filter media? Give examples.
 - Write the theory of super saturation.
 - How do you measure humidity?
 - Write the principle of air conditioning.
 - What are the advantages and disadvantages of stainless steel?
 - Enlist the mechanical and chemical hazards in industry.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Discuss the principle and working of any one flow meter with the help of diagram.

OR

- 3 Write the Bernoulli's equation. Explain the terms. Discuss various types of flow.

UNIT – II

- 4 Enlist various pumps commonly used in handling of liquids. Explain any two in detail.

OR

- 5 What are the various systems in handling of gases? Discuss the salient features of any two such systems.

UNIT – III

- 6 Discuss about the theory of filtration and factors affecting filtrations.

OR

- 7 Discuss in detail about Krystal crystallizer and Swenson walker crystallizer.

UNIT – IV

- 8 What is dehumidification? Write the working principle of any one equipment used for dehumidification process.

OR

- 9 What is humidity? How is it measured? Write the applications of humidity measurements.

UNIT – V

- 10 What is corrosion? Enlist various materials of constructions used in pharma industry. Explain the salient features of glass and polymers.

OR

- 11 What are electrical, fire and dust hazards in pharma industry? What are the safety precautions for these hazards? What is industrial dermatitis?
