Code: 13R00302

R13

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

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
   (a)   What is meant by steady state and unsteady state?
   (b)   What is Reynold's number? write its importance.
   (c)   List out various types of pumps. Give examples.
   (d)   Write the salient features of a conveyor.
   (e)   What are filter aids and filter media? Give examples.
   (f)   Write the theory of super saturation.
   (g)   How do you measure humidity?
   (h)   Write the principle of air conditioning.
   (i)   What are the advantages and disadvantages of stainless steel?
   (j)   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?

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