Code: 13R00302

R13

B.Pharm II Year I Semester (R13) Supplementary Examinations November 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)   Distinguish between steady state and unsteady state.
  (b)   What is Reynolds number? Describe its importance.
  (c)   List differences between compressors and blowers.
  (d)   Illustrate the concept of solid transport by fluidization.
  (e)   Differentiate sedimentation centrifuge and filtration centrifuge.
  (f)   What are the reasons for caking? Suggest methods to prevent caking.
  (g)   Define wet bulb temperature and dry bulb temperature.
  (h)   Write a note on refrigerants.
  (i)   What is meant by galvanic corrosion?
  (j)   Write the principles of modern plant safety.

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

UNIT – I

2   Derive Bernoulli's equation stating assumptions. Write any two applications of Bernoulli's equation.
OR
3   Write the principle, construction, working and applications of orifice meter.

UNIT – II

4   Describe the principle, construction, working, and applications of any one reciprocating pump.
OR
5   Describe the principle, construction, working and applications of any one centrifugal pump.

UNIT – III

6   Describe the principle, construction, working and applications of filter press.
OR
7   Describe the Miers supersaturation theory of crystallization. What are the conditions and limitations of the Miers theory?

UNIT – IV

8   Describe the important features of humidity chart. Describe the methods of measuring humidity.
OR
9   Describe the working of a refrigerator with vapour compression cycle. Explain the approaches for achieving air conditioning with relevant graphs.

UNIT – V

10   Explain the importance of stainless steel and glass in pharmaceutical industry.
OR
11   Describe the types of hazards occur due to fire and electricity. Suggest preventive measures.

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