Code: 13R00302

R13

B.Pharm II Year I Semester (R13) Supplementary Examinations November 2016

PHARMACEUTICAL ENGINEERING – I

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 x 02 = 20 Marks)

(a) Give the formula for Reynold's number and explain its significance.
(b) Draw the diagram of a venturimeter and label its parts.
(c) What is a check valve and when is it used?
(d) Explain the construction of a belt conveyor.
(e) What is a filter aid? Give two examples for filter aids.
(f) What is crystal habit? What is the importance of crystal size?
(g) Write about the information contained in a psychrometric chart.
(h) What is the principle of refrigeration?
(i) What is corrosion?
(j) What are the safety measures against dust hazards?

PART – B

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

UNIT - I

2 State and explain Bernoulli's equation. What is its application in fluid flow?

OR

3 Explain the construction and working of an orifice meter with the help of a neat diagram. Compare its performance with that of a venturimeter.

UNIT - II

4 Explain the construction and working of a plunger pump.

OR

5 Explain the construction, working and applications of a compressor.

UNIT - III

6 Explain the factors affecting filtration. How can we enhance the efficiency of a filtration operation?

OR

7 Explain the construction and working of a Swenson Walker crystallizer and a Krystal crystallizer with the help of neat diagrams.

UNIT - IV

8 Define wet bulb temperature and dry bulb temperature. Explain the construction and working of a dehumidifier with the help of a neat diagram.

OR

9 What is coefficient of performance? Explain the ideal properties of a refrigerant.

UNIT - V

10 Explain the properties and applications in pharmaceutical industry of stainless steel.

OR

11 Write a note on chemical hazards. What are the safety measures to avoid chemical hazards?

*****