Code: 13R00302

R13

B.Pharm II Year I Semester (R13) Supplementary Examinations June 2018

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) Define unit operation and unit process. Give one example for each.
(b) Write the importance of Reynolds number.
(c) Write a note on the use of blowers in gas handling.
(d) What are the applications of belt conveyor in pharma industry?
(e) How is clarification different from filtration?
(f) Define caking. Enumerate the reasons for caking.
(g) Define dew point temperature and dry bulb temperature.
(h) What are refrigerants? Give examples.
(i) Define electrochemical corrosion.
(j) Describe the advantages of safety management.

PART – B

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

UNIT – I

2 Derive Bernoulli's equation stating assumptions.

OR

3 Write the principle, construction, working and applications of venturimeter.

UNIT – II

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

OR

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

UNIT – III

6 Describe the principle, construction, working, and applications of edge filter.

OR

7 Describe the theory of crystallization including nucleation and crystal growth.

UNIT – IV

8 Describe the important features of psychrometric chart. Describe the methods of measuring humidity.

OR

9 Explain the approaches for achieving air conditioning with relevant graphs. Write the applications of air-conditioning.

UNIT – V

10 Explain the importance of stainless steel and polymers in pharmaceutical industry.

OR

11 Describe the types of hazards occur due to mechanical and chemical. Suggest preventive measures.

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