

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

PHARMACEUTICAL ENGINEERING – I

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 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.
