Code: 9R01301

R09

B.Pharm II Year I Semester (R09) Supplementary Examinations November 2017

PHARMACEUTICAL ENGINEERING – I

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

*****

1 (a) What is mole volume? For a mixture of ideal gases show that volume = pressure percent = mole percent.

(b) Write a note on the following:

(i) Primary & secondary quantities.

(ii) Graphical integration.

2 (a) Explain the working, principle & construction of venturimeter. Write expression for the volumetric flow rate of fluid through it.

(b) Deduce relevant equation for calculation of flow rates using orifice meter.

3 (a) Describe the construction, working, advantages and disadvantages of a double action reciprocating pump.

(b) Explain the word 'compressor'. Write construction & working of reciprocating compressor with a labeled diagram.

4 (a) Classify industrial centrifuges. Write construction and working of a perforated basket centrifuge.

(b) List the factors influencing rate of filtration. Explain mechanisms of filtration.

5 (a) Define crystal and crystal humidity. Explain principal, construction, working and advantages of Krystal crystallizer.

(b) Describe how nucleation and crystal growth take place during crystallization. What are the pharmaceutical applications of crystallization?

6 (a) Draw a humidity chart & give its significance. Describe the working of refrigerator.

(b) What is "ton" of refrigeration? Discuss the factors that determine the refrigeration load in pharmaceutical plant.

7 (a) Discuss the various types of corrosion & suggest the methods to tackle the same in pharmaceutical industry.

(b) Give classification of materials for plant construction.

8 (a) List the types of chemical hazards causing to human beings. Describe the general methods of preventing hazards in an industry.

(b) Give difference between toxicity and hazard. Describe different methods of controlling fire and explosion.

*****

UPIQPBANK.COM