

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Summer 2017-18 Examinations

Semester: 3**Subject Code: 08101204****Subject Name: Pharmaceutical Engineering****Date: 22/05/2018****Time: 02:00PM TO 05:00PM****Total Marks: 75****Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. Draw neat and clean diagram of Orifice meter and discuss its principle, construction, working, advantages and disadvantages in detail.
2. Give the statement of Fourier's law. Derive equation for heat transfer by conduction when compound resistance arranged in parallel.
3. Define and list out different types of graphical presentation and explain any one in detail

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Give a short note on Glass as a packaging material.
2. Enlist energy losses in the pipe. Describe any one in detail.
3. Explain Reynolds experiment.
4. Draw neat and clean diagram of Venturi meter and discuss its principle and construction.
5. Define steam trap, give details account of Float type steam trap and thermostatic trap.
6. Write a short note on universal gas law.
7. Enlist equipments used in heat transfer; write a note on two-pass tube and shell Heat exchanger.
8. Discuss dimensional less analysis in details.
9. Write a short note on two film theory in mass transfer.

Q.3 Answer in short. (2 marks each) (20)

1. Draw neat, clean and labeled diagram of Single pass heat exchanger.
2. Discuss Boyle's law in brief.
3. Give a short note on rate of radiation.
4. Draw neat, clean and labeled diagram of Pitot tube.
5. Define conduction, convection and radiation with example.
6. Differentiate Black body and Grey body.
7. Define and discuss in brief about Tie substance.
8. Define and discuss in brief about Stoichiometry.
9. Explain material balance in detail.
10. Explain energy balance in detail.