* D G G - 0 0 3 - 0 3 6 2 0 1 *

DGG-003-036201 Seat No. _____

M. Sc. (Sem. II) (CBCS) Examination

May/June – 2015

Pharmaceutical Engineering : POC - 201

(Pharmaceutical Engineering - II)

Faculty Code : 003
Subject Code : 036201

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions:

1) **All Questions are compulsory.**
2) **Each question carries 14 marks.**
3) **Assume suitable data wherever necessary.**

Q1] Answer any seven out of the following ten questions:

1) Draw diagram of Rachig ring and super intallox saddle.
2) Explain partial vaporization and partial condensation.
3) State and give mathematical expression of Henry's law.
4) Write Kozeny-Carman equation and give its significance.
5) What do you mean by size reduction ratio?
6) Explain Tyler standard screen series.
7) List factors affecting the rate of filtration.
8) Give objectives of comminution.
9) Define centrifugation. Write applications of centrifugation.
10) Define Poiseuille's equation.

Q2] Answer any two from the following three questions:

1) Enlist steps in McCabe and Thiele method of calculation of number of plates for a distillation column.
2) Explain with the help of neat diagram calendria evaporator.
3) Explain the mechanism of filtration. Describe the construction and working of leaf filter.

Q3] Answer the following two questions:

1) Explain in detail mass and energy balance over a single effect evaporator.
2) Classify industrial centrifuges. Write construction and working of perforated basket centrifuge.

OR

Q3] Answer the following two questions:

1) Explain construction and working of multiple effect evaporators.
2) Write a detail note on super centrifuge.

Q4] Answer any two from the following three questions:

1) Explain principle construction and working of Roll crusher.
2) Explain the method of maceration and percolation.
3) Explain in detail Plate and Frame filter Press.

Q5] Answer any two from the following four questions:

1) Explain principle construction and working of ball mill.
2) Explain working of flash distillation with a labeled diagram.
3) Describe the principle, working and construction of pulse column extractor.
4) Describe the theory of centrifugation. Describe continuous centrifuges, giving their advantages & uses.
