

Roll No

**PY-401****B.Pharmacy IV Semester**

Examination, June 2016

**Pharmaceutics - IV****Pharmaceutical Engineering - II***Time : Three Hours**Maximum Marks : 70*

*Note:* i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) How will you perform size reduction of substance which have low melting point i.e. Wax?
- b) Write in brief about the importance of screen thickness of hammer mill.
- c) Write short note on various grades of coarse powders. Define them.
- d) Explain with neat diagram about the construction, working and advantages of fluid energy mill.

OR

Explain stoke's law of sedimentation giving suitable example.

2. a) Define evaporation and distinguishing with other heat processes.
- b) Write in short about HETP.
- c) What is scaling in evaporators?

- d) Explain with neat diagram about the construction, working and advantages of forced circulation evaporator.

OR

Explain the McCabe thiele equation for determining theoretical plates in fractional distillation.

3. a) What is bound moisture and unbound moisture?
- b) What are constant boiling mixtures? How they are separated?
- c) Explain the term "raffinate".
- d) Explain the Meier's theory of crystallization.

OR

Explain with neat diagram about the construction, stages of working and advantages of freeze dryer.

4. a) What do you mean by scale of segregation?
- b) What is filter aid?
- c) Write a short note on mechanism for liquid mixing.
- d) Explain with neat diagram about working of HEPA filter. How will you determine its integrity and efficiency?

OR

Explain with neat diagram about any equipment used for mixing and granulating powder for tablet preparation.

5. a) Explain the role of precompression in some tablet formation.
- b) Describe the role of compressibility index of powder i tablet formation.
- c) Describe the application of angle of repose in pharmaceuticals.
- d) Explain the theory related in mechanical strength of tablet.

OR

What is Pilot plant? Why we should conduct pilot plant studies?

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