

**F.Y.B.PHARM. SEMESTER-I (2011 COURSE) : WINTER -
2017**

SUBJECT: PHARMACEUTICAL ENGINEERING I

Day: Wednesday

Time: 10.00 AM TO 01.00 PM

Date: 15/11/2017

W-2017-3809

Max. Marks: 80

N.B:

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.**
 - 2) Solve **ANY TWO** questions from each section from the remaining.
 - 3) Draw neat diagram **WHEREVER** necessary.
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SECTION-I

- Q.1** Solve **ANY FIVE:** (10)
- a) Give effect of screening rate on screening.
 - b) What are mechanisms of size reduction?
 - c) What is significance of flow of fluids in pharmacy?
 - d) What is Griffith theory for size reduction?
 - e) What is laminar flow?
 - f) What are pressure differential flow meters?
- Q.2** a) What is size reduction? Discuss different equipments for size reduction. (10)
b) Discuss flow of fluids through pipe. (05)
- Q.3** a) Give construction and mechanism of cutter mill. (08)
b) Describe interfacial mass transfer. (07)
- Q.4** Write short notes on (**ANY THREE**): (15)
- a) Molecular diffusion in gases
 - b) Fluid past immersed bodies
 - c) Fluid energy mill
 - d) Open circuit milling

SECTION-II

- Q.5** Solve **ANY FIVE:** (10)
- a) Explain different mixing mechanisms.
 - b) What are filter aids?
 - c) What is cold flower extraction?
 - d) What is application of HEPA filter?
 - e) What do you mean by raffinate?
 - f) What is counter current extraction?
- Q.6** a) What are factors involved in selection of mixing equipment. Discuss (10)
equipments used in liquid liquid mixing.
b) Describe techniques of air filtration. (05)
- Q.7** a) Give applications of solid solid mixing. Explain equipments used for solid solid (08)
mixing.
b) What is percolation battery? Give its construction and working. (07)
- Q.8** Write short notes on (**ANY THREE**): (15)
- a) Filter press
 - b) Podbielniak extractor
 - c) Working of Rotocel extractor
 - d) Planetary mixer