

F.Y.B.PHARM. SEMESTER-I (2011 COURSE) : SUMMER - 2018
SUBJECT: PHARMACEUTICAL ENGINEERING I

Day: Monday
Date: 30/04/2018

S-2018-3942

Time: 10.00 AM TO 01.00 PM
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.

SECTION-I

- Q.1** Solve **ANY FIVE:** (10)
- a) What is the significance of size reduction in pharmacy?
 - b) Explain the terms cutting and attrition.
 - c) What is turbulent flow?
 - d) What are variable area flow meters?
 - e) What is application of sieve bend?
 - f) Give Fick's law for mass transfer.
- Q.2** a) Explain mass transfer in solids and liquids. (10)
b) Discuss factors affecting screening. (05)
- Q.3** a) Explain construction and working of hammer mill. (08)
b) What are Bernoulli's experiments applications? (07)
- Q.4** Write short notes on (**ANY THREE**): (15)
- a) Fluid flow through packed bed
 - b) Interfacial mass transfer
 - c) Effectiveness of screens
 - d) Theory of size reduction

SECTION-II

- Q.5** Solve **ANY FIVE:** (10)
- a) What is significance of mixing in pharmacy?
 - b) Give examples of filter aids.
 - c) What is leaching?
 - d) What is hot flower extraction?
 - e) Give two methods for deaeration of liquid.
 - f) Give principle of Rotocel extractor.
- Q.6** a) What is mixing? Explain in detail mixing equipments for solid liquid mixing. (10)
b) Discuss methods for extraction of volatile oils. (05)
- Q.7** a) What do you mean by integrity of filters? Explain methods for integrity testing of membrane filters. (08)
b) Explain different mechanisms of solid liquid extraction. (07)
- Q.8** Write short notes on (**ANY THREE**): (15)
- a) HEPA filter
 - b) Bollman extractor
 - c) Triangular diagram in extraction
 - d) Wet scrubbers