

Day: **Monday**  
Date: **30/04/2018**

**S-2018-3906**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: 60

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**N.B:**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from each section.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answer to the both sections should be written in **SEPARATE** answer books.
  - 4) Draw neat and labeled diagram **WHEREVER** necessary.
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**SECTION - I**

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) Give significance of size reduction in pharmacy.
  - b) Explain extraction by simple multiple contact.
  - c) What is laminar flow?
  - d) Draw labeled diagram of sieve bend.
  - e) Give significance of Reynold's number.
  - f) What is mechanism of cutter mill?
- Q.2** a) Explain principle and working of Edge & End runner mills with suitable diagrams. (06)
- b) Add a note on theory of size reduction. (04)
- Q.3** a) Explain in detail pressure measurement equipments. (06)
- b) Explain effectiveness of screens. (04)
- Q.4** Write short notes on **ANY TWO** of the following: (10)
- a) Bernoulli's Theorem
  - b) Rotocel extractor
  - c) Variable area flowmeters

**SECTION - II**

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) Give applications of HEPA filter.
  - b) What are chemical hazards?
  - c) Explain types of filtration.
  - d) Give mechanisms for mixing of solids.
  - e) What are objectives of mixing?
  - f) Give ideal properties of filter medium.
- Q.6** a) Describe methods to test integrity of membrane filters. (06)
- b) Explain principle & working of rotary drum filter. (04)
- Q.7** a) Enlist solid-liquid mixing equipments. Explain principle & working of any one of them. (06)
- b) Write a note on impellers. (04)
- Q.8** Write short notes on **ANY TWO** of the following: (10)
- a) Mechanical hazards
  - b) Filter press
  - c) Colloid mill