



JJ-1612010701020100

Seat No. _____

M. P. M. (Sem. II) Examination

August / September - 2019

Unit Operation - II

Time : 3 Hours]

[Total Marks : 80

- Instructions :**
- (1) Answer and tie both the sections separately.
 - (2) Figure to the right indicates marks.
 - (3) Answer any three (3) questions from each section.
 - (4) Que. One (1) and Que. Five (5) are compulsory.
 - (5) Draw neat and clean diagrams as required.

SECTION - I

- 1** Answer any **seven** out of given ten questions : **7×2=14**
- (a) Give the pharmacopeial standards of sieves.
 - (b) Enlist the factors affecting on size reduction.
 - (c) Define the term Maceration and Percolation.
 - (d) Differentiate sedimentation and elutriation.
 - (e) Enlist the causes for Electrical hazards.
 - (f) Define the following terms :
 - (1) Crystal
 - (2) Polymorphism
 - (g) Explain the terms with example: Positive Mixture, Negative Mixture and Neutral Mixture
 - (h) Enlist the application of Extraction in Pharma Industry.
 - (i) Give the statement of Bond' law for Size reduction.
 - (j) Enlist the type of extraction process.
- 2** Answer the following :
- (a) Discuss the devices used for Liquid - Liquid mixing. **7**
 - (b) Define: Size reduction. Give objectives of size reduction. Explain the mechanisms of size reduction with a suitable diagram. **6**

- 3 Answer the following :
- (a) Explain Mier's supersaturation theory with its limitations. 7
- (b) Explain in detail about theory of extraction. 6
- 4 Answer the following :
- (a) Write a note on principle, construction, working, advantages, disadvantages and applications of ball mill with labeled diagrams. 7
- (b) Explain colloid mill. 6

SECTION - II

- 5 Answer any **two** out of given three questions : 2×7=14
- (a) Describe in detail about Crystal crystallizer with diagram.
- (b) Describe the construction, working, advantages, disadvantages, uses of fluid energy mill with its labelled diagram.
- (c) Explain cyclone separator.
- 6 Answer the following :
- (a) Define caking of crystals. Explain the various factors affecting the crystal growth. 7
- (b) Describe automation for temperature control. 6
- 7 Answer the following :
- (a) Explain Planetary motion mixture. 7
- (b) Write a detailed note on solvents used for extraction. 6
- 8 Answer the following :
- (a) Explain soxhlet extractor in detail. 7
- (b) Write brief note on Fire Extinguishers. 6