

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Winter 2017-18 Examination

Semester: 1
Subject Code: 08101102
Subject Name: Unit Operation-I

Date: 10.01.2018
Time: 10.00 am to 1.00 pm
Total Marks: 75

Instructions:

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. Define size reduction. Discuss the importance of size reduction with suitable examples.
2. Describe the construction, principle, advantages, disadvantages and applications of fluid energy mill.
3. Write down objectives of size reduction. Give classification of powder based on size and list the specification and standards of sieves.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Write a brief note on particles size determination using sedimentation method.
2. Discuss various mechanisms of size reduction with examples.
3. Write a short note on cyclone separator.
4. Classify liquid mixers and describe propeller mixer.
5. Define terms: positives, negatives, neutral mixtures and perfect mixtures.
6. Write a note on mechanism and theory of mixing.
7. Write a note on planetary mixer.
8. Write a detailed note on elutriation method for size separation.
9. Explain the construction, advantages and disadvantages of double cone blender with a neat diagram

Q.3 Answer in short. (2 marks each) (20)

1. Define size separation and write its principle.
2. Write a principle of sedimentation.
3. Give principle of extraction and enlist types of extraction.
4. Enlist factors affecting on size reduction.
5. Write down advantages and disadvantages of cutter mill.
6. Write down advantages and disadvantages of turbine mixer.
7. Define mixing and write its principle.
8. Write down objectives of mixing.
9. Enlist factors affecting on crystallization process.
10. Define chemical hazards and enlist its preventive measures.