

**Jadavpur University**  
**Department of Pharmaceutical Technology**  
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**B.Pharm/ 2nd year/ 3<sup>rd</sup>Sem/Time 3 hrs/ FM 75/ 2023-24(S)**

**Course: Pharm Engineering**

**Code: BP 304T**

**Q1. Answer the following questions. (All are compulsory) 10x2M=20 Marks**

- a. Define size reduction.
- b. Give the purpose of size separation.
- c. Write down the name of the equipments by which size separation of powder is performed.
- d. Explain drying.
- e. Explain EMC.
- f. Define filtrate and filter cake.
- g. What is binary mixture of distillation?
- h. Explain Raoult's law
- i. Why mixing is necessary in pharmaceutical product?
- j. What is mixing index?

**Long Answer Questions**

**2 x 10Marks = 20Marks**

**(Answer 2 out of 3)**

- Q2.** Explain drying theory with rate curve.
- Q3.** Discuss in details about the mechanisms of filtration.
- Q4.** Construct vapor-composition diagram and describe it.

**Short Answer Question**

**7 x 5 Marks = 35 Marks**

**(Answer 7 out of 9)**

- Q5.** Write the importance of size reduction in tablet preparation.
- Q6.** Give the working of sieve shaker.
- Q7.** Explain the working and construction of ball mill.
- Q8.** Discuss the principle of freeze dryer.
- Q9.** Write down the application of drying.
- Q10.** What is steam distillation and why it is needed?
- Q11.** Mention construction and working of Fractional distillation
- Q12.** Define conduction and convection with suitable examples.
- Q13.** Describe Fourier's law.