KNT/KW/16/6552

B. Pharm. Semester—III (C.B.S.) Examination

PHARMACEUTICS–III (Unit Operations)

Paper–1

Time : Three Hours]   [Full Marks : 80

N.B. :— (1) Question No. **1** is compulsory.

(2) Solve any **FOUR** questions from the remaining.

(3) Draw neat labeled diagram wherever necessary.

(4) Discuss the reaction, mechanism wherever necessary.

(5) Use of electronic calculator is permitted.

(6) Assume suitable data wherever necessary.

1. Solve any **FIVE** of the following :

(a) Write the mechanisms of Filtration.

(b) Explain the factors influencing Mixing.

(c) What is Reynolds number ? Describe its importance.

(d) Discuss the factors related to nature of raw materials which affects selection of mill for size reduction.

(e) Explain the various grades of powder and sieve number as per IP.

(f) Explain mechanisms of mixing in solids. Classify equipment based on flow properties of powders.

(g) Explain the term centrifugal effect. Write the criteria in the selection of type of centrifuge.

4×5=20

2. Explain various modes of size reduction. Discuss principle, construction and working of ball mill and fluid energy mill.   15

3. Classify the methods for measurement of rate of flow of fluids. Explain venturimeter and rotameter in detail.   15

4. What do you mean by filter media and filter aids ? Classify filtration equipment. Discuss in detail filter press and meta filter.   15

5. Explain principle, construction and working of belt and screw conveyors.   15

6. (a) What is votex formation and how it can be prevented in liquid mixing ? Classify mixing devices for liquids and explain propellors.

(b) Discuss principle, construction and working of double core and ribbon blender.   15

7. Write short notes (any **THREE**) :

(a) Centrifugal pumps.

(b) Mass transfer in turbulent and laminar flow.

(c) Bernoulli's theorem.

(d) Tubular bowl centrifuge.

(e) Cyclone separator.   5×3=15

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