NRJ/KW/17/4267

B.Pharm T[illegible] Examina[illegible]

PHARMACEUTICS—III (Unit Operations)

Paper—1

Time : Three Hours] [Maximum Marks : 80

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

(2) Attempt any **four** questions out of remaining.

(3) Draw neat labelled diagram wherever necessary.

1. Solve any **five** of the following :
   (a) Explain factors influencing filtration.
   (b) Give an account on various grades of powder as per I.P.
   (c) Give the objectives of size reduction process.
   (d) Explain different types of sieves used for size separation.
   (e) Define centrifugation. Explain centrifugal effect.
   (f) Classify equipments for solid mixing.
   (g) Explain molecular diffusion in liquids. 4×5=20
2. Give the objectives of conveying. Discuss the principle, construction and working of belt conveyor and screw conveyor. 15
3. Explain filter media and filter aids. Discuss filter press along with the washing operation. 15
4. Discuss the principle, construction, working and applications of Ball mill and Colloid mill. 15
5. Discuss :
   (i) Perforated basket centrifuge
   (ii) Reynold's experiment. 15
6. (a) Explain mechanisms of mixing in liquids. Discuss mixing devices for liquid mixing. 8
   (b) Discuss the principle, construction and working of cyclone separator. 7
7. Write short notes on (any **three**) :
   (a) Orifice and venturi meter
   (b) Planetary mixer
   (c) Factor influencing size reduction
   (d) Sieve analysis. 5×3=15