[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2067)

17463(M)

B. Pharmacy (Ayur.) 4th Semester Examination

Principles of Pharmaceutical Operations (CBS)

BPA-403

Time : 3 Hours **Max. Marks : 60**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Answer five questions in all. Attempt at least one question from each section ABCD. Section E is compulsory. All questions carry equal marks.

SECTION - A

1. (a) Discuss the relation between material and energy balances applied on pharmaceutical unit operations. (6)

   (b) Give the working principle and diagram of a 'Planetary' mixer. (6)

2. Write notes on:

   (a) Ribbon blender.

   (b) Sigma blade mixer. (6+6=12)

SECTION - B

3. (a) Why is the filtration process important in pharmaceutical product processing? Give some examples.

   (b) Give the working principle and diagram of 'rotary drum' filter. (4+8)

4. Describe, differentiate and discuss, giving suitable diagram about 'perforated' and 'non perforated' basket centrifuges. (12)

SECTION - C

5. Discuss the theory of evaporation and various evaporation processes in detail. (12)

6. Give the principle, construction and working of the following:

   (a) Evaporating pan.

   (b) Forced circulation evaporators. (4+8=12)

SECTION - D

7. (a) Discuss the mechanism of heat flow through 'conduction'.

   (b) Describe any one heat exchanger based on 'conduction of heat'. (4+8=12)

8. Write notes on:

   (a) 'Lead' as a material of plant construction.

   (b) Double pipe heat exchanger. (6+6=12)

SECTION - E

9. Write brief notes on:

   (a) Super centrifuge.

   (b) Factors affecting evaporation.

   (c) Convection.

   (d) Rubber as a material for plant construction. (3×4=12)