

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF PHARMACY
THIRD YEAR FIRST SEMESTER EXAMINATION – SEPTEMBER 2018
PHAPT 3153 PHARMACEUTICAL TECHNOLOGY

Date: 04.10.2018

Time: 03 Hours

Answer All Eight Questions.

Answer Parts A and B in separate answer books

PART - A

1.
 - 1.1 List the pharmaceutical applications of drying process. (30 marks)
 - 1.2 Describe the working principle of fluidized bed dryer. (50 marks)
 - 1.3 List the advantages of fluidized bed dryer over tray dryer. (20 marks)

2. Describe the different types of
 - 2.1 deformation of solid particles under stress. (30 marks)
 - 2.2 bonding mechanisms in the formation of granules. (70 marks)

3.
 - 3.1 Explain the different stages that are involved in the mixing of powder and liquid. (50 marks)
 - 3.2 Explain the working principle of different types of fire extinguishers. (50 marks)

4.
 - 4.1 Explain how 'caking of crystals' occur? (20 marks)
 - 4.2 Enumerate the methods to prevent the caking of crystals. (20 marks)
 - 4.3 List the pharmaceutical applications of crystallization process. (20 marks)
 - 4.4 Describe the working principle of following crystallizers
 - 4.4.1 Agitated batch crystallizer (20 marks)
 - 4.4.2 Krystal crystallizer (20 marks)

5. Write an account on following.
 - 5.1 . Spray drying process (40 marks)
 - 5.2 Cyclone separator (30 marks)
 - 5.3 Ball mill (30 marks)

PART - B

- 6.
- 6.1 Define the followings terms used in centrifugation. (10 marks)
- 6.1.1 Centrifugal acceleration (10 marks)
- 6.1.2 Relative centrifugal force (10 marks)
- 6.2 A centrifuge is operated at 100,000 x g and its radius of rotor is 7.2 cm. Find out the revolution per minute (rpm). (20 marks)
- 6.3 Describe the working principles of different types of rotors used in centrifuges. (30 marks)
- 6.4 Briefly describe the steps involved in serum separation from a blood sample using centrifuge. (30 marks)
- 7.
- 7.1
- 7.1.1 Draw a labeled diagram of a fermenter. (30 marks)
- 7.1.2 List the steps involved in a complete cycle of fermentation. (30 marks)
- 7.2 Describe the working principle of a vapour compression refrigerator. (40 marks)
- 8.
- 8.1 Explain how wet corrosion process developed on an iron (15 marks)
- 8.2 List the factors that influence on corrosion process in iron. (30 marks)
- 8.3 Explain how relative humidity can be measured using thermometers. (30 marks)
- 8.4 Briefly describe the features and uses of a Meta filter. (25 marks)

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