KATHMANDU UNIVERSITY
End Semester Examination
February, 2025

Level : B.Pharm.
Year : III
Time : 2 hrs. 30mins.

23 FEB 2025

Course : PHAR 321
Semester : I
F. M. : 55

SECTION "B"
[5 Q. × 3 = 15 marks]

Attempt ANY FIVE questions.

1. What is gastro retentive tablet? [3]

2. List out the operational steps involved in manufacturing of compressed tablet by wet granulation method. [3]

3. List the pharmaceutical application of microencapsulation. [3]

4. Why is it important to determine crystal properties and polymorphism in preformulation studies? [3]

5. Write composition soft capsule.

6. Draw a schematic figure of a dosator filling principle of hard capsule.

7. Discuss about different semi-solid bases.

SECTION "C"
[5 Q. × 5 = 25 marks]

Attempt ANY FIVE questions.

8. Write about the various particle bonding mechanisms that are involved in granulation. [5]

9. What is sticking and picking problems in tablet compression? What are the causes and remedy approaches? [2+3]

10. What is microencapsulation? Explain the multi-orifice centrifugal method used for microencapsulation. [5]

11. How does particle size analysis impact the stability and bioavailability of a drug? [5]

12. The pharmaceutical companies aim to fill capsules with vitamins. Select the appropriate capsule for the filling and discuss the various techniques used in the filling process.

13. The penetration rate of semi-solid dosage forms like creams, pastes, and gels is limited by various factors related to human skin and the characteristics of the formulated drug. Explain these factors in detail.

14. What is sugar coating? Explain the detailed process of this coating. Write the advantages and disadvantages of sugar coating.

P.T.O.

SECTION "D"

[2 Q. × 7.5 = 15 marks]

Attempt ANY TWO questions.

15. Explain the "Tablet compression cycle" with suitable figure. Discuss on the tableting problems one might encounter during the cycle. [2+2+3.5]

16. For your final year project, you have chosen to formulate and evaluate a cefixime tablet dosage form. What key parameters will you assess before formulation, and why are they important? [7.5]

17. ABC Pharmaceuticals aims to develop a tablet containing a drug molecule that degrades in gastric hydrochloric acid (HCl). As a formulation scientist, is it feasible to create such a tablet? If so, please outline the formulation for the tablet along with its in vitro evaluation. [3+4.5]