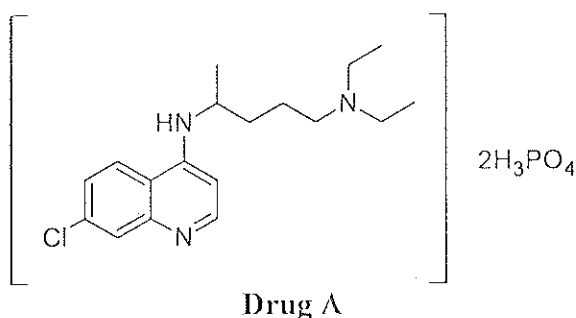


**BINDURA UNIVERSITY OF SCIENCE EDUCATION****FACULTY OF SCIENCE****DEPARTMENT OF CHEMISTRY****HBScCHT Part 4****MAR 2024****Course Code: CH401 Pharmaceutical Technology****Duration: 2 Hrs****ANSWER QUESTION ONE AND TWO FROM SECTION A AND TWO FROM SECTION B. EACH QUESTION CARRIES TWENTY MARKS**

1. a) Explain the reasons for the need for veterinary compounding. [6 Marks]
- b) State the importance for different dosage forms. [6 Marks]
- c) Explain the purpose of excipients in a drug. [5 Marks]
- d) Give one example of an excipient and its function. [3 Marks]

**Section A: Answer Any Two Questions from this section**

2. a) Briefly describe what do you understand by pharmaceutical compounding. [5 Marks]
- b) Enlist at least three examples of pharmaceutical compounding. [5 Marks]
- c) Distinguish between ambulatory care compounding from institutional pharmacy compounding. [6 Marks]
- d) What is the role of the pharmacist in compounding? [4 Marks]
3. a) What are the common routes of drug administration? [8 Marks]
- b) Give at least one example of a dosage form of any of the six administration routes mentioned in 3(a) above. [6 Marks]
- c) What limitations are associated with the tablet dosage form? [6 Marks]
4. The compound whose chemical structure is shown below, is a common active ingredient of a drug commonly administered in the tropical countries.



- a) What is the name of the drug? [4 Marks]
- b) Name any three trade names for the drug. [3 Marks]
- c) What is the therapeutic function of the drug? [6 Marks]
- d) Describe the manufacturing process of the drug [7 Marks]

**Section B: Answer Any Two Questions from this Section**

5.
  - a) Spray drying is a granulation technique. What is the disadvantage of this technique over other granulation techniques? [3 Marks]
  - b) With the help of an illustration describe the operating principle of a sprayer. [7 Marks]
  - c) For which drugs is this technique most suitable? [3 Marks]
  - d) Draw a diagram to illustrate the principle of a fluidized bed granulation. [7 Marks]
6.
  - a) Different binders are commonly used in a granulation process. Describe the function of binders. [4 Marks]
  - b) Give at least four examples of commonly used binders and the conditions under which they are use. [4 Marks]
  - c) Describe the principle behind extrusion-spheronization. [8 Marks]
  - d) Give examples of application of this extrusion-spheronization granulation technique. [4 Marks]
7.
  - a) Explain why the following granulation properties must be verified before compression.
    - i. Particle size and shape
    - ii. Surface area
    - iii. Density

[6 Marks]
  - b) How would you carry out the following tests?

- i. Dissolution test
- ii. Disintegration test? [4 Marks]
- c) Why are tablets sub-coated? [5 Marks]
- d) Give examples of materials used in sub-coating? [5 Marks]

END OF PAPER