BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE

DEPARTMENT OF CHEMISTRY

HBScCHT

Course Code: CH401 Pharmaceutical Technology APR 2025

Duration: 2 Hrs

ANSWER QUESTION **ONE**, **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 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]**

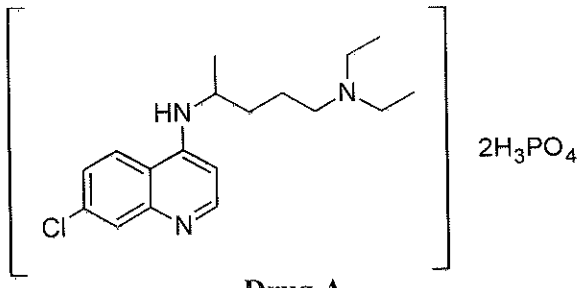
   d) What is the role of the pharmacist in compounding? **[4 Marks]**

3. a) What are the common routes of drug administration? **[8 Marks]**

   b) Give at least an example not mentioned elsewhere of a dosage form in each case in (a). **[6 Marks]**

   c) Tablets are the most popular dosage form. However they are disadvantages associated with tablets. What are these? **[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.



Drug A

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 spray drying 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 used. **[4 Marks]**

c) Describe the principle behind extrusion-spheronization. **[8 Marks]**

d) Give examples of application of 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 a:
   i. Dissolution test

ii. Disintergration test? **[4 Marks]**

c) Why are tablets sub-coated? **[5 Marks]**

d) Give examples of materials used in tablet sub-coating? **[5 Marks]**

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