Ref. No.: Ex/PHARM/T/412/2023

B. PHARMACY FOURTH YEAR FIRST SEMESTER EXAM 2023

Medicinal Chemistry III

Full marks 100

Answers to all parts of a question should be written together.

Answer any five questions taking *at least one* from each group.

Group A

1. (a) Outline synthesis and mode of antibacterial action of (i) sulfamerazine, (ii) trimethoprim [5 + 5
   (b) Give a classification of sulfonamides. [5
   (c) Outline adverse effects of sulfonamides. [5

2. (a) Outline synthesis of chloroquine and mepacrine. [8 + 5
   (b) Give a classification of antimalarials based on the life cycle of the parasites. [7

3. Give synthesis of : [4 x 5
   (i) Dapsone
   (ii) Pyrazinamide
   (iii) PAS
   (iv) Ethambutol

Group B

4. (a) Define and classify antibiotics with examples
   (b) What are advantages of semisynthetic penicillins over natural penicillin?
   (c) Discuss the mode of action and SAR of cephalosporins and penicillins. [3+2+8+7

5. Outline the synthesis of the followings with their therapeutic uses (any five):
   i. Benzylpenicillin; ii. Methicillin, iii. Ampicillin,
   iv. Cephalothin, v. Cephalexin, vi. Flucloxacillin [5 x 4

6. Discuss the structural features of Tetracyclines. Outline the synthesis of Chloramphenicol and mention its therapeutic importance. [10 + 10

Group C

7. a) Write a short note on Insulin. [10
   b) Outline the synthesis of following compounds (**any two**) [2x5=10
   i) Chlorpropamide (ii) Tolbutamide (iii) Glipizide

8. Answer **any two** from the following questions.
   a) Classify oral hypoglycaemic agents with suitable examples. Give the structure and uses of at least **ONE** potent compound from each class. [10
   b) Write SAR of sulfonyl urea derivatives [10
   c) Write a short note Biguanides and α-Glucosidase Inhibitors. [10