

**B. PHARMACY THIRD YEAR FIRST SEMESTER EXAM 2024**

**Subject: MEDICINAL CHEMISTRY II, Full marks 75**

**Answer five questions by taking at least one each from Group A, Group B**

**and two from Group C**

**Group-A**

1. Discuss about the adrenal cortex hormone and their classifications with examples. Write the mechanism of oral contraceptive pills. Describe the structures, mechanism of action and uses of Sildenafil and Mifepristone. [6+3+6]
2. Write about the structure and nomenclature steroid hormones. Describe the Structure activity relationship and metabolism of testosterone. [7+8]

**Group B**

3. (a) Define Histamine? How can it be bio-synthesized? What are the pathophysiological functions of Histamine (b) Define and classify classic antihistamines with examples? (c) Discuss the mode of action and SAR of antihistamines (d) Draw the structure and chemical names of Cimetidine and Ranitidine [2+3+6+4]
4. Outline the synthetic scheme and chemical names of the following: Chlorpheniramine maleate, Triprollidine HCl, Promethazine HCl, Dimenhydrinate, Tripeleennamine HCl [5×3]

**Group C**

5. How do you prepare *m*-chlorotoluene? Using *m*-chlorotoluene, how do you prepare a diuretic drug? Discuss all chemical reactions with equations. [7+8]
6. Discuss the synthesis of (a) Bendroflumethazide and (b) Polythiazide with chemical equations. (c) Write three (3) points of structure-activity relationship (SAR) of Benzothiadiazine diuretics. [5+7+3]
7. Write with chemical equation, the synthetic steps of preparations of (a) Triamterene and (b) Spironolactone. [5+10]