THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0321] **MARCH 2021** **Sub. Code: 2040**

(SEPTEMBER 2020 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER – IV

PAPER II – MEDICINAL CHEMISTRY I

Q.P. Code : 562040

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Explain in detail the structural activity relationship of morphine and related compounds.
2. What are cholinergic agonists? Discuss the structural activity relationship of cholinergic agonist. Outline the synthesis of Neostigmine.
3. Explain the following physiochemical properties related to the biological action.
   a) Hydrogen bonding b) Optical and geometrical isomerism.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Classify cholinergic blocking agents. Outline the synthesis of Dicyclomine hydrochloride.
2. Explain the mechanism of action of Barbiturates and outline the synthesis of barbital.
3. Outline the synthesis of carbamazepine and mention its uses.
4. Write a note on ultra short acting barbiturates and outline the synthesis of Methohexital sodium.
5. Explain Phase I metabolism of hepatic cytochrome P 450 system.
6. Write a note on cardio selective β_1 blockers and write the structure and medicinal uses of any two drugs.
7. Explain protein binding with examples.
8. Discuss the structural activity relationship of Phenotiazine.
9. a) Outline the synthesis of Chlorpromazine and its medicinal uses.
   b) Write the structure of Trifluperazine and Thioridazine and mention their uses.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Sketch the structure of clonidine and its medicinal use.
2. What happens on the replacement of N-H group at position 1 of the hydantoin system with an oxygen atom. Write the structure of any one drug from this system and its uses.
3. Sketch the structure of naloxone and mention its uses.
4. Outline the synthesis of phenylphrine and mention its uses.
5. Sketch the structures of imidazoline nucleus of α adrenergic antagonist.
6. What happens on the replacement of N-H moiety of phenothiazine ring with a carbon atom doubly bonded to propylidene side chain. Sketch the structure and its stereo selectivity.
7. Explain briefly on the stereo selectivity of β blocking agents.
8. Write the structure of pralidoxime hydrochloride and its uses.
9. Sketch the structure of naproxen and piroxicam and its uses.
10. Sketch the structure of procyclidine and its uses.

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