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

[B.PHARM 0323]   **MARCH 2023**   **Sub. Code: 2040**
(SEPTEMBER 2022 EXAM SESSION)

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – 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. Describe in brief the biosynthesis, release, uptake and metabolism of Norepinephrine.
2. Discuss the following metabolic reactions with examples (a) Acetylation (b) Glucuronidation (c) Sulfation.
3. Classify anti-inflammatory agents with examples for each class. Explain the structural activity relationship and mode of action of anthranilic acid derivatives.

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

1. What is bioisosterism? How is it useful in the design of drugs?
2. Discuss the chemistry and structural activity relationship of alpha-adrenergic blocking agents with examples.
3. Explain the biosynthetic pathway of prostaglandins.
4. Classify parasympathomimetic agents and discuss the structural activity relationship.
5. Describe in detail ring analogues of phenothiazine class of antipsychotic drugs.
6. Classify sedatives and hypnotics. Outline the synthesis of diazepam.
7. Write the synthesis and medicinal uses of (a) Methohexital sodium (b) Ketamine hydrochloride.
8. Discuss the structural activity relationship and mechanism of action of morphine.
9. Write a brief note on benzodiazepines as anticonvulsant agent.

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

1. What is partition coefficient?
2. Outline the structure and uses of Naproxen.
3. What are cholinergic receptors?
4. Write the structure and uses of Tropicamide.
5. Give the structure of (a) Phenobarbital (b) Paraldehyde.
6. Outline the synthesis of Chlorpromazine hydrochloride.
7. Write the structure of any two hydantoins.
8. What is dissociative anaesthesia?
9. Write the synthesis of Ibuprofen.
10. Write the structure and uses of Enflurane.

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