

**B.PHARM**  
**(SEMESER-IV) THEORY EXAMINATION 2018-19**  
**MEDICINAL CHEMISTRY-I**

*Time: 3 Hours*

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*Total Marks: 75***Note:** Attempt all Sections. If you require any missing data, choose suitably.

**SECTION A**

- 1. Attempt all questions in brief. 10 x 2 = 20**
- a. Define partition coefficient and give its applications.
  - b. Explain role of ionization towards biological action of drug.
  - c. Explain in short biosynthesis of cholinergic neurotransmitters.
  - d. Write chemical structures of phenytoin and Ethotoin.
  - e. Write chemical structure and uses of Ketamine hydrochloride.
  - f. Write differences between Narcotic and non-narcotic analgesics.
  - g. Compare benzodiazepines and barbiturates.
  - h. Write synthesis of Ethosuximide.
  - i. Write chemical structure and mechanism of action for Clozapine.
  - j. Define ultra-short acting barbiturates with examples.

**SECTION B**

- 2. Attempt any two parts of the following: 2 x 10 = 20**
- a. Define biotransformation. Explain principles of drug metabolism including phase I and phase II pathways.
  - b. Write classification, mechanism of action and structure-activity relationship of antipsychotics with suitable examples.
  - c. Explain Bioisosterism, types and their role in drug discovery with suitable examples.

**SECTION C**

- 3. Attempt any five parts of the following: 5 x 7 = 35**
- a. Stereochemistry contributes towards biological action of drug. Explain with examples.
  - b. Write synthesis, mechanism of action and uses of -  
i) Ipratropium bromide, ii) Tolazoline.
  - c. Write a note on medicinal chemistry of barbiturates.
  - d. Define adrenergic blockers. Explain structure-activity relationship studies and uses of beta blockers.
  - e. Write classification of parasympathomimetics with examples and chemical structures. Write synthesis of Carbachol.
  - f. Write synthesis, mechanism of action and uses of -  
(i) Chlorpromazine hydrochloride, (ii) Carbamazepine.
  - g. Write chemical structures, uses of - i) Indomethacin, ii) Valproic acid, iii) Phenacetin, iv) Meperidine hydrochloride, v) Sulindac.