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

Time: 3 Hours ***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.

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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 x7 = 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.