

MEDICINAL CHEMISTRY – II

THEORY 3 hours/week

Classification, mode of action, uses and structure activity relationship of the following classes of drugs. Synthesis of those compounds only exemplified against each class.

UNIT -I

- Drugs acting on the Central Nervous System:
- General Anaesthetics : Anesthetic ether, Halothane, Thiopental sodium.
- Local Anaesthetics : Benzocaine, Procaine, Lignocaine,
- Hypnotics and Sedatives: Phenobarbitone, Cyclobarbitone, , Diazepam
- Opioid analgesics : Pethidine, Methadone.

UNIT -II

- Anticonvulsants : Phenytoin, Ethosuximide, Primidone,
- Antiparkinsonism drugs: Levodopa, Amantidine
- CNS stimulants : Nikethemide, Ethamivan, Amphetamine
- Psychopharmacological agents (neuroleptics, antidepressants, anxiolytics):
- Chlorpromazine, Haloperidol, Imipramine, Phenelzine, Chlordiazepoxide, Alprazolam.

UNIT -III

Antibiotics: General study including classification, synthesis of Methicillin, Ampicillin, Amoxicillin and Chloramphenicol

Anti-viral including anti-HIV agents: Acyclovir, Zidovudine

Immunosuppressives and immunostimulants: To study only the general concept

Anti Malarial Drugs: Chloroquine, Pamzquine, Mepacrine, Proguanil, Pyrimethamine.

Antineoplastic agents: Chlorambucil, Thiotepa, Busulfan, 5-Flurouracil

UNIT -IV

Thyroid and Anti thyroid drugs: Thyroxine, Liothyronine, Propylthiouracil,

Carbimazole Insulin, Insulin preparations and oral hypoglycaemic agents:

Chlorpropamide, Tolbutamide, Glibenclamide, Phenformin.

UNIT –V

Enzyme Inhibitors: A detailed study of the following types of enzyme inhibitors, related drugs and their pharmaceutical significance;

a) Phosphodiesterase (PDE) inhibitors.

b) Angiotensin converting enzyme (ACE) Inhibitors

Medicinal Chemistry – II

PRACTICAL 3 hours/week

(A minimum of 15 experiments shall be conducted)

1. Synthesis of selected drugs from the course content
2. Monographs of selected official drugs including identification tests and tests for purity.

RECOMMENDED BOOKS:

1. Wilson and Grisvold's Text Book of Organic Medicinal and Pharmaceutical

Chemistry

2. Principles of Medicinal Chemistry by William O.Foye
3. A Text Book of Medicinal Chemistry by S.N.Pandeya
4. Medicinal Chemistry by Ashutoshkar
5. Bentley's and Driver's Text Book of Pharmaceutical Chemistry.