

UNIT – I

**I. Psychopharmacological agents:** a) Biochemical basis of mental disorders:- Abnormal protein factors, endogenous amines and related substances, faulty energy metabolism, genetic factors and nutritional disorders, Phenothiazines; chemistry and synthesis and evaluation methods. The important pharmacological activities of phenothiazines. SAR of phenothiazines, Toxicity and clinical significance of phenothiazines.

b) **Antidepressants:** MAO inhibitors and tricyclic antidepressants and Miscellaneous. Mechanism of action, clinical and biological uses, side effects and their SAR studies. Synthesis of clinically useful drugs of each of the above classes.

UNIT – II

**II. Chemotherapy of cancer:** Molecular Biology of Carcinogenesis. A detailed classification of antineoplastic agents, mechanisms of action of different classes; Alkylating agents and radiomimetic agents, antimetabolites their SAR studies, sex hormones and analogs, antibiotics. A mention of natural products used in cancer treatment; vinca alkaloids (Vincristine and Vinblastine) podophyllum and Taxol.

UNIT – III

**III. Drugs Related to Hormones and other autocooids:** A study of the following hormones autocooids with a special reference to their agonists and antagonists;

- a) Peptide Hormones: Insulin, Vasopressin and oxytocin,
- b) Histamine ( $H^1$  and  $H^2$ ) and 5-HT.
- c) Thyroid Hormones ( $T_3$  and  $T_4$ )
- d) Prostaglandins
- e) Angiotensins

UNIT – IV

**IV. Study of the following with emphasis on recent advances:**

- a) Antilipemic agents
- b) Biomarkers
- c) Diagnostic agents
- d) Antiparkinsonian agents
- e) Antialzheimer agents
- f) Antirheumatics and antigout agents
- g) Orphan drugs

**REFERENCES:**

2. Medicinal Chemistry Vol. I & II by A. Burger.
3. Drug Design by Ariens.
4. Principles of Medicinal Chemistry by Foye.
5. A.T.B. of organic, Pharmaceutical and Medicinal Chemistry by Wilson, Gisvold, & Duerge
6. Progress in Drug Research by E. Zucker.