

SHREE H.N. SHUKLA GROUP OF COLLEGES

(AFFILIATED TO SAURASHTRA UNIVERSITY & GTU)



2-vaishali nagar, Near
Amrapali railway
crossing,
Raiya road, Rajkot-
360001. Ph.No.-
(0281)2440478, 2472590

3-vaishali nagar, Near
Amrapali railway
crossing,
Raiya road, Rajkot-
360001. Ph.No.-
(0281)2471645

Behind marketing yard,
Near Lalpari lake,
Between Amargadh-
Bhichri, Rajkot-360002.
Ph.No.-90990 63150

M. Sc. SEMESTER-IV ORGANIC-PHARMACEUTICAL CHEMISTRY C(OP)-404:ADVANCED MEDICINAL CHEMISTRY ELECTIVE-II

1. Introduction and Important terminology

2. Drug Design

Fundamentals, techniques, concept of lead identification and lead modification SAR. Factors affecting biological activity. Resonance, inductive effect, Isosterism, bioisosterism and spatial consideration.

3. Pharmacokinetics

ADME, prodrugs and polymorphism.

4. Pharmacodynamics

Fundamentals, treatment of diseases by enzymes stimulation and inhibition, LD₅₀, MIC and MEC, etc. Theories of drug activity relationship.

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5. Patents and IPR in drug discovery and development.

6. Combinatorial Chemistry

Fundamentals methods, preparation study of targeted or focused libraries.

7. Recent updates in drug discovery (New Drugs).

Reference Books

1. Introduction to Medicinal Chemistry, A Gringage, Wiley-VCH.
2. Wilson and Gisvold's Text Book of Organic Medicinal and Pharmaceutical Chemistry, Ed Robert F. Dorge.
3. An Introduction of Drug Design, S.S. Pandey and J.R. Dimoock, New Age
4. Burgers Medicinal and Drug Discovery, Sixth Edition, Ed. M. E. Wolff, John Wiley.
5. Goodman and Gilman's Pharmacological Basis of Therapeutics, McGraw-Hill
6. The Organic Chemistry of Drug Design Action, R. B. Silverman, Academic Press.
7. Strategies for Organic Drug synthesis and Design, D. Ladnicer, John Wiley
8. Pharmaceutical Substances, Kleemann, Vol-I and II, Fourth edition, Thieme

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9. Principles of Medicinal Chemistry, William Foye, Fourth edition, Lippincott, William and Wilkins.
10. Analytical Profile of Drug Substances (Series), Florey.
11. Erck Index, Thirteen edition, Merck and Co.
12. Total Synthesis of Natural Products, Apsimon (series).
13. Principles of Medicinal Chemistry by S. S. Kadam, Mahadik, Bothera, Nirali Publication, 11th edition.