

M.Sc. Semester-III
Organic Chemistry Paper –III
Synthetic Drugs
CHNN-603-(O)

Unit-1: Drug Design & QSAR: 25% (15 Hours)

Introduction Naming of Organic Medicinal Compounds, Literature of Medicinal Chemistry, Classification of Drugs, Drug Design, Relation between Molecule Structure and Biological Activity (QSAR), Receptor Site Theory, Pharmacopies, Indian Standards, Modern Methods of Pharmaceutical Analysis, Diagnostic Agents, Pharmaceutical Aids: Solvents, Vehides, Flavors, Suspending Agents, Surfactants, Emulsifying Agents.

Unit-2: Antibiotics: 25% (15 Hours)

Classification, Synthesis and Activity of Penicillin, Cephalosporins, Streptomycin, Tetracycline's, Actinomycin, Chloramphenicol and Polyene.

Unit-3: Sulphadugs: 25% (15 Hours)

Chemistry of Sulpha Drugs, Synthesis and Uses, Sulphanilamide, Sulphafurazole, Sulphaguanidine, Sulphathiazole, Sulphamerazine, Sulfalene, Sulfathiazole, Trimethoprim.

Unit-4: Miscellaneous Drugs: 25% (15 Hours)

Drugs Stimulating or Blocking The Peripheral Nervous System: Cholinergic & Anticholinergic Drugs, Histamine & Antihistamine, Local and General Anesthetics.

Basic Text & Reference Books:

1. Medicinal Chemistry by Ashutosh Kar
2. Medicinal Chemistry by G.R. Chatwal
3. Adhunik Sanslidh Aushadhi nu Rasayanvigyan / Anamik K.Shah. University Granth Nirman Board , Ahmedabad
4. Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical, Chemistry, 11th Edition by John H. Block & John M. Beale, Published by Lippincott Williams & Wilkins (2004).
5. Principles of Medicinal Chemistry, 4th Edition by William O-Foye, Thomas L. Lemke and David A. Williams, Published in India by B. I. Waverly Pvt. Ltd. New Delhi (1995).

6. Essential of Medicinal Chemistry, 2nd Edition by Andrejus korolkovas, Published by Wiley-India Edition (1988).
7. Instant Notes: Medicinal Chemistry, Edited by Graham L. Patric, Published by Viva Books Private Ltd. (2002)
8. Textbook of Medicinal Chemistry Vol. I & II by V. Alagarsamy Published by Elsevier (2010).
9. Medicinal Chemistry 3rd Edition by Ashutosh Kar Published by New age international (P) Limited, Publishers (2005).
10. Medicinal Chemistry Edited by Alfred Burger Published by Interscience Publishers, John Wiley & Sons, New York (1951)
11. Burger's Medicinal Chemistry and Drug Discovery Vol. 3: Therapeutic agents Edited by Manfred E. Wolff Published by Interscience Publishers, John Wiley & Sons, New York (1996)
12. Burger's Medicinal Chemistry 4th Edition : Part III Edited By Manfred E. Wolff Published by Interscience Publishers, John Wiley & Sons, New York (1981)
13. Organic Chemistry, Vol. 2, I. L. Finar, 5th Edition (1994) ELBS Publication.
14. Natural Products Chemistry, Vol. I & II K. Nakanishi et al., Academic press publication (1974).
15. The Molecules of Nature, J. B. Hendrickson, W. A. Benjamin Inc. (1965).
16. Selected Organic Synthesis, Ian Fleming John Wiley (1977).
17. Chemistry of Natural Products, N. R. Krishnaswamy, University Press (India) Ltd. (1999).
18. Medicinal Chemistry by D. Shriram.
19. Synthetic Organic Chemistry O P Agarwal.
20. Synthetic Drug J J Trivedi & K A Thakar.
21. Synthetic Drug by Anamik Shah.