

DEVI AHILYA VISHWAVIDYALAYA, INDORE

M.Sc. CHEMISTRY (SEMESTER –IV)

Paper No.

: OPT-5 Code- MCH-518

Compulsory / Optional

: Optional

Max. Marks

: 100

Optional Paper : Medicinal Chemistry

Unit-1	Structure and activity : Relationship between chemical structure and biological activity (SAR). Receptor Site Theory. Approaches to drug design. Introduction to combinatorial synthesis in drug discovery. Factors affecting bioactivity. QSAR-Free-Wilson analysis, Hansch analysis, relationship between Free-Wilson analysis and Hansch analysis.
Unit-2	Pharmacodynamics : Introduction, elementary treatment of enzymes stimulation, enzyme inhibition, sulfonamides, membrane active drugs, drug metabolism, xenobiotics, biotransformation, significance of drug metabolism in medicinal chemistry.
Unit-3	Antibiotics and antibacterials Introduction, Antibiotic β -Lactam type - Penicillins, Cephalosporins, Antitubercular – Streptomycin, Broad spectrum antibiotics – Tetracyclines, Anticancer - Dactinomycin (Actinomycin D)
Unit-4	Antifungal – polyenes, Antibacterial – Ciprofloxacin, Norfloxacin, Antiviral – Acyclovir Antimalarials : Chemotherapy of malaria. SAR. Chloroquine, Chloroguanide and Mefloquine
Unit-5	Non-steroidal Anti-inflammatory Drugs : Diclofenac Sodium, Ibuprofen and Netopam Antihistaminic and antiasthmatic agents : Terfenadine, Cinnarizine, Salbutamol and Beclomethasone dipropionate.

Books recommended

1. Introduction to medicinal chemistry, A. Gringuage, Wiley-VCH.
2. Wilson and Gisvold's Text Book of Organic Medicinal and Pharmaceutical Chemistry, Ed Robert F Dorge.
3. An Introduction to Drug Design, S.S. Pandeya and J.R. Dimmock, New Age Internaitonal.
4. Burger's Medicianl Chemistry and Drug Discovery, Vol-I (Chapter 9 and Chapter 14), Ed. M.E.Wolff, John Wiley.
5. Goodman and Gilman's Pharmacoloical Basis of Therapeutics, Mc GRaw-Hill.
6. The Organic Chemistry of Drug Design and Drug Action, R.B. Silverman, Academic Press.
7. Strategies for Organic Drug synthesis and Design, D.Lednicer, John Wiley.
8. Principles of Medicinal Chemistry W.O.Foye
9. Medicinal Chemistry; The Role of organic chemist in Drug Research, S.M. Roberts and B.J. Pricer.

Summi 2.9.16
 A sharme 2-9-2016
 Gany 2/9/16
 Aps 2.9.16
 JAB 2.9.2016
 Sh 2.9.16
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 Gny 2/9/16
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