

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Physical Chemistry)
Semester: IV
Syllabus with Effect from: June – 2013

Paper Code: PS04ECHE01	Total Credit: 4
Title Of Paper: Medical Chemistry	

Unit	Description in detail	Weightage (%)
I	Introduction to Medicinal Chemistry, Pharmacokinetics: Drug absorption, drug distribution, drug metabolism (general pathway of drug metabolism: Oxidative, reductive and hydrolytic reactions) Drug design: Concepts of drug design Approaches to lead discovery, SAR, Combinatorial chemistry, Prodrugs. Drug excretion. Drug administration.	25%
II	Pharmacodynamics: Receptors, Chemical messengers, Binding sites, Receptor types and subtypes (protein receptors, DNA receptors with examples of Agonists and Antagonists)	25%
III	Psychoactive Drugs: Antianxiety agents, Antipsychotics, Antidepressants, Psychotomimetic drugs. Cardiovascular Drugs: Antianginal and Vasodilators, Antihypertensive drugs, Anticholesterolemic agents Antithyroid drugs.	25%
IV	Antibiotics: General Introduction, Chemical Classification, β -lactam antibiotics: Penicillins, Cephalosporins, β -lactamase inhibitors, Aminoglycosides, Tetracyclines, Chloramphenicol, Quinolone antibacterials. Antineoplastics Agents: Classification, synthesis and drug profile.	25%

Basic Text & Reference Books:-

- 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)
- 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)
- Essential of Medicinal Chemistry
 2nd Edition by Andrejus korolkovas
 Published by Wiley-India Edition (1988)
- Instant Notes: Medicinal Chemistry
 Edited by Graham L. Patric
 Published by Viva Books Private Ltd. (2002)
- Textbook of Medicinal Chemistry
 Vol. I & II by V. Alagarsamy
 Published by Elsevier (2010)



- Medicinal Chemistry
3rd Edition by Ashutosh Kar
Published by New age international (P) Limited, Publishers (2005)
- Medicinal Chemistry
Edited by Alfred Burger
Published by Interscience Publishers, John Wiley & Sons, New York (1951)
- 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)
- Burger's Medicinal Chemistry
4th Edition: Part III
Edited By Manfred E. Wolff
Published by Interscience Publishers, John Wiley & Sons, New York (1981)

