St.James College of Pharmaceutical Sciences St.James medical Academy River Bank, Chalakudy			
Programme:	B.Pharm	Sem.:	6th
Name of Course: (*Subject*)	Medicinal Chemistry 03	Course Code:	BP601T
Teaching faculty of the course	Ms. Sona Jose		

Summary of the Lecture Plan

	Lectures	Hours
Antibiotics (Unit 1)	Introduction	2
	Beta lactum antibiotics	3
	Aminoglycosides	3
	Tetracyclins	2
Antibiotics (Unit 2)	Macrolide antibiotics	2
Prodrugs	Concepts, Application	2
Antimalarials	Introduction	2
	Quinolones	1
	Biguanides and dihyrotriazines	2
	Miscellaneous	1
Antitubercular agents	Synthetic antitubercular agents	2
	Antitubercular antibiotics	2
Urinary tract antiinfective agents	Quinolones	2
	Miscellaneous	2
Antiviral agents	Antiviral agents	2
Antifungal agents	Antifungal antibiotics	2
	Synthetic antifungal agents	2
	Anti protozoal agents	2
Anthelmintics	Classification	2
Sulphonamides and Sulfones	Sulphonamides	1
	Sulfones	1
Introduction to Drug design	Various approaches	1
	Physiochemical parameters	2
	Pharmacophore modeling and docking techniques	1
Combinatorial chemistry	Concepts and Applications	1

Major issues or Core aspects to be addressed/ covered:

Antibiotics (Unit 1)
Introduction
Beta lactum antibiotics

Aminoglycosides
Tetracyclins
Antibiotics (Unit 2)
Macrolide antibiotics
Prodrugs
Concepts, Application
Antimalarials
Introduction
Quinolones
Biguanides and dihyrotriazines
Miscellaneous
Antitubercular agents
Synthetic antitubercular agents
Antitubercular antibiotics
Urinary tract antiinfective agents
Quinolones
Miscellaneous
Antiviral agents
Antiviral agents
Antifungal agents
Antifungal antibiotics
Synthetic antifungal agents
Anti protozoal agents
Anthelmintics
Classification
Sulphonamides and Sulfones
Sulphonamides
Sulfones
Introduction to Drug design
Various approaches
Physiochemical parameters
Pharmacophore modeling and docking techniques
Combinatorial chemistry
Concepts and Applications

Sample Questions

Antibiotics (Unit 1)
Classify antibiotics with one structure from each class. Discuss the mechanism of action

and synthesis of chloramphenicol.
Explain tetracyclines with structures
Explain the mechanism of action and uses of chloramphenicol
SAR of beta lactam antibiotics
Explain about amino glycosides
Antibiotics (Unit 2)
Explain the chemistry and importance of macrolide antibiotics
Prodrugs
Discuss the applications of prodrugs
Define and classify prodrugs with examples.
List out any 5 important applications of pro drugs with examples
Antimalarials
Classify antimalarial agents with example.
Give the synthesis of chloroquine and pamaquine
Antitubercular agents
Classify anti-tubercular agents with examples. Give the synthesis of INH
Structure, mechanism of action and synthesis of isoniazid.
Write synthesis of Para amino salicylic acid
Urinary tract antiinfective agents
Classify urinary tract anti-infective agents giving structure for each class
SAR of Quinolones
Write synthesis of ciprofloxacin and Nitrofurantoin
Antiviral agents
Classify antiviral agents and explain the mechanism of action acyclovir
Synthesis of Acyclovir
Antifungal agents
Classify antifungal agents and explain the mechanism of action of clotrimazole
Give the synthesis of dapsone.
Write about Tolnaftate
Anthelmintics
Write a note on the chemistry of anthelmintics.
Give the synthesis of Diethylcarbamazine citrate and Mebendazole
Sulphonamides and Sulfones
What is the mechanism of action of sulphonamides. Explain with an example
Discuss the mechanism of action of sulphonamides.
Write a note on Folate reductase inhibitors
Give the synthesis of Sulfacetamide and Sulfamethoxazole
Introduction to Drug design

Discuss the importance of quantitative structure activity relationship in drug design
Describe elaborately on QSAR, its parameters along with various applications in drug design.
Combinatorial chemistry
What is combinatorial chemistry explain its application
Explain Solid phase synthesis
Explain Solution phase synthesis