BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
INSTRUCTION DIVISION
FIRST SEMESTER 2015-2016
Course Handout (Part - II)

Date: 3rd August 2015

In addition to part I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course No. : **PHA F312**
Course Title : **Medicinal Chemistry-I**
Instructor-in-Charge : **R. Mahesh**
Instructors : **As in timetable**

1. Scope and Objective of the Course:

This course deals with the study of important classes of drugs that are listed below. Various aspects like structure, properties, therapeutic and pharmaceutical importance and the uses of drug molecules will be covered. Study of physiochemical properties, mechanism of action, S.A.R. and metabolism of drugs dealt hereunder will also be emphasized. Special emphasis will be laid on drug discovery, drug design and related topics.

2. Text Books :

1. William O Foye- "Principles of Medicinal Chemistry", Sixth Edition, Lea and Febiger, Phil., 2008 (or later editions)

3. Reference Books :

1. Robert F Doerge-" Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry", Ninth Edition, J.B. Lippincott Company, Phil., 1991.
2. Remington's Pharmaceutical Sciences, 18th ed., 1990.
3. Introduction to Medicinal Chemistry by Graham L Patrick. Oxford University press, 5th Ed., 2013
4. Vogels text book of Practical Organic Chemistry, Longman, 5th Ed., 1996

4. Course Plan:

Lec. No.	Learning Objectives	Topic to be Covered	Ref.
1-6	Outline of Medicinal Chemistry	Physiochemical properties of drug molecules, structural features and pharmacological activity, Drug discovery design and development, drug receptor interactions, etc.	TB, RB, other sources
8-10	Cholinergic drugs	Design and chemistry of cholinergics, anti-cholinergics, and anti-cholinesterases	TBI-17, RB.4-22 TB2-23
11-13	Adrenergic drugs	Biosynthesis, metabolism, SAR, and synthesis of related drugs .	TBI-18-RB.4-23 TB2-22

14-15	Local anesthetics and volatile anesthetics	Mode of Action, Syntheses, SAR	TBI-16 TB2-6
16-18	Sedatives and hypnotics, Anti-anxiety agents	Mode of Action, Syntheses, SAR	TBI-10 TB2-7
19- 21	Anti-epileptics	Mode of Action, Syntheses, SAR	TBI-11,TB2-8
22-24	Anti-psychotics	Mode of Action, Syntheses, SAR	TBI-12,TB2-9
25-27	Opoid analgesics	Mode of Action, Syntheses, SAR	TBI-14,TB2-11
28-32	Anti histaminic drugs	Mode of Action, Syntheses, SAR of anti allergics and antiulcer drugs	TBI-22,TB2-14
33-36	NSAIDs, related drugs	Mode of Action, Syntheses, SAR	TBI-25,TB2-12

5. Practicum experience:

Name of Experiment	No of practical hours	References/ chapters
Synthesis of various medicinal compounds	As in timetable	Different chapters of text book/ practical book

6. Evaluation:

Component	Duration	Weightage (%)	Date & Time	Remarks
Mid sem Test	90 min.	30	9/10 2:00 - 3:30 PM	Closed Book
Continuous Assessment*	--	35	---	
Compre. Exam	120 min.	35	11/12 FN	Closed Book and or Open Book

* Continuous assessment may include quiz(zes)#, Laboratory Day to Day work, Viva-Voce, Home assignment, Lab Compre., etc.

***** Practicum experience**,** Assignment(s) may be practical / theory oriented, for which a proper report in a standard format should be submitted as per deadline(s) that would be announced. It may also include a viva and or seminar presentation(s).

Quiz(zes) may be conducted as a part of evaluation component, at random, during contact hours including lecture, tutorial hours as convenient with/without prior intimation and sometimes outside class contact hours with prior intimation and or during contact hours (both theory and practical) and hence it is expected that the students come prepared to the class on topics covered in earlier contact hours. Students are also requested to refresh their **knowledge in basic organic reactions.**

Mid-Sem. Grading would be done once at least 30-40 % evaluation components are completed.

For all evaluation components, information given in text books and reference books in the same order will be considered as correct. All evaluation components are equally important, irrespective of weightage. Hence, students failing to attend or absenting themselves in one or many of the evaluation components may become ineligible for obtaining a valid grade at the end

of the semester . Attendance in lectures, tutorials and practicum experience are all equally important as they are all integral components of learning, irrespective of weightage.

Students are strongly advised to keep away from absenting themselves from all aforementioned contact sessions.

Reading Assignments: Students are advised to read, collect additional information on the above mentioned topics as per given schedule.

7. **Chamber consultation hours**: To be announced in class.

8. **Notices**: Notices concerning the course will be displayed on the pharmacy department notice board only.

9. **Make-Ups**: Make-Ups are not given as a routine. It is solely dependent upon the GENUINENESS OF THE CIRCUMSTANCES under which a student fails to appear in a scheduled evaluation component. In such circumstances, prior permission should be obtained from the Instructor-in-Charge. In no case the make-up letter be slipped inside the chamber of the Instructor-In-Charge.

Instructor - in -Charge
PHA F312