BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE-PILANI, HYDERABAD CAMPUS

SECOND SEMESTER 2018-2019

Course Handout

Date: 07/01/2019

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 F341
Course Title : Pharmacology and Toxicology (Part-2)
Instructor in charge : Onkar Kulkarni
Team of Instructors : Pravesh Sharma, Kavitha Sedmaki, Kalyani Karnam

Scope & Objective of the Course:

This course will make students understand the pharmacology of important classes of drugs including their mechanism of action, therapeutic uses, side effects, toxic manifestations, indications and contraindications. This course is intended to impart the knowledge regarding the concepts of actions of drugs on various systems of the human body as well as to understand the effect of cellular process like metabolism, elimination and cellular permeability on the fate of the drug molecule inside the human body. The course covers mechanism of action, therapeutic uses, side effects, and contraindications of the drugs, which are commonly employed in therapeutics. The course also intends to make aware the students the recent happenings in the field of molecular Pharmacology, various screening techniques and novel treatments in the field of therapeutics.

Learning Outcomes (course benefits): Students who have undergone the course are expected to

- Understand the molecular pharmacology of drugs used for the treatment of various diseases
- Understand the rationale behind the side effects associated drug molecules
- Explain the rationale behind the observed drug interactions

1) Text book:

1. Tripathi KD, Essentials of Medical Pharmacology, Sixth edition, Jaypee brothers, New Delhi, 2008

Reference Books:

1. Katzung BG, Basic and Clinical Pharmacology, 12th edition, Prentice Hall, London, 2001

2. Goodman & Gilman's The Pharmacological Basis of Therapeutics, by JG Hardman (Editor), 10th edition, McGraw-Hill Publishing Co, 2001.

2) Course Plan:

Lect. No.	Learning Objectives	Topics to be covered	Chapter in the Text Book
1-8	1. To understand the role of small molecular mediators in the progression of inflammation, pain and fever 2. To understand the mechanism of drugs acting as anti-inflammatory, anti-rheumatic, anti-pyretic and analgesic	Non-steroidal anti-inflammatory drugs and anti-pyretic-analgesic Anti-rheumatoid drugs Drugs for bronchial asthma	T1-Sec3, R1-Sec6, R2-Sec4
9-17	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting **cardiovascular system**	Anti-angina agents Anti-hypertensive and drugs acting on renin angiotensin system Cardiac glycosides and treatment for CHF	T1-Sec2, R1-Sec3, R2-Sec3

18-21	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting **Hyperglycemia and Hyperlipidemia**	Anti-diabetic and Hypolipidaemic Drugs	T1-Sec5,10, R1-Sec7, R2-Sec3,5
22-28	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting **infectious diseases**	Concepts of chemotherapy and Classification of chemotherapeutic drugs	T1-Sec12, R1-Sec8, R2-Sec7
		Sulfonamides, Penicillin derivatives	
		Aminoglycosides, Macrolide glycosides	
		Anti-tubercular agents	
		Anti-fungal	
		Anti-viral	
29-30	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting **cancer**	Anti-cancer drugs	T1-Sec13, R1-Sec8, R2-Sec8

Particulars of Experiments	**No of Practical Sessions**
• Understanding the protocol and theory of pharmacological assays using animal simulator software	12

3) Evaluation Scheme:

Component	Duration	Weightage	Date	Time	Nature of Component
Pre Mid-term Quiz/Assignment	30 mins	7 %	Surprise quiz		CB
Mid-term Test	90 mins	25 %	14/3	9.00 - 10.30AM	CB (80%) OB (20%)
Post Mid-term Quiz/Assignment	30 mins	8 %	Surprise quiz		CB
Compre. Exam.	3 hrs	40 %	08/05 FN		CB (75%) OB (25%)
Laboratory Component					
Day to day work (Includes marks for Attendance, Lab Record & Viva-voce)	-	10 %	-		-
Lab. Compre.	-	10 %	Will be announced in Lab Sessions		-

CB - Closed BooK, OB – Open Book

5) Mid-Semester Grading: Will be announced after Mid-term test.

6) Make-up: Prior approval or intimation to take a make-up is mandatory. It is solely at the discretion of the instructor-in-charge, depending upon the genuineness of the circumstances, to allow or disallow a student to appear for a make-up evaluation component. No makeup will be granted for Assignments/Quizzes under any circumstances.

7) Grading Procedure:

- Grading will be done by "bunching" procedure. Total marks obtained by the students will be arranged in descending order, 'bunches' will be identified and grades awarded accordingly. Fine grading system (A, A-, B, B-….) will be followed.
- It is not mandatory for the instructor-in-charge to award all the grades (A to E); subjective judgment will be used for awarding the grades.
- As specified in Handout – Part I, appended to the timetable, the instructor in-charge reserves the right to award a NC report in case the student does not make himself/ herself available for any of the evaluation component mentioned above.
- Borderline cases during grading will be judged on the basis of regularity to classes and consistency or progress in the performance in evaluation components.

8) Chamber Consultation Hours: To be announced in class.

9) Notices: All the notices pertaining to this course will be displayed only on Dept. of Pharmacy Notice Board.

10) Academic Honesty and Integrity Policy: Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

Instructor-in-charge
PHAF341