BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
SECOND SEMESTER 2023-2024
Course Handout (Part - II)

09/01/2024

Course No. : PHA F342
Course Title : Medicinal Chemistry II
Instructor-in-Charge : P. YOGEESWARI
Instructors : P. Yogeeswari, Purbali C, Dharakshan Begum, Sriganga

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 both of natural and synthetic origin will be covered. Study of physico-chemical properties, mechanism of action, S.A.R. and metabolism of drugs dealt hereunder will also be emphasized.

2. Learning outcomes (course benefits): Students who have undergone would be able to

- Understand a working knowledge of chemical structures and their uniqueness for various therapeutic properties that include cardiac therapeutics, antiinfectives including tuberculosis, fungal and anti-HIV along with anticancer drugs
- To understand the correlation of various metabolic disorders that include diabetes, fatty acid metabolism to diseases like cancer and cardiac disorders and their therapeutic interventions
- Develop an understanding of theoretical and practical ways to derive synthetic protocol of any given organic chemical drug structure by a retrosynthetic analytical approach.

3. Text Book :

1. William O Foye- “Principles of Medicinal Chemistry", Sixth Edition, Lea and Febiger, Phil., 2008. (or latest edition)
2. D . Sriram & P. Yogeeswari. Medicinal Chemistry, Pearson Education, second Edition, 2010.(or latest)

4. Course Plan

Lec. No.	Learning Objectives	Topic to be Covered	Ref.
1-5	Anti hypertensive drugs	Adrenergics drugs , diuretics, calcium channel blockers, ACE inhibitors and others , structure, synthesis and SAR	Various Sources and TB-21
6-7	Anticoagulants, anti	Mode of Action, Syntheses, SAR.	TB-20

	platelet agents		
8-12	Hypolipidaemic drugs	Mode of Action, Syntheses, SAR	TB-24
13-16	Drugs affecting sugar metabolism	Mode of Action, Syntheses, SAR.	TB-26
17-22	Antibiotics and antimicrobial agents covering COVID	Mode of Action, Syntheses, SAR.	TB-34
23-25	Antimalarial drugs	Mode of Action, Syntheses, SAR	TB-32
26-27	Antitubercular drugs	Mode of Action, Syntheses, SAR	TB-33
28-33	Anticancer agents	Mode of Action, Syntheses, SAR	TB-37
34-40	AntiHIV agents	Mode of Action, Syntheses, SAR	TB-38

3. Evaluation:

Component	Duration	Weightage (%)	Date & Time	Nature of Component
Pre-Mid term surprise test	10-15 min	5	-	OB
Mid term Test	90 min	30	11/03 - 9.30 - 11.00AM	CB
Post-Mid term surprise test	10-15 min	5	-	OB
Seminar/GD	20 min	10	Scheduled online	-
Practical	-	20	Continuous evaluation and presentation evaluation	-
Comprehensive Exam	180 min	30	06/05 FN	CB + OB

5. <u>Chamber consultation hours</u>: To be announced in class.

6. <u>Make-Ups</u>: Make-Ups are not given as a routine. It is solely dependant 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.

7. **<u>Grading Procedure</u>:**

- 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: Notices concerning the course will be displayed on the CMS portal and email..

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

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