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**SECOND SEMESTER 2021-2022**

**Course Handout (Part - II)**

**15/01/2022**

**Course No. : PHA F342**

**Course Title : Medicinal Chemistry II**

**Instructor-in-Charge : P. YOGEESWARI**

**Instructors : P. Yogeeswari, Purbali C, Dipika Rani Sahu, D Deepika**

**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)

1. D . Sriram & P. Yogeeswari. Medicinal Chemistry, Pearson Education, second Edition, 2010.( or latest)

**4. Course Plan**

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| --- | --- | --- | --- |
| **Lec. No.** | Learning Objectives | Topic to be Covered | Chapter in the Text Book |
| 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 platelet agents | Mode of Action, Syntheses, SAR. | TB-20 |
| 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 | Antitubercular drugs | Mode of Action, Syntheses, SAR | TB-33 |
| 27-30 | Anti fungal drugs | Mode of Action, Syntheses, SAR. | TB-35 |
| 31-35 | Anticancer agents | Mode of Action, Syntheses, SAR | TB-37 |
| 36-42 | AntiHIV agents | Mode of Action, Syntheses, SAR | TB-38 |

1. **Evaluation:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Duration** | **Weightage (%)** | **Date & Time** | **Nature of Component** |
| Pre-Mid term surprise | 10-15 min | 5 | - | OB |
| Mid term Test | 90 min | 30 | 12/03 3.30pm to5.00pm | OB |
| Post-Mid term surprise | 10-15 min | 5 | - | OB |
| Seminar/GD | 20 min | 5 | Scheduled online | - |
| Practical | - | 20 | Continuous evaluation and presentation evaluation | - |
| Comprehensive Exam | 120 min | 35 | 12/05 AN | OB |

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

**6. Make-Ups**: 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. **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**: 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**

**PHA F342**