



SYLLABUS

Course Title	CLINICAL PHARMACY - II	
Course Code	PH804	
Course Credit	Lecture : 3	
	Practical : 3	
	Total : 6	
Course Objectives		
<p>Clinical Pharmacy II will provide the sound knowledge about basic applications of pharmacology in clinical settings. It will provide information about common drug interactions, its types and methods of documenting it and minimizing it clinically. It will also provide importance of Pharmacovigilance in reporting adverse drug reactions. management of clinical toxicity by various toxic agents. It will also provide basic information about preclinical toxicology, critical care management and clinical trials. It will provide a sound knowledge on selection of correct drug for diseases of CVS, CNS, renal and in anemia.</p>		
Detailed Syllabus		
Sr. No.	Name of Chapter & Details	Hours Allotted
	Section-I	
1	Drug interactions : Prescription monitoring, documentation and methods for minimizing clinically relevant drug interactions	02

2	Drug induced diseases, adverse drug reactions and Pharmacovigilance	04
3	Clinical Toxicology: Definition of Poison and General Principles of Treatment of Poisoning with particular reference to Barbiturates, Opioids, Organophosphorus, Atropine and Heavy Metal.	03
4	Pre clinical toxicology: Carcinogenicity, Mutagenicity, Teratogenicity, Single dose and repeat dose toxicity studies, Reproductive toxicity	03
5	Clinical trials: Design and regulations <ul style="list-style-type: none"> • New drug discovery process • Basic terminology used in clinical research • Types of clinical trials • Design and organization of phase-I, phase-II, phase-III, phase-IV trials • Schedule Y • Ethical guidelines in clinical research, Inform consent process, Composition, responsibility, procedures of IRB/IEC, Role and responsibility of clinical trials personals as per ICH GCP guidelines. 	12
6	Critical care therapy	2
	Section-II	
7	Management of diseases and medication related problems; and decision making processes including utilization of laboratory tests to monitor drug efficacy and toxicity.	23

	<p>a. CNS: Epilepsy, Parkinsonism, Alzheimer, Schizophrenia, Affective disorders (Anxiety, Depression, Psychosis, Mania), Pain and Migraine.</p> <p>b. Cardiovascular: Hypertension, Coronary heart disease, Thrombosis, Stroke, Congestive heart failure, Cardiac arrhythmias and Dyslipidemia.</p> <p>c. Renal: Acute renal failure, Chronic renal failure and special pharmaceutical care considerations for patients undergoing dialysis and renal transplant therapy</p> <p>d. Anemia</p>	
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Clinical Pharmacy – II Practicals

1. To audit given prescription for format of prescription, essentiality and rationality and suggest carry home messages (five prescriptions covering different diseases or organ-systems)
2. To evaluate formulations on anemia, diarrhea and cough for their essentiality and rationality and also provide carry home message (two formulations for each)
3. To suggest appropriate parenteral nutrition for hospitalized patients after proper nutritional assessments in different conditions, and enlist importance of medications necessary in a pharmacy for Intensive Care Unit management.
4. To evaluate drug interactions for the type of drug interaction, the mechanism responsible for drug interactions, possible outcomes or clinical manifestations of interaction and suggestions for corrective measures to overcome or prevent the drug interaction. (at-least 10 drug interactions).
5. To evaluate cases for Interpretation of laboratory data (Min. six full cases with clinical and other relevant findings)
6. To evaluate two cases involving skills of pharmacist for patient counseling.
7. To evaluate for dose adjustment in geriatrics, pediatrics and pregnant women

(two cases for each)

8. To evaluate cases for Therapeutic Drug Monitoring (TDM) (Min. two cases)
9. Collecting information for a given drug (Preferably recently approved drugs) regarding adverse drug reactions, drug interactions and contraindications using authenticated sources

Instructional Method and Pedagogy:

- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval.
- Surprise tests/Quizzes/Seminar/Tutorials will be conducted.
- The course includes language practices such as Group Discussion, Interviews etc to develop the communication skills of the students.

Students Learning Outcomes:

1. Know the basic concepts of drug interaction and its proper documentation to minimize the future occurrence.
2. Know the importance of Pharmacovigilance.
3. Know about the clinical management of diseases related to CNS, CVS, renal and anemia.
4. Know about the clinical and preclinical toxicology.
5. Know about the clinical trials and designs and critical care management aspects.

Text Books:

1. Clinical Pharmacy and Therapeutics. Roger Walker and Clive Edwards, Churchill Livingstone Edinburgh / London.
2. Text Book of Therapeutics: Drug and Disease Management. 8th Ed. Editors: Eric

T.Herfindal and Dick R. Gurley, Williams and Wilkins, 2006.

3. A text book of Clinical Pharmacy Practice (Essential concepts and skills). G. Parthasarhi, Karin Nyfort-Hansen & Milap C Nahata. University Press impression, 2008

Reference Books:

1. Pharmacotherapy: A Pathophysiological Approach. J. T. Dipiro, R. L. Talbert et al, McGraw-Hill, New York.
2. Pathology & Therapeutics for Pharmacists. Russell J. Greene and Norman F. Harris
3. Davidson's Principle and Practice of Medicine, Eds. Christopher R.W. Edwards & Ian A.D. Boucher ELBS with Churchill Livingstone, Edinburgh.
4. Applied Therapeutics: The Clinical Use of Drugs Eds. Brian S. Katcher, Lloyd YeeYoung, Marry Anne Koda-Kimble, Applied Therapeutics Inc.
5. Melmon and Morrelli's Clinical Pharmacology, 4th Edition. Authors: S. George Carrathers, Brian B. Hoffman, Kenneth L. Melmon and David W. Nierenberg. McGraw Hill, 2000.
6. Principles of Pharmacology – Paul L. Munson
7. Lewis's Pharmacology – James Crossland – Churchil Livingstone
4. Modern Pharmacology with clinical applications- Craig, Charles R.

Additional Resources

- Soft copies of pharmacology and pathophysiology books are available on websites.
- Latest informations are available from scientific journals available in library and on websites.