GUJARAT TECHNOLOGICAL UNIVERSITY
PHARM.D
4th Year

Subject Name: Clinical Pharmacy
Subject Code: 848803

Scope: The course is designed to provide necessary knowledge and skills to students that enable them to practice patient care that optimizes the use of medication and promotes health, wellness, and disease prevention

Objectives: At completion of this subject it is expected that students will be able to –

a. monitor drug therapy of patient through medication chart review and clinical review;
b. obtain medication history interview and counsel the patients;
c. identify and resolve drug related problems;
d. detect, assess and monitor adverse drug reaction;
e. interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states; and retrieve, analyse, interpret and formulate drug or medicine information.

Teaching scheme and examination scheme:

Teaching Scheme				Evaluation Scheme				Total Marks
Theory	Tutorial	Practical	Total	Theory		Practical		
				External	Internal	External	Internal	
3	1	3	7	70	30	70	30	200

Sr.	Topic	Hr	% Weightage
1.	**Definitions, development and scope of clinical pharmacy**	3	3
2.	**Introduction to daily activities of a clinical pharmacist** a. Drug therapy monitoring (medication chart review, clinical review, pharmacist interventions) b. Ward round participation c. Adverse drug reaction management d. Drug information and poisons information e. Medication history f. Patient counseling g. Drug utilisation evaluation (DUE) and review (DUR) h. Quality assurance of clinical pharmacy services	15	17
3.	**Patient data analysis** The patient's case history, its structure and use in evaluation of drug therapy & Understanding common medical abbreviations and terminologies used in clinical practices.	12	13
4.	**Clinical laboratory tests used in the evaluation of disease states, and interpretation of test results** a. Haematological, Liver function, Renal function, thyroid function tests b. Tests associated with cardiac disorders c. Fluid and electrolyte balance d. Microbiological culture sensitivity tests e. Pulmonary Function Tests	12	13
5.	**Drug & Poison information** a. Introduction to drug information resources available b. Systematic approach in answering DI queries c. Critical evaluation of drug information and literature d. Preparation of written and verbal reports e. Establishing a Drug Information Centre f. Poisons information- organization & information resources	12	13
6.	**Pharmacovigilance** a. Scope, definition and aims of pharmacovigilance b. Adverse drug reactions - Classification, mechanism, predisposing factors, causality assessment [different scales used] c. Reporting, evaluation, monitoring, preventing & management of ADRs d. Role of pharmacist in management of ADR	12	13
7.	Communication skills, including patient counselling techniques, medication history interview, presentation of cases	10	11
8.	Pharmaceutical care concepts	5	6
9.	Critical evaluation of biomedical literature	5	6
10.	Medication errors	4	5

Practicals:

Students are expected to perform 15 practicals in the following areas covering the topics dealt in theory class.

a. Answering drug information questions (4 Nos)
b. Patient medication counselling (4 Nos)
c. Case studies related to laboratory investigations (4 Nos)
d. Patient medication history interview (3 Nos)

Assignment:

Students are expected to submit THREE written assignments (1500 – 2000 words) on the topics given to them covering the following areas dealt in theory class. Drug information, Patient medication history interview, Patient medication counselling, Critical appraisal of recently published articles in the biomedical literature which deals with a drug or therapeutic issue.

Format of the assignment:

1. Minimum & Maximum number of pages.
2. Reference(s) shall be included at the end.
3. Assignment can be a combined presentation at the end of the academic year.
4. It shall be computer draft copy.
5. Name and signature of the student.
6. Time allocated for presentation may be 8+2 Min

Reference Books:

1. Practice Standards and Definitions - The Society of Hospital Pharmacists of Australia, Latest Edition
2. Basic skills in interpreting laboratory data - Scott LT, American Society of Health System Pharmacists Inc, Latest Edition
3. Biopharmaceutics and Applied Pharmacokinetics - Leon Shargel, Prentice Hall publication. Latest Edition
4. A text book of Clinical Pharmacy Practice; Essential concepts and skills, Dr.G.Parthasarathi etal, Orient Orient Langram Pvt.Ltd., Latest Edition
5. Australian drug information -Procedure manual. The Society of Hospital Pharmacists of Australia, Latest Edition
6. Clinical Pharmacokinetics - Rowland and Tozer, Williams and Wilkins Publication, Latest Edition
7. Pharmaceutical statistics. Practical and clinical applications. Sanford Bolton, Marcel Dekker, Inc, Latest Edition

Scheme of Practical Examination:

	Sessionals	**Annual**
Synopsis	05	15
Major Experiment	10	25
Minor Experiment	03	15
Viva	02	15
Max Marks	**20**	**70**
Duration	**03hrs**	**04hrs**

Note : Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva-voce and record maintenance).