

INSTITUTE	FACULTY OF PHARMACY
PROGRAM	BACHELOR OF PHARMACY
SEMESTER	7
COURSE TITLE	PHARMACY PRACTICE
COURSE CODE	13PH0703
COURSE CREDITS	4

Objective:

- 1 To learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care.
- 2 To learn community pharmacy skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up
- 3 In the changing scenario of pharmacy practice in India, for the successful practice of Hospital Pharmacy, the students are required to learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care. In community pharmacy, students will be learning various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up.

Course Outcomes: After completion of this course, student will be able to:

- 1 Understand Hospital and its organization, hospital & community Pharmacy, detect, assess and report adverse drug reactions.
- 2 Apply various drug distribution methods in a hospital, hospital formulary, therapeutic drug monitoring, medication adherence and able to do medication history interview and counsel the patients.
- 3 Comprehend the functions of Therapeutic Drug Committee, role of pharmacist in education and training, do patient counselling in community pharmacy & communication skills of a pharmacist (with prescribers & patients).
- 4 Know pharmaceutical care services, monitor drug therapy through medication chart review/clinical review, role of clinical pharmacist, appreciate the concept of rational use of OTC drugs.
- 5 Appreciate the pharmacy stores management and inventory control, interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states.

Pre-requisite of course:In the changing scenario of pharmacy practice in India, for the successful practice of Hospital Pharmacy, the students are required to learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care. In community pharmacy, students will be learning various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	1	0	75	15	10	0	0

Contents : Unit	Topics	Contact Hours
1	<p>Hospital and its organization</p> <p>Hospital and its organization: Definition, Classification of a hospital- Primary, Secondary and Tertiary hospitals, Classification based on a clinical and non-clinical basis, Organization Structure of a Hospital, and medical staffs involved in the hospital and their functions. b) Hospital pharmacy and its organization Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists. c) Adverse drug reaction Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following the sudden withdrawal of drugs, Drug interaction- beneficial interactions, adverse interactions, and pharmacokinetic drug interactions, Methods for detecting drug interactions, spontaneous case reports and record linkage studies, and adverse drug reaction reporting and management. d) Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenance of a drug store, Dispensing of proprietary products, maintenance of records of retail and wholesale drug store.</p>	10
2	<p>Drug distribution system in a hospital</p> <p>Drug distribution system in a hospital: Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, dispensing of drugs to ambulatory patients, and dispensing of controlled drugs. b) Hospital formulary Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary. c) Therapeutic drug monitoring Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring and Indian scenario for Therapeutic Drug Monitoring. d) Medication adherence Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence. e) Patient medication history interview Need for the patient medication history interview, medication interview forms. f) Community pharmacy management Financial, materials, staff, and infrastructure requirements.</p>	10

Contents : Unit	Topics	Contact Hours
3	<p>Pharmacy and therapeutic committee Pharmacy and therapeutic committee: Organization, functions, policies of the pharmacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation. b) Drug information services Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information. c) Patient counselling Definition of patient counselling; steps involved inpatient counselling, and Special cases that require the pharmacist d) Education and training program in the hospital Role of pharmacist in the education and training program, Internal and external training program, Services to the nursing homes/clinics, Code of ethics for community pharmacy, and Role of pharmacist in the interdepartmental communication and community health education. e) Prescribed medication order and communication skills Prescribed medication order - interpretation and legal requirements, and Communication skills- communication with prescribers and patients.</p>	10
4	<p>Budget preparation and implementation Budget preparation and implementation: Budget preparation and implementation b) Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of a clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic & disease pattern. c) Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the counter medications.</p>	8
5	<p>Drug store management and inventory control Drug store management and inventory control: Organisation of a drug store, types of materials stocked and storage conditions, Purchase and inventory control: principles, purchase procedure, purchase order, procurement and stocking, Economic order quantity, Reorder quantity level, and Methods used for the analysis of the drug expenditure b) Investigational use of drugs Description, principles involved, classification, control, identification, the role of a hospital pharmacist, advisory committee. c) Interpretation of Clinical Laboratory Tests Blood chemistry, haematology, and urinalysis</p>	7
Total Hours		45

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Tutorials will be based on the above syllabus Tutorial-1, Tutorial-2, Tutorial-3, Tutorial-4, Tutorial-5, Tutorial-6, Tutorial-7, Tutorial-8, Tutorial-9, Tutorial-10, Tutorial-11, Tutorial-12, Tutorial-13, Tutorial-14, Tutorial-15	15
Total Hours		15

Textbook :

- 1 A textbook of hospital pharmacy,, Merchant S.H. and Dr J.S.Quadry., BS shah, 2018

References:

- 1 Pharmacy practice, Pharmacy practice, Parthasarathy G, Karin Nyfort-Hansen, Milap C Nahata, Orient Longman Private Limited, 2004
- 2 Hospital pharmacy, Hospital pharmacy, William E. Hassan, Lea & Febiger, 2019
- 3 Hospital pharmacy, Hospital pharmacy, Tipnis Bajaj, Career Publication, 2008
- 4 Laboratory Data, Laboratory Data, Scott LT., American Society of Health-System Pharmacists, 2013
- 5 Health Education & Community Pharmacy, Health Education & Community Pharmacy, Parmar N.S., CBS PUBLISHERS AND DISTRIBUTORS, 2012

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
10.00	20.00	25.00	25.00	10.00	10.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and the need of students. The teacher in addition to the conventional teaching method by the black board may also use any tools such as demonstration, role play, quiz, brainstorming, MOOCs etc.
- 2 The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- 3 Students will use supplementary resources such as online videos, NPTEL videos, MOOCs/ e-courses, virtual laboratories.