Gyanmanjari Innovative University

Course Syllabus

Gyanmanjari Pharmacy College

Semester-7 (B. Pharm)

Subject: Pharmacy Practice (BPHBP17335)

Type of course: Major

Prerequisite: B. Pharmacy

Rationale: In the changing scenario of pharmacy practice in India, for 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:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
3	1	-	4	75	25	-	-	50	150

Legends: CI-Classroom Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Course Content:

Chapter No.	Course content	Hrs	% Weightage
1.	**a) Hospital and it's organization** Definition, Classification of hospital- Primary, Secondary and Tertiary hospitals, Classification based on 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**	10	25

	Classifications –Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following 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		
2.	**a) 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	10	25
3.	**a) 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 counseling** Definition of patient counseling; steps involved in patient counseling, 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	10	25

	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.		
4.	**a) Budget preparation and implementation** Budget preparation and implementation **b) Clinical Pharmacy** Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of 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.	08	15
5.	**a) Drug store management and inventory control** Organisation of 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, role of hospital pharmacist, advisory committee. **c) Interpretation of Clinical Laboratory Tests** Blood chemistry, hematology, and urinalysis	07	10

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	**Drug Interaction Analysis** **Faculty will provide** prescriptions containing potential drug–drug interactions. **Students will identify and analyze** the interactions, classify their severity, suggest appropriate management strategies with supporting references, and **submit the report on the GMIU Web Portal.**	10
2.	**Prescription Analysis** **Faculty will provide** sample prescriptions for evaluation. **Students will assess** the prescriptions for completeness, prescription errors, drug interactions, therapeutic appropriateness, and rationality of drug therapy, and **submit the analysis report on the GMIU Web Portal.**	10
3.	**Disease Management Chart** **Faculty will assign** a disease condition such as diabetes mellitus, hypertension, asthma, or peptic ulcer. **Students will prepare** a comprehensive disease management chart including etiology, clinical features, pharmacological treatment, drug doses, monitoring parameters, and lifestyle modifications, and **submit it on the GMIU Web Portal.**	10

4.	**Drug Information Report** **Faculty will assign** a drug or therapeutic class. **Students will collect, evaluate, and compile** evidence-based drug information including indications, mechanism of action, dosage, contraindications, adverse drug reactions, drug interactions, patient counseling points, and references, and **submit the report on the GMIU Web Portal.**	10
5.	**Patient Education Leaflet Preparation** **Faculty will assign** a disease condition or medication. **Students will design** a patient education leaflet covering the disease overview, medication details, dosage instructions, precautions, adverse effects, storage conditions, and lifestyle modifications using patient-friendly language, and **submit the final leaflet on the GMIU Web Portal.**	10
	Total	50

Suggested Specification table with Marks

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	**Remembrance (R)**	**Understanding (U)**	**Application (A)**	**Analyze (N)**	**Evaluate (E)**	**Create (C)**
Weightage	10%	25%	30%	20%	10%	05%

Course Outcome:

After learning the course, the students should be able to:	
CO1	Understand principles of pharmacy practice and patient care.
CO2	Analyze prescriptions for rational drug use and identify errors.
CO3	Apply patient counselling and drug information skills in healthcare.
CO4	Evaluate drug therapy, interactions and adverse drug reactions.
CO5	Demonstrate pharmacovigilance and clinical pharmacy practices for patient safety.

Instructional Method:

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 blackboard, may also use any of the tools such as demonstration, role play, quiz, brainstorming, MOOCs, etc.

From the content, 10% topics are suggested for flipped mode instruction. Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory.

The internal evaluation will be done on the basis of Active Learning Assignment. Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

[1] Merchant S.H. and Dr. J. S. Quadry. A textbook of hospital pharmacy, 4th ed. Ahmadabad: B.S. Shah Prakakshan; 2001.
[2] Parthasarathi G, Karin Nyfort-Hansen, Milap C Nahata. A textbook of Clinical Pharmacy Practice- essential concepts and skills, 1 st ed. Chennai: Orient Longman Private Limited; 2004.
[3] William E. Hassan. Hospital pharmacy, 5th ed. Philadelphia: Lea & Febiger; 1986.
[4] Tipnis Bajaj. Hospital Pharmacy, 1st ed. Maharashtra: Career Publications; 2008.
[5] Scott LT. Basic skills in interpreting laboratory data, 4thed. American Society of Health System Pharmacists Inc; 2009.
[6] Parmar N.S. Health Education and Community Pharmacy, 18th ed. India: CBS Publishers & Distributers; 2008.

Journals:

[1] Therapeutic drug monitoring. ISSN: 0163-4356
[2] Journal of pharmacy practice. ISSN: 0974-8326
[3] American journal of health system pharmacy. ISSN: 1535-2900 (online)
[4] Pharmacy times (Monthly magazine)