



Dr. Rafiq Zakaria Campus

Maulana Azad Educational Trust

Y.B. Chavan College of Pharmacy

An ISO 9001:2008 Certified Institute

(B. Pharm., M. Pharm & Research Center)



COURSE MODULE

Program Title	B. Pharmacy
Department	Pharmacology
Course Title	Pharmacy Practice

1. **NAME OF INSTITUTION** : Y. B. CHAVAN COLLEGE OF PHARMACY,
AURANGABAD
2. **AFFILIATED UNIVERSITY** : DR. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY, AURANGABAD
3. **DEPARTMENT** : PHARMACOLOGY
4. **PROGRAM TITLE** : B. PHARM

4.1. Program Outcomes (PO):

- PO 01: Pharmacy Knowledge:** Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences.
- PO 02: Planning Abilities:** Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
- PO 03: Problem analysis:** Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
- PO 04: Modern tool usage:** Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.
- PO 05: Leadership skills:** Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well being.
- PO 06: Professional Identity:** Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).
- PO 07: Pharmaceutical Ethics:** Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.
- PO 08: Communication:** Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
- PO 09: The Pharmacist and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.

PO 10: Environment and sustainability: Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 11: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

5. COURSE SPECIFICATION :

5.1.Course Identification and General Information

a. Course Title:	PHARMACY PRACTICE		
b. Course Number/ Code	B. Pharm 703		
c. Credit Hours	Theory	Practical	Total
	45	00	45
d. Study level/ semester at which this course is offered	B. Pharm VIIth Sem, IVth Year		
e. Pre-requisite	Pharmacology-II, III		
f. Co-requisite	Pharmacology-I		
g. Language of teaching the course	English		
h. Prepared by	1. Dr. Syed Ayaz Ali 2. Dr. Khan Dureshahwar		
i. Approved by	Dr. Syed Ayaz Ali		

5.2.Course Description:

States, articulates and illustrates the scope of lessons covered in the course. Pharmacy Practice is the discipline of pharmacy which involves developing the professional roles of pharmacists. Pharmacy Practice offers practicing pharmacists in-depth useful reviews and research trials and surveys of new drugs and novel therapeutic approaches. 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.

5.3. Course Objectives:

Upon completion of the course, the student shall be able to

1. Know various drug distribution methods in a hospital
2. Appreciate the pharmacy stores management and inventory control
3. Monitor drug therapy of patient through medication chart review and clinical review
4. Obtain medication history interview and counsel the patients.

5. Identify drug related problems
6. Detect and assess adverse drug reactions
7. Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states
8. Know pharmaceutical care services
9. Do patient counselling in community pharmacy;
10. Appreciate the concept of rational drug therapy.

5.4. Course Outcomes (CO): (around 5 to 6)

(e.g. CO101.1 (CO - course code, 101 subject code as per syllabus, & .1 is first CO))

Code	Course outcome
CO .01	To understand hospital and its organization, hospital pharmacy and its organization, To understand adverse drug reaction reporting and management.
CO .02	To understand drug interactions and their methods of detection, community pharmacy setup, drug store management and inventory control, interpretation of clinical laboratory tests.
CO .03	To understand the drug distribution system in a hospital, community pharmacy management, patient medication history interview, medication adherence,
CO .04	To understand therapeutic drug monitoring, hospital formulary, drug distribution system in a hospital, prescribed medication order and communication skills, education and training program in the hospital, patient counselling.
CO .05	To understand, to provide information services, functions in a pharmacy and therapeutic committee, budget preparation and implementation, clinical pharmacy, over the counter (OTC) sales.

5.4.1 Alignment of PO to CO: (PO: Program Outcome; CO: Course Outcome)

Course code (CO)	Program Outcome (PO)										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO 703.01	3	-	3	3	3	3	3	3	3	3	3
CO 703.02	3	3	3	3	3	3	3	3	3	3	3
CO 703.03	3	3	3	1	2	3	3	3	3	1	3
CO 703.04	3	-	3	1	3	3	3	3	3	3	3
CO 703.05	3	3	3	3	3	3	3	3	3	3	3
CO 703.06	3	-	2	2	3	3	3	3	3	3	3
CO 703.07	3	3	3	1	2	3	3	3	3	3	3
CO 703.08	3	3	3	3	3	3	3	3	3	3	3

Correlation levels 1, 2 or 3 as defined below:

1: Slight (Low); 2: Moderate (Medium); 3: Substantial (High); If there is no correlation, put ‘-’

5.4.2 Teaching and Assessment Methods for achieving learning outcome:

Teaching Strategies /methods used	Methods of Assessment
Conventional Method Digital Method (PPT, AVs, Animations)	Question-Answer Sessions, Class Test, Quiz, Problem solving by using case study.

6. COURSE CONTENTS:

6.1. Theoretical Aspect:

Order	Topic list/units	Subtopics list	Number of Weeks	Contact Hours
01	Unit I A. Hospital and its organization. B. Hospital pharmacy and its organization. C. Adverse drug reaction D. Community Pharmacy	<p>A. 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.</p> <p>B. Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists.</p> <p>C. 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.</p> <p>D. 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>	3	10
02	Unit II: A. Drug distribution system in a hospital B. Hospital formulary C. Therapeutic drug monitoring D. Medication adherence	<p>A. 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.</p> <p>B. Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital Formulary.</p>	3	10

	E. Patient medication history interview F. Community pharmacy management	<p>C. Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring, and Indian scenario for Therapeutic Drug Monitoring.</p> <p>D. Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence.</p> <p>E. Need for the patient medication history interview, medication interview forms.</p> <p>F. Financial, materials, staff, and infrastructure requirements.</p>		
03	Unit III A. Pharmacy and therapeutic committee B. Drug information services C. Patient counselling D. Education and training program in the hospital E. Prescribed medication order and communication skills	<p>A. 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.</p> <p>B. Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information.</p> <p>C. Definition of patient counselling; steps involved in patient counselling, and Special cases that require the pharmacist</p> <p>D. 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.</p> <p>E. Prescribed medication order-interpretation and legal requirements, and Communication skills-communication with prescribers and patients.</p>	3	10
04	Unit IV	A. Budget preparation and	3	8

	A. Budget preparation and implementation. B. Clinical Pharmacy C. Over the counter (OTC) sales	<p>implementation</p> <p>B. 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.</p> <p>C. Introduction and sale of over the counter, and Rational use of common over the counter medications.</p>		
05	Unit V A. Drug store management and inventory control B. Investigational use of drugs C. Interpretation of Clinical Laboratory Tests	<p>A. 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.</p> <p>Description, principles involved, classification, control, identification, role of hospital pharmacist, advisory committee.</p> <p>C. Blood chemistry, haematology, and urinalysis</p>	2	7

6.2. Practical Aspect (If Any): No Practicals

Order	Tasks/Experiments	Number of Weeks	Contact Hours
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6.3. Assignments/Tutorials:

Tutorials based on Topic/Units are scheduled periodically.
Questions are assigned to students for practice after every lecture.

7. SCHEDULE OF ASSESSMENT TASKS DURING THE SEMESTER:

Sr. No.	Assessment Method	Week due	Marks	Proportion of Final Assessment
01	Assignments, Exercises & tutorials		5	5%
02	Sessional (Internal Theory exam)		20	20%
03				
04	Final exam (theory)	As per University at end of course	75	75%
05	Final exam(practical)		--	--
Total			100	100%

8. STUDENT SUPPORT:

Office Hours/Week	Other Procedures
Two hours minimum	e-mail.

9. TEACHER'S AVAILABILITY FOR STUDENT SUPPORT:

Days	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Time	11-12 (KDR) A	11-12 (KDR) A	--	11-12 (KDR)A 2-3 (SAA) B	3-4 (SAA) B	2-3 (SAA) B

10. LEARNING RESOURCES:

Sr. No.	Title of Learning Material	Details
01	Text books	1. Parthasarathi G, Karin Nyfort-Hansen, Milap C Nahata. <i>A textbook of Clinical Pharmacy Practice- essential concepts and skills</i> , 1 st ed. Chennai: Orient Longman Private Limited; 2004.
02	Essential references (as per syllabus)	1. Tipnis Bajaj. <i>Hospital Pharmacy</i> , 1 st ed. Maharashtra: Career Publications; 2008. 2. Merchant S.H. and Dr. J.S.Quadry. <i>A textbook of hospital pharmacy</i> , 4th ed. Ahmadabad: B.S. Shah Prakashan; 2001. 3. William E. Hassan. <i>Hospital pharmacy</i> , 5th ed. Philadelphia: Lea & Febiger; 1986.
03	Reference material	Text books in college library
04	E-materials and websites	You tube videos
05	Other learning material	Handwritten notes

11. FACILITIES REQUIRED:

Sr. No.	Particular of Facility Required
01	Lecture Rooms (capacity for 60 students)
02	Computing resources: P-IV-PCs with recent hardware/ utilization of open source and licensed application software

12. COURSE IMPROVEMENT PROCESSES:

12.1. Strategies for obtaining student feedback on effectiveness of teaching:

Course delivery evaluation by students using: Questionnaire forms and online questionnaires.

12.2. Other strategies for evaluation of teaching by the instructor or by the department:

Periodic review by Academic Planning & Monitoring Committee and departmental review committee, Observations and assistance of colleagues, External assessments by advisors/ examiners and auditors.

12.3. Process for improvement of teaching:

Use of ICT tools, teaching aids, Simultaneous practical orientation and theory classes (SPOT), Adoption of reflective teaching.

12.4. Describe the planning procedures for periodically reviewing of course effectiveness and planning for improvement:

Periodic review by departmental review committee, Review of course delivery and outcome through assessment and feedback from all stake holders.

12.5. Course development plans:

Provide inputs for course improvement and update to University Course development Committees (Board of Studies)

13. INFORMATION ABOUT FACULTY MEMBER RESPONSIBLE FOR THE COURSE:

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