FACULTY OF PHARMACY
Third Semester Bachelor of Pharmacy
In Effect from Academic Year 2017-18

Subject Code: 1PH1010301	**Subject Title:** Dispensing Pharmacy I and Drug Store Management
Pre-requisite Subject	**- NONE -**

Objectives of course:
The course covers prescriptions and care required while handling prescription, importance and principles of basic operations involved in dispensing techniques adopted for different pharmaceutical products along with commonly used equipments. And also to get basic knowledge about organization of wholesale as well as retail drug store.

Learning outcomes:
On the completion of the course, students will be able to:

1. Students will learn handling of prescriptions and different calculations involved as well as identification of various errors.
2. To explain and apply the basic concepts of preparation, packaging and labeling of different pharmaceutical dosage form such as solutions, mixtures, emulsions, powders, eye drops etc.
3. To understand the drug store management and inventory control in detail as hospital pharmacist.
4. Students will learn handling of prescriptions and different calculations involved as well as identification of

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)					
				Theory(T)		Practical(P)		Total Marks	
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Theory	Practical
3	NA	3	6	80	20	80	20	100	100

Subject Contents			
Sr. No.	**Topic**	**Total Hours**	**Weight (%)**
1	Definition and scope.	1	2
2	**The prescription**: Handling of prescription, source of errors in prescription, care required in dispensing procedures including labelling at dispensed products.	2	4
3	**Dispensing techniques**: Compounding and dispensing procedures, packaging, storage and stability of medicines, labelling of dispensed product.	2	4
4	**Pharmaceutical calculations**: Posology: Introduction to imperial and metric system, avoirdupois and apothecaries system of weights and measures. Calculation of doses for infants, adults and elderly patients, enlarging and reducing recipes, percentage solutions, allegation, alcohol dilution, proof spirit, isotonic solutions, displacement value etc.	10	23
5	Principles involved and procedures adopted in dispensing of a) Liquid Products – Oral and external solutions, Mixtures and Emulsions. Liniments, lotions etc. b) Solid Products – Powders, Lozenges, Pastilles, Tablet triturates etc c) Ophthalmic- Eye drops Eye lotions, Eye ointments, Contact lens solutions etc. d) Oral unit dosage forms, inhalations etc.	15	34
	Drug Store Management		
6	**Drugs store Management and inventory control:**	8	18

	a) Organization of drugs store, Types of materials stocked, storage conditions b) Purchase and inventory control principles, purchase procedures, purchase order, Procurement and stocking. c) Quality control of drugs in hospitals.		
7	**Retail and whole sale drugs store**: Organization and structure of retail and whole sale drug store, types of drug stores and design, maintenance of drug store, dispensing of proprietary products, maintenance of records of retail and wholesale.	7	15

List of Experiments: (45 hours)

Practical exercises should be based on theoretical topics. The practical should broadly cover the following:

1. Introduction to Latin to English translation, imperial, metric system, avoirdupois and apothecaries system of weights and measures.
2. To prepare and dispense aromatic waters (e.g. chloroform and camphor), elixirs (e.g. Phenobarbitone elixirs BPC)
3. To prepare and dispense gargles (e.g. Potassium chloride and phenol gargle) Mouth washes (e.g. Compound sodium chloride, mouth wash B.P.) Thorat paints (e.g. Mandel's paints) Douches (e.g. boric acid, potassium permanganate) Ear Drops (e.g. Sodium bicarbonate, Chloramphenicol)
4. To prepare and dispense Mixtures Containing; diffusible, indiffusiable solid with volatile oil, precipitate forming liquid, slightly soluble liquid and pediatric Kaolin Mixture as per BP'88)
5. To prepare and dispense emulsion (liquid paraffin emulsion, emulsion with fixed oil, volatile oil, resinous liquids, soap emulsion, emulsion based enema, w/o type emulsion etc.)
6. To prepare and dispense lotions (e.g. salicylic acid Calamine and precipitate Sulphur), liniments (e.g turpentine liniment, white liniment)
7. To prepare and dispense Eutectic powder, aspirin powder, dispensing of potent drug in powders, Compound Rhubarb Powder, Compound Sodium Bicarbonate powder, Compound zinc Oxide-salicylic acid dusting powder, Zinc starch And talc Dusting Powder.
8. To prepare and dispense Insufflations (Camphor –Menthol Insufflations etc) and Kaolin Poultices B.PC
9. To prepare and dispense effervescent granules (Sodium phosphate effervescent granules, antacid effervescent granules etc.)
10. To prepare and dispense tablet triturates and lozenges.

List of References:

Reference Books:

1. Pharmaceutical Practice – by Diana M. Collett and Michale E. Aulton, ELBS Publishers.
2. Dispensing for pharmaceutical by Cooper and Gunn by S.J. Carter, CBS Publishers
3. Pharmaceutical Calculations by Mitchell J. Stocklosa and Howard C. Ansel, B. I. Waverly Pvt. Ltd., New Delhi.
4. Pharmaceutical Dosage forms and Drug delivery systems by Howard C. Ansel, Lippincott Williams and Wilkins.
5. Pharmaceutical Practice, Edited by A.J. Winfield and R.M.E. Richards.
6. Bentley's Textbook of pharmaceutics, E A Rawlins.
7. Remington: The Science and Practice of Pharmacy, Latest Edition, by Mack Publishing Company.
8. Management by James A.F. Stoner.
9. Personnel Management by Arun Monappa.
10. Business Organisation and Office Management by Santhosh Bushan.

Text books:

1. Vidya Sagar G., Laxmi M. Sri, Principles and Practice of Drug Store Administration and Business Management, Published by Kalyani Publishers, 2007
2. Mohammed Ali and Jyoti Gupta, Drug Store and Business Management, C.B.S. Publishers and Distributors, 2004.
3. Ashok Gupta, Handbook of Drug Store and Business Management, Published by CBS Publishers & Distributors Pvt. Ltd., New Delhi,2013.
4. Jani N. K. and Gupta G. D., Modern Dispensing Pharmacy, Published by Pharma Book Syndicate.
5. Sanmathi B S and Kalpesh K Mehta, Dispensing Pharmacy: A Practical Manual. Pharma Med Press

E-Resources:

1. http://www.pharmainfo.net/ebooks/pharmaceutical-management-books
2. https://rxrelief.com/blog/handling-prescription-error#.WPr081t97IU
3. http://pharmafactz.com/pharmaceutical-calculations-calculation-of-doses/
4. http://pharmaceuticalcalculations.org/downloads.php
5. http://www.purchasing-procurement-center.com/what-is-inventory-management.html