Academic Year :2019-2020
Semester : D.pharm ii year
Department Name: Glocal school of pharmacy

PHARMACEUTICS-II (GSP-2.1T)

Instructor Contact Information

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Office Hours : Monday-Saturday. 9.00A.M.-5.00 P.M.

Year : 2019-2020

Semester : YEAR-II

Course Information

Course Title : PHARMACEUTICS

Course Code : GSP 2.1T

Prerequisite : --

Credits : 3

Teaching Method : 4 Hours Lecture

Methodology:
Class Discussion
Assignments
Presentations
Visiting Library
Surfing the Internet

Course Objectives: **Scope:** This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

Objectives: Upon completion of this course the student should be able to:

Know the history of profession of pharmacy

Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations

Understand the professional way of handling the prescription

Preparation of various conventional dosage forms

Objectives:

1. To know various types of Dosage form.

2. To Know about ingredients used in formulation.

Course Outcomes:

At the end of this course the following outcomes should be achieved:
Having successfully completed this course you will be able to:

1. Must know about the basic of pharmaceutics.
2. Know the preparation of various dosage form.

Syllabus:

Syllabus: Diploma in Pharmacy

D.Pharm Part II

GSP 2.1T	**Pharmaceutics-II, Theory**	**75 Hrs**

Unit-I **16 hour**

1. **Dispensing Pharmacy:**
   - **(i) Prescriptions:** Reading and understanding of prescription; latin terms commonly used (detailed study is not necessary), modern methods of prescribing, adoption of metric system, calculations involved in dispensing.
   - **(ii) Incompatibilities in prescriptions:** Study of various types of incompatibilities—physical, chemical and therapeutic.
   - **(iii) Posology:** Dose and dosage of drugs, factors influencing dose, calculations of doses on the basis of age, sex and surface area, veterinary doses.

Unit-II **19 hours**

2. **Dispensed Medications:**

   (Note: A detailed study of the following dispensed medication is necessary. Methods of preparation with theoretical and practical aspects, use of appropriate containers and closures, special labeling requirements and storage conditions should be highlighted).

   - **(i) Powders:** Types of powders, advantages and disadvantages of powders, granules, cachets and tablet triturates. Preparation of different types of powders encountered in prescriptions. Weighing methods, possible errors in weighing, minimum weighable amount and weighing of a material below the minimum weighable amount, geometric dilution and proper usage and care of dispensing balance.

(ii) Liquid oral dosage forms:

(a) Monophasic—theoretical aspects including commonly used vehicles, essential adjuvants like
stabilizers, colourants and flavours, with examples.

Review of the following monophasic liquids with details of formulation and practical methods.

Liquids for internal administration	
Mixtures and concentrates,	Gargles
Syrups	Mouth washes
	Throat paints
Elixirs	Douches
	Ear drops
	Nasal drops & sprays
	Liniments
	Lotions

Unit-III **20 hours**

(b) Biphasic liquid dosage forms:

- Suspensions (elementary study)—suspensions containing diffusible solids and liquids and their preparations. Study of the adjuvants used like thickening agents, wetting agents, their necessity and quantity to be incorporated. Suspensions of precipitate forming liquids like tinctures, their preparations and stability. Suspensions produced by chemical reaction. An introduction to flocculated / non-flocculated suspension system.
- Emulsions—types of emulsions, identification of emulsion system, formulation of emulsions, selection of emulsifying agents. Instabilities in emulsions. Preservation of emulsions.

(iii) Dental and cosmetic preparations:

Introduction to dentifrices, facial cosmetics, deodorants, antiperspirants, shampoos, hair dressings and hair removers.

Unit-IV **13hours**

(iv) Semi-solid dosage forms:

(a) Ointments—types of ointments, classification and selection of dermatological vehicles. Preparation and stability of ointments by the following processes: (i) trituration (ii) fusion (iii) chemical reaction (iv) emulsification.

(b) Pastes—differences between ointments and pastes, bases of pastes, preparation of pastes and their preservation.

(c) Jellies—an introduction to the different types of jellies and their preparation.

(d) An elementary study of poultice.

(e) Suppositories and passaries—their relative merits and demerits, types of suppositories, suppository bases, classification, properties. Preparation and packing of suppositories. Use of suppositories for drug absorption.

Unit-V **hours12**

(v) Sterile dosage forms:

(a) Parenteral dosage forms—definition, general requirements for parenteral dosage forms, types of parenteral formulations, vehicles, adjuvants, processing, personnel, facilities and quality control. Preparation of intravenous fluids and admixtures—total parenteral nutrition, dialysis fluids.
(b) Sterility testing, particulate matter monitoring, faulty seal packaging.
(c) Ophthalmic products—study of essential characteristics of different ophthalmic preparations. Formulation additives, special precautions in handling and storage of ophthalmic products.

GSP 2.1P	**Pharmaceutics-II, Practical**	**100 Hrs**

Dispensing of at least 100 products covering a wide range of preparations such as mixtures, emulsions, lotions, liniments, ENT preparations, ointments, suppositories, powders, incompatible prescriptions etc.

COURSE CONTENT & SCHEDULE

No	Description	Timing (in Weeks)	Materials Reference	Method of Teaching & Assessment
1	**Dispensing Pharmacy: Prescriptions:** Reading and understanding of prescription; latin terms commonly used. modern methods of prescribing, adoption of metric system, calculations involved in dispensing.	1 Week	A.K GUPTA , R.M MEHTA	Class Discussion Presentations
2	Modern methods of prescribing, adoption of metric system, calculations involved in dispensing. **Incompatibilities in prescriptions:** Study of various types of incompatibilities—physical, chemical and therapeutic.	2 Week	LEON LACHMAN AULTON	Class Discussion Presentations practicals
3	**Posology:** Dose and dosage of drugs, factors influencing dose, calculations of doses on the basis of age, sex and surface area, veterinary doses.	2Week	Cooper & Guns Dispensing **A.K GUPTA**	Class Discussion Presentations practicals
	Class Test 1	1 Week		

4	**Dispensed Medications: Powders:** Types of powders, advantages and disadvantages of powders	1 Week	**R.M MEHTA** LEON LACHMAN	Class Discussion Presentations
5	granules, cachets and tablet triturates. Preparation of different types of powders encountered in prescriptions Weighing methods, possible errors in weighing.	2 Week	SINDHU ABRAHAM	Class Discussion Presentations practicals
	Sessional -1			
6	**Liquid oral dosage forms:** Monophasic—theoretical aspects including commonly used vehicles, essential adjuvants like stabilizers, colourants and flavours, with examples	1 Week	A.K GUPTA , R.M MEHTA	Class Discussion Presentations practicals
	Class TEST 2			
7	**Liquid oral dosage forms:** Monophasic—theoretical aspects including commonly used vehicles, essential adjuvants like stabilizers, colourants and flavours, with examples	1 Weeks	AULTON	Class Discussion Presentations
8	*Liquids for internal Administration* Mixtures and concentrates, Syrups, Elixirs	1 Week	AULTON	Class Discussion Presentations
9	Liquids for external administration Gargles, Mouth washes, Throat paints,	1 Week	Dispensing of Medication	Class Discussion Presentations
10	Douches, Ear drops, Nasal	1 Week	LEON LACHMAN	Class Discussion Presentations
11	drops sprays, Liniments, Lotions	1 Week	AULTON	Class Discussion Presentations
	Class TEST 3			
12	Biphasic liquid dosage forms: Suspensions (elementary study)—suspensions containing diffusible solids and liquids and their preparations. Study of the adjuvants used like thickening agents, wetting agents, their necessity and quantity to be incorporated. Suspensions of precipitate forming	4 week	Cooper & Guns Dispensing **A.K GUPTA**	Class Discussion Presentations

	liquids like tinctures, their preparations and stability. Suspensions produced by chemical reaction. An introduction to flocculated / non-flocculated suspension system.			
13	Emulsions—types of emulsions, identification of emulsion system, formulation of emulsions, selection of emulsifying agents. Instabilities in emulsions. Preservation of emulsions	2 week	LEON LACHMAN	Class Discussion Presentations
	Sessional -2	1 Week		
14	**Semi-solid dosage forms:** Ointments—types of ointments, classification and selection of dermatological vehicles. Preparation and stability of ointments by the following processes: (i) trituration (ii) fusion (iii) chemical reaction (iv) emulsification.	2 week	A.K GUPTA , R.M MEHTA	Class Discussion Presentations practicals
15	Pastes—differences between ointments and pastes, bases of pastes, preparation of pastes and their preservation	2 week	A.K GUPTA , R.M MEHTA	Class Discussion Presentations practicals
16	Jellies—an introduction to the different types of jellies and their preparation. An elementary study of poultice.	2 week	LEON LACHMAN	Class Discussion Presentations practicals
	Sessional-3	1 Week		
17	Suppositories and passaries—their relative merits and demerits, types of suppositories, suppository bases, classification, properties. Preparation and packing of suppositories. Use of suppositories for drug absorption. **Sterile dosage forms:** Parenteral dosage forms—definition, general requirements for parenteral dosage forms, types of parenteral formulations, vehicles, adjuvants, processing, personnel, facilities and quality control. Preparation of intravenous fluids and admixtures—total parenteral nutrition, dialysis fluids		A.K GUPTA , R.M MEHTA	Class Discussion Presentations practicals

18	Sterility testing, particulate matter monitoring, faulty seal packaging.	2 week		Class Discussion Presentations practicals
19	Ophthalmic products—study of essential characteristics of different ophthalmic preparations. Formulation additives, special precautions in handling and storage of ophthalmic products.		LEON LACHMAN	Class Discussion Presentations practicals
	FINAL EXAM	1 Week		
	Total No of Weeks	32 week		

Lab Details : Dispensing of 100 products covering a wide range of preparations such as mixtures, emulsions, lotions, liniments, ENT preparations, ointments, suppositories, powders, incompatible prescriptions etc

COURSE ASSESSMENT AND GRADING

Continuous Assessment Method	**Weight (Marks)**	**Week of Assessment**	**Date of Assessment**	**Assessment feedback date**
Quizzes	**DOCO Quiz – 1**			
	Quiz- 2			
	Quiz-3			
Tests Sessional	**I**			
	I			
Test	**II**			
Sessional	**I I**			
Assignment	**Work shop, Project Seminar, Assignment**			
Final Examination	**100**			

Assessment

Assessment Methods:
Test1 (20%), Test (20%), Final Exam (80%)

Textbooks, Supplementary Materials

Textbook:

1. **A.K GUPTA ,**
2. **R.M MEHTA**

3. **SINDHU ABRAHAM**

***Reference Books*:**

1. LEON LACHMAN
2. AULTON
3. PHARMACOPOEIA
4. Cooper & Guns Dispensing
5. Dispensing of Medication

Class Room Polices

- Minimum of 75% attendance during lecture hours; and
- 100% attendance during seminars and project sessions, except for some unprecedented mishaps

Departmental Quality Assurance Committee Approval			
No.	**Name**	**Signature**	**Date**
1			
2			
3			