

Gandhinagar Institute of Pharmacy

Bachelor of Pharmacy (Undergraduate)

Semester I



Subject Code: BP103T	Subject Title: Pharmaceutics (Theory)
Pre-requisite: --	

Course Objective: Upon completion of the course student shall be able to

1. Summarize the history of the profession of pharmacy.
2. Describe the basics of different dosage forms, pharmaceutical incompatibilities, and compute pharmaceutical calculations.
3. Interpret and analyze the prescription.
4. Describe methodology for preparation of various conventional dosage forms and rationalize them.

Teaching Scheme (Hours per week)			Evaluation Scheme (Marks)			
Lecture	Tutorial	Credit	Theory			Total
			University Assessment	Continuous Assessment	Internal Assessment	
3	1	4	75	10	15	100

Detailed Syllabus:

Sr. No.	UNIT	Hours	Weightage (%)
1.	Historical background and development of profession of pharmacy, Dosage forms, Prescription, Posology History of profession of Pharmacy in India in relation to pharmacy education, industry and organization, Pharmacy as a career, Pharmacopoeias: Introduction to IP, BP, USP and Extra Pharmacopoeia. Introduction to dosage forms, classification, and definitions. Definition, Parts of prescription, handling of Prescription and Errors in prescription. Definition, Factors affecting posology. Pediatric dose calculations based on age, body weight and body surface area	10 Hours	22.22%
2.	Pharmaceutical calculations, Powders, Liquid dosage forms. Weights and measures – Imperial & Metric system, Calculations involving percentage solutions,	10 Hours	22.22%

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	<p>alligation, proof spirit and isotonic solutions based on freezing point and molecular weight.</p> <p>Definition, classification, advantages and disadvantages, Simple & compound powders – official preparations, dusting powders, effervescent, efflorescent, and hygroscopic powders, eutectic mixtures. Geometric dilutions.</p> <p>Advantages and disadvantages of liquid dosage forms. Excipients used in formulation of liquid dosage forms. Solubility enhancement techniques</p>		
3.	<p>Monophasic liquids, Biphasic liquids, suspensions, Emulsions</p> <p>Definitions and preparations of Gargles, Mouthwashes, Throat Paint, Eardrops, Nasal drops, Enemas, Syrups, Elixirs, Liniments and Lotions.</p> <p>Definition, advantages and disadvantages, classifications, Preparation of suspensions; Flocculated and Deflocculated suspension & stability problems and methods to overcome.</p> <p>Definition, classification, emulsifying agent, test for the identification of type of Emulsion, Methods of preparation & stability problems and methods to overcome.</p>	8 Hours	17.77%
4.	<p>Suppositories, Pharmaceutical incompatibilities</p> <p>Definition, types, advantages and disadvantages, types of bases, methods of preparations. Displacement value & its calculations, evaluation of suppositories.</p> <p>Definition, classification, physical, chemical, and therapeutic incompatibilities with examples.</p>	8 Hours	17.77%
5.	<p>Semisolid dosage forms</p> <p>Definitions, classification, mechanisms, and factors influencing dermal penetration of drugs. Preparation of ointments, pastes, creams, and gels. Excipients used in semi solid dosage forms. Evaluation of semi solid dosages forms.</p>	7 Hours	15.55%

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Subject Code: BP103P	Subject Title: Pharmaceutics (Practical)
Pre-requisite:	

Course Objective: Upon completion of the course student shall be able to

1. Interpret the formula and prepare solid dosage forms.
2. Interpret the formula and prepare semi solid dosage forms.
3. Interpret the formula and prepare liquid dosage forms.
4. Analyze the problem, communicate suggested solution and interpret the results.

Teaching Scheme (Hours per week)		Evaluation Scheme (Marks)			
Practical	Credit	Theory			Total
		University Assessment	Continuous Assessment	Internal Assessment	
4	2	35	5	10	50

List of Practical:

Sr. No.	Title of the unit
1	Syrups
	a) Syrup IP
	b) Paracetamol paediatric syrup
2	Elixirs
	a) Piperazine citrate elixir
	b) Paracetamol paediatric elixir
3	Linctus
	a) Simple Linctus BPC
4	Solutions
	a) Strong solution of ammonium acetate
	b) Cresol with soap solution
	c) Lugol's solution
5	Suspensions
	a) Calamine lotion
	b) Magnesium Hydroxide mixture
	c) Emulsions
	d) Turpentine Liniment
6	Liquid paraffin emulsion
	Powders and Granules
	a) ORS powder (WHO)
	b) Effervescent granules
c) Dusting powder	

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7	Suppositories
	a) Glycero gelatin suppository
	b) Cocoa butter suppository
	c) Zinc Oxide suppository
8	Semisolids
	a) Sulphur ointment
	b) Non staining iodine ointment with methyl salicylate
	c) Carbopol gel
9	Gargles and Mouthwashes
	a) Iodine gargle
	b) Chlorhexidine mouthwash

Recommended Study Material:

1. H.C. Ansel et al., Pharmaceutical Dosage Form and Drug Delivery System, Lippincott Williams and Walkins, New Delhi.
2. Carter S.J., Cooper and Gunn's-Dispensing for Pharmaceutical Students, CBS publishers, New Delhi.
3. M.E. Aulton, Pharmaceutics, The Science & Dosage Form Design, Churchill Livingstone, Edinburgh.
4. Indian pharmacopoeia, Ministry of Health and Family Welfare, Govt of India.
5. British pharmacopoeia, United Kingdom.
6. Lachmann. Theory and Practice of Industrial Pharmacy, Lea & Febiger Publisher, The University of Michigan.
7. Alfonso R. Gennaro Remington. The Science and Practice of Pharmacy, Lippincott Williams, New Delhi.
8. Carter S.J., Cooper and Gunn's. Tutorial Pharmacy, CBS Publications, New Delhi.
9. E.A. Rawlins, Bentley's Textbook of Pharmaceutics, English Language Book Society, Elsevier Health Sciences, USA.
10. Isaac Ghebre Selassie: Pharmaceutical Palletization Technology, Marcel Dekker, INC, New York.
11. Dilip M. Parikh: Handbook of Pharmaceutical Granulation Technology, Marcel Dekker, INC, New York.
12. Francoise Nieloud and Gilberte Marti-Mestres: Pharmaceutical Emulsions and Suspensions, Marcel Dekker, INC, New York.
13. Pharmaceutics-II, Dispensing Pharmacy, Dr. G. K. Jani, B.S. Shah Prakashan.
14. Dispensing Pharmacy- A Practical Manual, Sanmathi B. S., K. K. Mehta, Anshu Gupta, PharmaMed Press