

Teaching Scheme					Elective - Pharmaceutical Technologies (22PCM216T)					
					Examination Scheme					
L	T	P	C	Hours/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
2	0	0	2	2	25	50	25	--	--	100

COURSE OBJECTIVES

- Gain fundamental knowledge associated with pharmaceutical technologies.
- Develop ideas of various analytical pharmaceutical preparations.
- Learn, select and apply appropriate methods, procedures and resources.
- Understand the medicinal importance of organic and inorganic compounds.

UNIT I: Pharmaceutical preparations**6 Hr.**

Overview on different types of formulations. Monophasic liquids: Preparation, evaluation and stability of Syrups, Elixirs, Drops and Lotions. Biphasic liquids: Suspension: Theoretical consideration, preparation, evaluation and stability; Emulsions: Definition, type of emulsion, theories of emulsification, pharmaceutical applications, preparation, stability and preservation.

UNIT II: Pharmaceutical engineering**7 Hr.**

Formulation techniques: Objectives, mechanisms and factors influencing the process of size reduction, drying, mixing and filtration of different pharmaceutical agents. Corrosion of pharmaceutical equipment's and its prevention.

UNIT III: Physical pharmaceutical technology**7 Hr.**

Surface and interfacial phenomenon, surface active agents (surfactants) and its relevance in pharmaceutical preparations. Wetting and solubilizing agents and antifoaming agents; Colloids; Physical and chemical degradation of pharmaceutical products; Factors influencing degradation of drugs; Methods for reducing physical and chemical degradations; Stability aspects of formulations.

UNIT IV: Organic and inorganic pharmaceutical technology**8 Hr.**

Introduction to heterocyclic pharmaceutical chemistry; Five and six membered ring containing one and two hetero atoms and related drugs; Fused ring system: Indole, benzofuran, benzimidazole and their related compounds; Silicates in pharmacy drug preparation; Minerals: Fluid electrolytes and essential trace ions and elements; Transitional elements and their compounds and mineral supplements; Germicide and related substances; Radio isotopes and radio-opaque.

Max. 28 Hr.**COURSE OUTCOMES**

On completion of the course, student will be able to

- CO1:** Gain fundamental knowledge of different pharmaceutical preparations.
CO2: Understand the principles of quantitative and qualitative drug processing techniques.
CO3: Classify and compare various supporting processes in therapeutic preparations.
CO4: Get acquainted with the reactivity of organic and inorganic pharmaceutical compounds.
CO5: Focus professionally on pharmaceutical processes.
CO6: Design and develop solutions to analyse pharmacy and pharmaceutical problems

TEXT/REFERENCE BOOKS

1. Murthy, R.S.R., "Pharmaceutical Technology", Volume-1, 2nd Edition, New Age International Pvt. Ltd. (2017).
2. Narendra, P.S.S. and Ritesh, A. "Textbook of Pharmaceutical Analysis", Volume-3, Career Publications (2007).

3. Shivpuje, S.S., Singh, M.C. and Vishwe, P.S., "Pharmaceutics", Volume-1, Technical Publications (2009).
4. Globig, S. and Hunter Jr. W., "Pharmaceutical Technology", 1st Edition, Apple Academic Press (2012).
5. Subrahmanyam, C.V.S., "Physical pharmaceutics", 3rd Edition, Vallabh Prakashan publisher (2015).
6. Carter, S.J., "Cooper and Gunn's Tutorial pharmacy", 12th Edition, CBS Publishers (2008).
7. Sharma, Y.R., "Elementary Organic Spectroscopy: Principles and Chemical Applications", 5th Edition, S. Chand & Company Ltd. (2013).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100

Part A: 10 Questions each carrying 5 marks

Part B: 5 Questions each carrying 10 marks

Exam Duration: 3 Hr.

50 Marks

50 Marks