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

Subject Code: BP104T	**Subject Title:** Pharmaceutical Inorganic Chemistry -Theory
Pre-requisite Subject	**- NONE -**

Scope: This subject deals with the monographs of inorganic drugs and pharmaceuticals.

Objectives of course:

Upon completion of course student shall be able to

- know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals
- understand the medicinal and pharmaceutical importance of inorganic compounds

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)		
				Theory(T)		Total Marks
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	Theory
3	1	--	4	75	25	100

Subject Contents			
Sr. No.	**Topic**	**Total Hours (45 hours)**	**Weight (%)**
1	**Unit-I** • **Impurities in pharmaceutical substances:** History of Pharmacopoeia, Sources and types of impurities, principle involved in the limit test for Chloride, Sulphate, Iron, Arsenic, Lead and Heavy metals, modified limit test for Chloride and Sulphate • **General methods of preparation**, assay for the compounds superscripted with **asterisk (*),** properties and medicinal uses of inorganic compounds belonging to the following classes	10	22
2	**Unit-II** • **Acids, Bases and Buffers:** Buffer equations and buffer capacity in general, buffers in pharmaceutical systems, preparation, stability, buffered isotonic solutions, measurements of tonicity, calculations and methods of adjusting isotonicity. • **Major extra and intracellular electrolytes**: Functions of major physiological ions, Electrolytes used in the replacement therapy: Sodium chloride*, Potassium chloride, Calcium gluconate* and Oral Rehydration Salt (ORS), Physiological acid base balance. • **Dental products**: Dentifrices, role of fluoride in the treatment of dental caries, Desensitizing agents, Calcium carbonate, Sodium fluoride, and Zinc eugenol cement.	10	22

3	**Unit-III** **Gastrointestinal agents** • **Acidifiers:** Ammonium chloride* and Dil. HCl • **Antacid:** Ideal properties of antacids, combinations of antacids, Sodium Bicarbonate*, Aluminum hydroxide gel, Magnesium hydroxide mixture • **Cathartics:** Magnesium sulphate, Sodium orthophosphate, Kaolin and Bentonite • **Antimicrobials**: Mechanism, classification, Potassium permanganate, Boric acid, Hydrogen peroxide*, Chlorinated lime*, Iodine and its preparations	10	22
4	**Unit-IV** **Miscellaneous compounds** • **Expectorants:** Potassium iodide, Ammonium chloride*. • **Emetics**: Copper sulphate*, Sodium potassium tartarate • **Haematinics:** Ferrous sulphate*, Ferrous gluconate • **Poison and Antidote:** Sodium thiosulphate*, Activated charcoal, Sodium nitrite • **Astringents**: Zinc Sulphate, Potash Alum	08	18
5	**Unit-V** **Radiopharmaceuticals**: Radio activity, Measurement of radioactivity, Properties of α, β, γ radiations, Half life, radio isotopes and study of radio isotopes - Sodium iodide I^{131}, Storage conditions, precautions & pharmaceutical application of radioactive substances.	07	16

Recommended Books: (Latest Editions)

1. A.H. Beckett & J.B. Stenlake's, Practical Pharmaceutical Chemistry Vol I & II, Stahlone Press of University of London, 4th edition.
2. A.I. Vogel, Text Book of Quantitative Inorganic analysis
3. P. Gundu Rao, Inorganic Pharmaceutical Chemistry, 3rd Edition
4. M.L Schroff, Inorganic Pharmaceutical Chemistry
5. Bentley and Driver's Textbook of Pharmaceutical Chemistry
6. Anand & Chatwal, Inorganic Pharmaceutical Chemistry
7. Indian Pharmacopoeia