

Performa: Hindu College of Pharmacy, Sonipat (024)				
Lesson Plan				
Name of the faculty		Arun		
Discipline		Pharmacy		
Semester		1st Year		
Subject		Pharmaceutical Chemistry-I		
Lesson plan Duration		25 weeks (Dec. 2022 to July 2023)		
Work Load/week (In hour)		Lecture- 03; Tutorial- 01; Practical- 06		
Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	
1st (Dec 4th week)	1st	Scope and objectives of pharmaceutical chemistry	1st (Batch A)	Limit test for Chloride with given sample
	2nd	Introduction of Sources and types of errors	2nd (Batch B)	Limit test for Chloride with given sample
	3rd	Accuracy & Precision		
	4th	Significant figures		
2nd (Dec 5th week)	1st	Sources of impurities in Pharmaceuticals	1st (Batch A)	Limit test for Sulphate with given sample
	2nd	Sources of impurities in Pharmaceuticals	2nd (Batch B)	Limit test for Sulphate with given sample
	3rd	Importance of limit tests in Pharmacy		
	4th	Quality control of drugs		
3rd (Jan 1st week)	1st	Limit test for Chloride	1st (Batch A)	Limit test for Iron with given sample
	2nd	Limit test for Chloride	2nd (Batch B)	Limit test for Iron with given sample
	3rd	Limit test for Sulphate		
	4th	Limit test for Sulphate		
4th (Jan 2nd week)	1st	Limit test for Iron	1st (Batch A)	Limit test for heavy metals with given sample
	2nd	Limit test for Iron	2nd (Batch B)	Limit test for heavy metals with given sample
	3rd	Limit test for heavy metals		
	4th	Limit test for heavy metals		
5th (Jan 3rd week)	1st	Diagram of apparatus used in limit test for Arsenic	1st (Batch A)	Identification tests for Anions
	2nd	Principle of Limit test for Arsenic	2nd (Batch B)	Identification tests for Anions

	3 rd	Procedure of Limit test for Arsenic		
	4 th	Gutzeit apparatus		
6 th (Jan 4 th week)	1 st	Fundamentals of volumetric analysis	1 st (Batch A)	Identification tests for Cations
	2 nd	Acid base titration	2 nd (Batch B)	Identification tests for Cations
	3 rd	Non aqueous titration		
	4 th	Non aqueous titration		
7 th (Jan 5 th week)	1 st	Precipitation titration	1 st (Batch A)	Standardization of Sodium hydroxide
	2 nd	Complexometric titration	2 nd (Batch B)	Standardization of Sodium hydroxide
	3 rd	Redox titration		
	4 th	Redox titration		
8 th (Feb 1 st week)	1 st	Principle of gravimetric analysis	1 st (Batch A)	Standardization of Sodium hydroxide
	2 nd	Method used in gravimetric analysis	2 nd (Batch B)	Standardization of Sodium hydroxide
	3 rd	Method used in gravimetric analysis		
	4 th	Titrations		
9 th (Feb 2 nd week)	1 st	Haematinics and study of Ferrous sulphate and Ferrous fumarate	1 st (Batch A)	Assay of Ferrous sulphate
	2 nd	Study of Ferric ammonium citrate, Ferrous ascorbate and Carbonyl iron	2 nd (Batch B)	Assay of Ferrous sulphate
	3 rd	Gastro-intestinal agents and study of antacids		
	4 th	Importance of antacids		
10 th (Feb 3 rd week)	1 st	Study of Aluminium hydroxide gel, Magnesium hydroxide and magaldrate	1 st (Batch A)	Assay of Calcium gluconate
	2 nd	Study of Sodium bicarbonate, Calcium carbonate	2 nd (Batch B)	Assay of Calcium gluconate
	3 rd	Study of Acidify agents and adsorbents		
	4 th	Study of Acidify agents and adsorbents		
11 th (Feb 4 th week)	1 st	Study of Protectives and Cathartics	1 st (Batch A)	Assay of Sodium chloride

	2 nd	Topical agents and study of silver nitrate, silver and Chlorhexidine	2 nd (Batch B)	Assay of Sodium chloride
	3 rd	Study of Hydrogen peroxide, Boric acid		
	4 th	Bleaching powder and potassium permanganate		
12 th (Mar 1 st week)	1 st	Dental products and study of Calcium carbonate and sodium fluoride	1 st (Batch A)	Assay of Ascorbic acid
	2 nd	Denature cleaners	2 nd (Batch B)	Assay of Ascorbic acid
	3 rd	Mouth washes		
	4 th	Denature adhesives		
13 th (Mar 4 th week)	1 st	Medicinal gases and study of carbon dioxide	1 st (Batch A)	Assay of Ibuprofen
	2 nd	Study of Nitrous oxide and Oxygen	2 nd (Batch B)	Assay of Ibuprofen
	3 rd	Introduction to nomenclature of heterocyclic compounds		
	4 th	Study of heterocyclic rings		
14 th (Apr 2 nd week)	1 st	Study of heterocyclic compounds	1 st (Batch A)	Determination of melting point and boiling point
	2 nd	Drugs acting on CNS and introduction of anaesthetics	2 nd (Batch B)	Determination of melting point and boiling point
	3 rd	Study of Thiopental sodium		
	4 th	Ketamine and Propofol		
15 th (Apr 3 rd week)	1 st	Introduction and classification of Sedatives and Hypnotics	1 st (Batch A)	Preparation of Benzoic acid from Benzamide
	2 nd	Study of Diazepam, Alprazolam, Nitrazepam and Phenobarbital	2 nd (Batch B)	Preparation of Benzoic acid from Benzamide
	3 rd	Antipsychotics and study of Chlorpromazine		
	4 th	Haloperidol and Risperidone		
16 th (Apr 4 th week)	1 st	Study of Sulpiride, Olanzapine, Quetiapine and Lurasidone	1 st (Batch A)	Preparation of Picric acid from Phenol
	2 nd	Anticonvulsants and study of Phenytoin and carbamazepine	2 nd (Batch B)	Preparation of Picric acid from Phenol
	3 rd	Study of clonazepam, Gabapentin,		
	4 th	Topiramate and Lamotrigine		

17th (Apr 5th week)	1st	Anti-depressants and study of Amitriptyline	1st (Batch A)	Identification and test for purity of Aspirin
	2nd	Study of Imipramine, Fluoxetine, Duloxetine	2nd (Batch B)	Identification and test for purity of Aspirin
	3rd	Study of Escitalopram, Fluvoxamine		
	4th	Sertraline and paroxetine		
18th (May 1st week)	1st	Drugs acting on ANS and Sympathomimetics	1st (Batch A)	Identification and test for purity of Caffeine
	2nd	Study of Nor- Epinephrine, Epinephrine and Phenylephrine	2nd (Batch B)	Identification and test for purity of Caffeine
	3rd	Study of Dopamine, Terbutaline,		
	4th	Salbutamol and Naphazoline		
19th (May 2nd week)	1st	Study of indirect acting agents	1st (Batch A)	Identification and test for purity of Paracetamol
	2nd	Study of indirect acting agents	2nd (Batch B)	Identification and test for purity of Paracetamol
	3rd	Study of Adrenergic antagonists		
	4th	Study of Adrenergic antagonists		
20th (May 3rd week)	1st	Study of Cholinergic agents	1st (Batch A)	Identification and test for purity of Sulphanilamide
	2nd	Study of Cholinergic blocking agents	2nd (Batch B)	Identification and test for purity of Sulphanilamide
	3rd	Drugs acting on CVS and		
	4th	Antiarrhythmic drugs		
21st (May 4th week)	1st	Study of antihypertensive agents	1st (Batch A)	Detection of elements
	2nd	Study of antianginal agents	2nd (Batch B)	Detection of elements
	3rd	Study of Diuretics		
	4th	Study of Diuretics		
22nd (May 5th week)	1st	Study of Hypoglycaemic agents	1st (Batch A)	Identification tests of functional groups
	2nd	Study of Analgesics anti-inflammatory agents	2nd (Batch B)	Identification tests of functional groups
	3rd	Study of NSAIDS		
	4th	Study of anti-inflammatory agents		

23rd (June 1st week)	1st	Study of Antifungal agents	1st (Batch A)	Identification tests of functional groups
	2nd	Study of Urinary tract anti-infective agents	2nd (Batch B)	Identification tests of functional groups
	3rd	Study of anti-tubercular drugs		
	4th	Study of anti-tubercular drugs		
24th (July 4th week)	1st	Study of antiviral agents	1st (Batch A)	Identification tests of functional groups
	2nd	Study of anti-malarial	2nd (Batch B)	Identification tests of functional groups
	3rd	Study of Sulphonamides		
	4th	Study of Sulphonamides		
25th (July 5th week)	1st	Study of Antibiotics	1st (Batch A)	Identification tests of functional groups
	2nd	Study of Antibiotics	2nd (Batch B)	Identification tests of functional groups
	3rd	Study of anti-neoplastic agents		
	4th	Revision		
After onwards revised the queries regarding the syllabus				