

Performa : Hindu College of Pharmacy, Sonipat (024)				
Lesson Plan				
Name of the faculty		Dr Bharat Bhushan		
Discipline		Pharmacy		
Semester		1 st Year		
Subject		Pharmaceutical Chemistry-I		
Lesson plan Duration		25 weeks (Oct. 2021 to May 2022)		
Work Load/week(In hour)		Lecture- 03; Tutorial -01; Practical- 09		
Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	
1 st (Sept. 1 st week)	1 st	Scope and objectives of Pharmaceutical chemistry	1 st (Batch A)	Limit test for Chloride with given sample
	2 nd	Introduction of Sources and types of errors	2 nd (Batch B)	Limit test for Chloride with given sample
	3 rd	Accuracy, Precision and	3 rd (Batch C)	Limit test for Chloride with given sample
	4 th	Significant figures		
2 nd (Sept. 2 nd week)	1 st	Sources of impurities in Pharmaceuticals	1 st (Batch A)	Limit test for Sulphate with given sample
	2 nd	Sources of impurities in Pharmaceuticals	2 nd (Batch B)	Limit test for Sulphate with given sample
	3 rd	Importance of limit tests in Pharmacy	3 rd (Batch C)	Limit test for Sulphate with given sample
		Quality control of drugs		
3 rd (Sept. 3 rd week)	1 st	Limit test for Chloride	1 st (Batch A)	Limit test for Iron with given sample
	2 nd	Limit test for Chloride	2 nd (Batch B)	Limit test for Iron with given sample
	3 rd	Limit test for Sulphate	3 rd (Batch C)	Limit test for Iron with given sample
		Limit test for Sulphate		
4 th (Sept 4 th week)	1 st	Limit test for Iron	1 st (Batch A)	Limit test for heavy metals with given sample
	2 nd	Limit test for Iron	2 nd (Batch B)	Limit test for heavy metals with given sample
	3 rd	Limit test for heavy metals	3 rd (Batch C)	Limit test for heavy metals with given sample
		Limit test for heavy metals		
5 th (Sept. 5 st week)	1 st	Diagram of apparatus used in limit test for Arsenic	1 st (Batch A)	Identification tests for Anions
	2 nd	Principle of Limit test for Arsenic	2 nd (Batch B)	Identification tests for Anions

	3 rd	Procedure of Limit test for Arsenic	3 rd (Batch C)	Identification tests for Anions
		Gutzeit apparatus		
6 th (Oct 2 nd 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	3 rd (Batch C)	Identification tests for Cations
		Non aqueous titration		
7 th (Oct. 3 rd 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	3 rd (Batch C)	Standardization of Sodium hydroxide
		Redox titration		
8 th (Oct. 4 th 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	3 rd (Batch C)	Standardization of Sodium hydroxide
		Titrations		
9 th (Oct. 5 th 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	3 rd (Batch C)	Assay of Ferrous sulphate
		Importance of antacids		
10 th (Nov. 2 nd week)	1 st	Study of Aluminium hydroxide gel, Magnesium hydroxide and megaldrate	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	3 rd (Batch C)	Assay of Calcium gluconate
		Study of Acidify agents and adsorbents		

11th(Nov. 3rd week)	1st	Study of Protectives and Cathartics	1st (Batch A)	Assay of Sodium chloride
	2nd	Topical agents and study of Silver nitrate, silver and Chlorhexidine	2nd (Batch B)	Assay of Sodium chloride
	3rd	Study of Hydrogen peroxide, Boric acid	3rd (Batch C)	Assay of Sodium chloride
		Bleaching powder and potassium permanganate		
12th(Nov. 4th week)	1st	Dental products and study of Calcium carbonate and sodium fluoride	1st (Batch A)	Assay of Ascorbic acid
	2nd	Denature cleaners	2nd (Batch B)	Assay of Ascorbic acid
	3rd	Mouth washes	3rd (Batch C)	Assay of Ascorbic acid
		Denature adhesives		
13th(Dec. 1st week)	1st	Medicinal gases and study of carbon dioxide	1st (Batch A)	Assay of Ibuprofen
	2nd	Study of Nitrous oxide and Oxygen	2nd (Batch B)	Assay of Ibuprofen
	3rd	Introduction to nomenclature of heterocyclic compounds	3rd (Batch C)	Assay of Ibuprofen
		Study of heterocyclic rings		
14th(Dec.. 2nd week)	1st	Study of heterocyclic compounds	1st (Batch A)	Determination of melting point and boiling point
	2nd	Drugs acting on CNS and introduction of anaesthetics	2nd (Batch B)	Determination of melting point and boiling point
	3rd	Study of Thiopental sodium	3rd (Batch C)	Determination of melting point and boiling point
		Ketamine and Propofol		
15th(Dec. 3rd week)	1st	Introduction and classification of Sedatives and Hypnotics	1st (Batch A)	Preparation of Benzoic acid from Benzamide
	2nd	Study of Diazepam, Alprazolam, Nitrazepam and Phenobarbital	2nd (Batch B)	Preparation of Benzoic acid from Benzamide
	3rd	Antipsychotics and study of Chlopromazine e	3rd (Batch C)	Preparation of Benzoic acid from Benzamide
		Haloperidol and Risperidon		
16th(Dec. 4th week)	1st	Study of Sulpiride, Olanzapine, Quetiapine and Lurasidone		Preparation of Picric acid from Phenol
	2nd	Anticonvulsants and study of Phenytoin and carbamazepine	2nd (Batch B)	Preparation of Picric acid from Phenol
	3rd	Study of clonazepam, Gabapentin,	3rd (Batch C)	Preparation of Picric acid from Phenol

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

		Study of anti-inflammatory agents		
23rd(Mar. 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		Identification tests of functional groups
		Study of anti-tubercular drugs		
24th(Mar. 2nd week)	1st	Study of antiviral agents	1st (Batch A)	Identification tests of functional groups
	2nd	Study of anti-malarials	2nd (Batch B)	Identification tests of functional groups
	3rd	Study of Sulphonamides	3rd (Batch C)	Identification tests of functional groups
		Study of Sulphonamides		
25th (Mar. 3rd 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	3rd (Batch C)	Identification tests of functional groups
		Revision		
After onwards revised the queries regarding the syllabus.				