

Lesson Plan				
Name of faculty :		Mr. Jeetesh sharma		
Discipline :		DIPLOMA IN PHARMACY		
Semester/Year :		1st Year		
Subject/Code :		PHARMAceutical chemistry - ER20-12T/12P		
Lesson Plan Duration :		30 weeks (Sept. 2023 to May 2024)		
Work Load (Lecture/Practical) per week (in Hours) :				
WEEK	THEORY		PRACTICAL	
	LECTURE DAY	Topic (Including Assignment/Test)	Practical Day	Topic
1st	1st	Introduction to Pharmaceutical chemistry: Scope and objectives	1st	Limit test for chloride
	2nd	Sources and types of errors: Accuracy, precision, significant figures		
	3rd	Impurities in Pharmaceuticals: Source and effect of impurities in Pharmacopoeial substances		
2st	1st	importance of limit test, Principle and procedures	2nd	REVISION
	2nd	Limit tests for		
	3rd	iron, heavy metals and arsenic.		
3rd	1st	Volumetric analysis: Fundamentals of volumetric	3rd	Limit test for sulphate
	2nd	Acid-base titration		
	3rd	non-aqueous titration		
4th	1st	precipitation titration	4th	Limit test for Iron
	2nd	complexometric titration		
	3rd	redox titration		
5th	1st	Gravimetric analysis: Principle and method	5th	Limit test for Heavy metals
	2nd	Inorganic Pharmaceuticals: Pharmaceutical formulations, market preparations, storage conditions		

	3rd	Haematinics: Ferrous sulphate, Ferrous fumarate		
6th	1st	Ferric ammonium citrate, Ferrous ascorbate, Carbonyl iron	6th	Identification tests for Anions and Cations as per Indian Pharmacopoeia
	2nd	REVISION		
	3rd	Antacids: Aluminium hydroxide gel, Magnesium hydroxide, Magaldrate		
7th	1st	REVISION	7th	Preparation of standard solution and standardization of Sodium Hydroxide
	2nd	Sodium bicarbonate, Calcium Carbonate		
	3rd	Anti-microbial agents: Silver Nitrate, Ionic Silver, Chlorhexidine Gluconate		
8th	1st	Hydrogen peroxide, Boric acid, Bleaching powder	8th	Preparation of standard solution and standardization of Ceric Ammonium Sulfate
	2nd	Potassium permanganate		
	3rd	Dental products: Calcium carbonate, Sodium fluoride		
9th	1st	Denture cleaners, Denture adhesives, Mouth washes	9th	Preparation of standard solution and standardization of Potassium Permanganate
	2nd	Medicinal gases: Carbon dioxide, nitrous oxide, oxygen		
	3rd	Introduction to nomenclature of organic chemical systems		
10th	1st	particular reference to heterocyclic compounds	10th	Assay of Ferrous sulphate- by redox titration
	2nd			
	3rd	REVISION		
				Assay of Calcium gluconate-by

11th		1st SESSIONAL EXAMINATION		11th	Assay of Calcium gluconate-by complexometric
12th	1st	Drugs Acting on Central Nervous System: Thiopental Sodium*, Ketamine		12th	Assay of Sodium chloride-by Modified Volhard's method
	2nd	Hydrochloride*, Propofol			
	3rd	Sedatives and Hypnotics: Diazepam*, Alprazolam*			
13th	1st	Nitrazepam, Phenobarbital*		13th	Assay of Ascorbic acid by cerimetry
	2nd	Antipsychotics: Chlorpromazine Hydrochloride*, Haloperidol			
	3rd	Risperidone*, Sulpiride*, Olanzapine, Quetiapine, Lurasidone			
14th	1st	Anticonvulsants: Phenytoin*, Carbamazepine*, Clonazepam, Valproic Acid*		14th	Assya of Metronidazole by Non-Aqueous Titration
	2nd	Gabapentin*, Topiramate, Vigabatrin, Lamotrigine			
	3rd	Anti-Depressants: Amitriptyline Hydrochloride*, Imipramine Hydrochloride*, Fluoxetine*, Venlafaxine, Duloxetine, Sertraline			
15th	1st	Citalopram, Escitalopram, Fluvoxamine, Paroxetine		15th	Assay of Ibuprofen by alkalimetry
	2nd	Sympathomimetic Agents: Direct Acting: NorEpinephrine*, Epinephrine			
	3rd	Phenylephrine, Dopamine*, Terbutaline, Salbutamol (Albuterol), Naphazoline*, Tetrahydrozoline			
16th	1st	Hydroxy Amphetamine, Pseudoephedrine. Agents With Mixed Mechanism: Ephedrine, Metaraminol		16th	Determination of Melting point and boiling point of organic compounds
	2nd	Adrenergic Antagonists: Alpha Adrenergic Blockers: Tolazoline, Phentolamine			
	3rd	Phenoxybenzamine, Prazosin. Beta Adrenergic Blockers: Propranolol*, Atenolol*, Carvedilol			
17th	1st	Cholinergic Drugs and Related Agents: Direct Acting Agents: Acetylcholine*, Carbachol, And Pilocarpine. Cholinesterase Inhibitors		17th	Preparation of organic compounds Acetanilide from aniline
	2nd	Neostigmine*, Edrophonium Chloride, Tacrine Hydrochloride, Pralidoxime Chloride, Echothiopate Iodide			

	3rd	Cholinergic Blocking Agents: Atropine Sulphate*, Ipratropium Bromide Synthetic Cholinergic Blocking Agents: Tropicamide, Cyclopentolate Hydrochloride, Clidinium		
18th	1st	Anti-Arrhythmic Drugs: Quinidine Sulphate, Procainamide Hydrochloride, Verapamil, Phenytoin Sodium*, Lidocaine Hydrochloride, Lorcaïnide Hydrochloride, Amiodarone and Sotalol	18th	Preparation of organic compounds Aspirin from salicylic acid
	2nd	Anti-Hypertensive Agents: Propranolol*, Captopril*, Ramipril, Methyldopate Hydrochloride, Clonidine		
	3rd	REVISION		
19th	1st	Hydrochloride, Hydralazine Hydrochloride, Nifedipine, Antianginal Agents: Isosorbide Dinitrate	19th	Identification and test for purity of pharmaceuticals of aspirin
	2nd	Diuretics: Acetazolamide, Frusemide*, Bumetanide		
	3rd	Chlorthalidone, Benzthiazide, Metolazone, Xipamide, Spironolactone		
20th	1st	REVISION	20th	Identification and test for purity of pharmaceuticals of caffeine
	2nd	Hypoglycemic Agents: Insulin and Its Preparations, Metformin		
	3rd	Glibenclamide*, Glimepiride, Pioglitazone, Repaglinide, Gliflozins, Gliptins		
21st	1st	REVISION	21st	Identification and test for purity of pharmaceuticals of paracetamol
	2nd	Analgesic And Anti-Inflammatory Agents: Morphine Analogues, Narcotic Antagonists;		
	3rd	Nonsteroidal Antiinflammatory Agents (NSAIDs) - Aspirin*, Diclofenac, Ibuprofen*, Piroxicam, Celecoxib, Mefenamic Acid, Paracetamol*, Aceclofenac		
22nd	1st	Antifungal Agents: Amphotericin-B, Griseofulvin, Miconazole, Ketoconazole*, Itraconazole, Fluconazole*, Naftifine Hydrochloride	22nd	Identification and test for purity of pharmaceuticals Sulfanilamide
	2nd	Urinary Tract Anti-Infective Agents: Norfloxacin, Ciprofloxacin, Ofloxacin*, Moxifloxacin,		

	3rd	Anti-Tubercular Agents: INH*, Ethambutol, Para Amino Salicylic Acid, Pyrazinamide, Rifampicin, Bedaquiline, Delamanid, Pretomanid*		
23rd	WINTER VACATION		23rd	Systematic Qualitative analysis experiments
24th	1st	REVISION	24th	PRACTICAL SESSIONAL EXAMINATION
	2nd	Antiviral Agents: Amantadine Hydrochloride, Idoxuridine, Acyclovir*, Foscarnet, Zidovudine, Ribavirin, Remdesivir, Favipiravir		
	3rd	Antimalarials: Quinine Sulphate, Chloroquine Phosphate*, Primaquine Phosphate, Mefloquine*, Cycloguanil, Pyrimethamine, Artemisinin		
25th	2nd SESSIONAL EXAMINATION		25th	REVISION
26th	1st	Sulfonamides: Sulfanilamide, Sulfadiazine, Sulfamethoxazole, Sulfacetamide*, Mafenide Acetate, Cotrimoxazole, Dapsone*	26th	REVISION
	2nd	Antibiotics: Penicillin G, Amoxicillin*, Cloxacillin, Streptomycin		
	3rd	Tetracyclines: Doxycycline, Minocycline, Macrolides: Erythromycin, Azithromycin, Miscellaneous: Chloramphenicol* Clindamycin		
27th	1st	Anti-Neoplastic Agents: Cyclophosphamide*, Busulfan, Mercaptopurine, Fluorouracil*, Methotrexate	27th	REVISION
	2nd	Dactinomycin, Doxorubicin Hydrochloride, Vinblastine Sulphate, Cisplatin*, Dromostanolone Propionate		
	3rd	REVISION		
28th	1st	REVISION	28th	REVISION
	2nd	REVISION		
	3rd	REVISION		

29th	1st	REVISION	29th	REVISION
	2nd	REVISION		
	3rd	REVISION		
30th	1st	REVISION	30th	REVISION
	2nd	REVISION		
	3rd	REVISION		

