**SAT PRIYA COLLEGE OF PHARMACY, ROHTAK**

**LESSON PLAN**

**D.Pharmacy 1st yr. (session 2021-22)**

**Subject- Pharmaceutical Chemistry**

**Name of Faculty- Mr. Ankit Rathee**

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| **S.No** | **Date**  | **Theory Topic** | **Practical Topic** |
| **1** | 28-10-2021 - 30-10-2021 | Introduction to Pharmaceutical Chemistry | To study different type of instrument used in laboratory |
| **2** | 01-11-2021- 06-11-2021(Quiz/Oral Exam On Wednesday) | Introduction to Pharmaceutical chemistry: Scope and objectives Sources and types of errors: Accuracy, precision, significant figures Impurities in Pharmaceuticals  |
| **3** | 08-11-2021- 13-11-2021 | Source and effect of impurities in Pharmacopoeial substances, importance of limit test, Principle and procedures of Limit tests for chlorides, sulphates, iron, heavy metals and arsenic | To study different type of glassware used in laboratory.. |
| **4** | 15-11-2021- 23-11-2021 | Volumetric analysis: Fundamentals of volumetric analysis, Acid-base titration, non-aqueous titration | To perform limit test for chloride in given compound |
| **5** | 24-11-2021-29-11-2021 | **Induction Program** |
| **6** | 30-11-2021-04-12-2021 | Precipitation titration, complexometric titration, redox titration Gravimetric analysis: Principle and method. | To perform limit test for sulphate in given compound |
| **7** | 06-12-2021-11-12-2021(Quiz/Oral Exam On Wednesday) | Haematinics: Ferrous sulphate, Ferrous fumarate, Ferric ammonium citrate, Ferrous ascorbate, Carbonyl iron ● Gastro-intestinal Agents: Antacids :Aluminium hydroxide gel, Magnesium hydroxide, Magaldrate, Sodium bicarbonate, Calcium Carbonate, Acidifying agents, Adsorbents, Protectives, Cathartics  | To perform limit test for iron in given compound |
| **8** | 13-12-2021-18-12-2021 | Topical agents: Silver Nitrate, Ionic Silver, Chlorhexidine Gluconate, Hydrogen peroxide, Boric acid, Bleaching powder, Potassium permanganate  | To prepare and standardize sodium hydroxide solution |
| **9** | 20-12-2021-31-12-2021 | **1st Internal Assessment Exam** |
| **10** | 01-01-2022-08-01-2022(Quiz/Oral Exam On Wednesday) | ● Dental products: Calcium carbonate, Sodium fluoride, Denture cleaners, Denture adhesives, Mouth washes ● Medicinal gases: Carbon dioxide, nitrous oxide, oxygen | To prepare and standardize Potassium permanganate solution |
|  **11** | 10-01-2022-15-01-2022 | Introduction to nomenclature of organic chemical systems with particular reference to heterocyclic compounds containing up to Three rings | To prepare and standardize Potassium permanganate solution |
| **12** | 17-01-2022-22-01-2022 | Anaesthetics: Thiopental Sodium\*, Ketamine Hydrochloride\*, Propofol ● Sedatives and Hypnotics: Diazepam\*, Alprazolam\*, Nitrazepam, Phenobarbital\*  | To study about the various safety gadgets used in pharmaceutical laboratory |
| **13** | 24-01-2022-29-01-2022(Seminar on Friday) | ● Antipsychotics: Chlorpromazine Hydrochloride\*, Haloperidol\*, Risperidone\*, Sulpiride\*, Olanzapine, Quetiapine, Lurasidone  | To study about the various chromatographic technique  |
| **14** | 31-01-2022-05-02-2022 | Anticonvulsants: Phenytoin\*, Carbamazepine\*, Clonazepam, Valproic Acid\*, Gabapentin\*, Topiramate, Vigabatrin, Lamotrigine ● Anti-Depressants: Amitriptyline Hydrochloride\*, Imipramine Hydrochloride\*, Fluoxetine\*, Venlafaxine, Duloxetine, Sertraline, Citalopram, Escitalopram, Fluvoxamine, Paroxetine |
| **15** | 07-02-2022-12-02-2022(Quiz/Oral Exam On Wednesday) | ● Sympathomimetic Agents: Direct Acting: NorEpinephrine\*, Epinephrine, Phenylephrine, Dopamine\*, Terbutaline, Salbutamol (Albuterol), Naphazoline\*, Tetrahydrozoline. Indirect Acting Agents: Hydroxy Amphetamine, Pseudoephedrine. Agents With Mixed Mechanism: Ephedrine, Metaraminol ● Adrenergic Antagonists: Alpha Adrenergic Blockers: Tolazoline, Phentolamine  | To prepare picric acid from phenol |
| **16** | 14-02-2022-19-02-2022 | ● Phenoxybenzamine, Prazosin. Beta Adrenergic Blockers: Propranolol\*, Atenolol\*, Carvedilol ● Cholinergic Drugs and Related Agents: Direct Acting Agents: Acetylcholine\*, Carbachol, And Pilocarpine. Cholinesterase Inhibitors: Neostigmine\*, Edrophonium Chloride, Tacrine Hydrochloride, Pralidoxime Chloride, Echothiopate Iodide  |
| **17** | 21-02-2022-26-02-2022(Seminar on Friday) | ● Cholinergic Blocking Agents: Atropine Sulphate\*, Ipratropium Bromide Synthetic Cholinergic Blocking Agents: Tropicamide, Cyclopentolate Hydrochloride, Clidinium Bromide, Dicyclomine Hydrochloride\* | To prepare benzoic acid from benzamide |
| **18** | 28-02-2022-05-03-2022 | Anti-Arrhythmic Drugs: Quinidine Sulphate, Procainamide Hydrochloride, Verapamil, Phenytoin Sodium\*, Lidocaine Hydrochloride, Lorcainide Hydrochloride, Amiodarone and Sotalol ● Anti-Hypertensive Agents: Propranolol\*, Captopril\*, Ramipril, Methyldopate Hydrochloride, Clonidine Hydrochloride, Hydralazine Hydrochloride, Nifedipine, ● Antianginal Agents: Isosorbide Dinitrate |
| **19** | 07-03-2022- 12-03-2022(Quiz/Oral Exam On Wednesday) | Diuretics: Acetazolamide, Frusemide\*, Bumetanide, Chlorthalidone, Benzthiazide, Metolazone, Xipamide, Spironolactone | To perform assay of given sample of ferrous sulphate |
| **20** | 14-03-2022- 19-03-2022 | Hypoglycemic Agents: Insulin and Its Preparations, Metformin\*, Glibenclamide\*, Glimepiride, Pioglitazone, Repaglinide, Gliflozins, Gliptins |
| **21** | 21-03-2022- 25-03-2022 | **2nd Internal Assessment Exam** |
| **22** | 26-03-2022- 02-04-2022 | Analgesic And Anti-Inflammatory Agents: Morphine Analogues, Narcotic Antagonists; Nonsteroidal AntiInflammatory Agents (NSAIDs) - Aspirin\*, Diclofenac, Ibuprofen\*, Piroxicam, Celecoxib, Mefenamic Acid, Paracetamol\*, Aceclofenac | To perform assay of Ibuprofen by alkalimetry |
| **23** | 04-04-2022-09-04-2022(Quiz/Oral Exam On Wednesday) | Antifungal Agents: Amphotericin-B, Griseofulvin, Miconazole, Ketoconazole\*, Itraconazole, Fluconazole\*, Naftifine Hydrochloride ● Urinary Tract Anti-Infective Agents: Norfloxacin, Ciprofloxacin, Ofloxacin\*, Moxifloxacin,  |
| **24** | 11-04-2022-16-04-2022 | ● Anti-Tubercular Agents: INH\*, Ethambutol, Para Amino Salicylic Acid, Pyrazinamide, Rifampicin, Bedaquiline, Delamanid, Pretomanid\* | To perform identification and test purity of aspirin |
| **25** | 18-04-2022-23-04-2022 | Antiviral Agents: Amantadine Hydrochloride, Idoxuridine, Acyclovir\*, Foscarnet, Zidovudine, Ribavirin, Remdesivir, Favipiravir ● Antimalarials: Quinine Sulphate, Chloroquine Phosphate\*, Primaquine Phosphate, Mefloquine\*, Cycloguanil, Pyrimethamine, Artemisinin  |
| **26** | 25-04-2022-30-04-2022(Seminar on Friday) | ● Sulfonamides: Sulfanilamide, Sulfadiazine, Sulfametho xazole, Sulfacetamide\*, Mafenide Acetate, Cotrimoxazole, Dapsone\* | To perform identification and test purity of aspirin |
| **27** | 02-05-2022-07-05-2022(Quiz/Oral Exam On Wednesday) | Antibiotics: Penicillin G, Amoxicillin\*, Cloxacillin, Streptomycin, Tetracyclines: Doxycycline, Minocycline, |
| **28** | 09-05-2022-14-05-2022 | Macrolides: Erythromycin, Azithromycin, Miscellaneous: Chloramphenicol\* Clindamycin | To perform identification and test purity of sulphonamide  |
| **29** | 16-05-2022-21-05-2022 | Anti-Neoplastic Agents: Cyclophosphamide\*, Busulfan, Mercaptopurine, Fluorouracil\*, Methotrexate, Dactinomycin, Doxorubicin Hydrochloride, Vinblastine Sulphate, Cisplatin\*, Dromostanolone Propionate |
| **30** | From 23-05-2022 onward  | Revision/ Problem Discussion |  |