

**LESSON PLAN**

Faculty Name: Ms. Parvinder

Subject Name: Pharmaceutical Chemistry-II

Class: D. Pharmacy – II<sup>nd</sup> year

Subject Code: 2132

**Scope of the Subject:** This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasizes on the introduction to the nomenclature of organic chemical systems with particular reference to heterocyclic systems containing up to 3 rings. The syllabus also emphasizes on chemical structure, uses and the important physical and chemical properties of the drugs including the stability and storage conditions and the different types of pharmaceutical formulations of these drugs and their popular brand names.

**Course outcome:** Upon completion of this course the student should be able to:

- Understand the complex mechanism of official compounds.
- Explain why chemistry is an integral activity for addressing social, economic and environmental problems.
- Design and carry out scientific experiments and analyze the results of such experiments.
- Understand the adverse effects and therapeutic value of drugs

Number of Lectures: 100 + 5

Each lecture: 01 hour

| Lecture No.                                    | Particular   | Remark/Date |
|--|--|-------------|
| <b>Introduction</b>                            |  |             |
| 1.   | General discussion about medicinal compounds and subject |             |
| 2.   | Nomenclature of the organic compounds                    |             |
| 3.   | Nomenclature of heterocyclic rings                       |             |
| 4.   | Nomenclature of heterocyclic rings                       |             |
| <b>Module 1: Antiseptics and Disinfectants</b> |  |             |
| 5.   | Proflavine, Benzalkonium chloride,                       |             |
| 6.   | Hexachlophene, Nitrofurantoin.                           |             |
| <b>Module 2: Sulphonamides</b>                 |  |             |
| 7.   | Introduction and mechanism of Sulphadiazine              |             |
| 8.   | Sulphaguanidine, Phthalylsulphathiazole                  |             |
| 9.   | Succinylsulphathiazole                                   |             |
| 10.  | Co-trimoxazole, sulfacetamide                            |             |
| <b>Module 3: Antileprotic Drugs</b>            |  |             |
| 11.  | Dapsone  |             |
| 12.  | Clofazimine, Thiambutosine, Solapsone                    |             |
| <b>Module 4: Anti-tubercular Drugs</b>         |  |             |
| 13.  | Isoniazid, PAS, Ethambutol                               |             |

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| 14.   | Streptomycin, Rifampicin                                     |  |
| 15.   | Thiacetazone, Ethionamide                                    |  |
| 16.   | Cycloserine, Pyrazinamide                                    |  |
| <b>Module 5: Antiamoebic and Anthelmintic Drugs</b> |  |  |
| 17.   | Emetine, Metronidazole                                       |  |
| 18.   | Diloxanide furoate, Paromomycin                              |  |
| 19.   | Halogenated hydroxyquinolines, Piperazine                    |  |
| 20.   | Mebendazole, D.E.C   |  |
| <b>Module 6: Antibiotics</b>                        |  |  |
| 21.   | Benzyl penicillin, Phenoxy methyl penicillin                 |  |
| 22.   | Ampicillin, Cloxacillin                                      |  |
| 23.   | Carbencicillin, Gentamicin                                   |  |
| 24.   | Erythromycin, Tetracycline                                   |  |
| 25.   | Cephalexin, Cephaloridine                                    |  |
| 26.   | Cephalothin, Griseofulvin                                    |  |
| 27.   | Chloramphenicol  |  |
| <b>Module 7: Antifungal agents</b>                  |  |  |
| 28.   | Udecylenic acid, Tolnaftate, Hamycin                         |  |
| 29.   | Nystatin, Amphotericin                                       |  |
| <b>Module 8: Antimalarial Drugs</b>                 |  |  |
| 30.   | Chloroquine, Amodiaquine                                     |  |
| 31.   | Primaquine, Proguanil, Pyrimethamine                         |  |
| <b>Module 9: Tranquilizers</b>                      |  |  |
| 32.   | Chlorpromazine, Prochlorperazine                             |  |
| 33.   | Triperiodol, Oxyperline,                                     |  |
| 34.   | Chlordizepoxide  |  |
| 35.   | Diazepam, Lorazepam,   |  |
| 36.   | Meprobamate, Trifluoperazine,                                |  |
| 37.   | Thiothixene, Haloperidol                                     |  |
| <b>Module 10: Hypnoticsd</b>                        |  |  |
| 38.   | Phenobarbitone   |  |
| 39.   | Cylobarbitone, Butobarbitone                                 |  |
| 40.   | Nitrazepam, Glutethimide                                     |  |
| <b>Module 10: General Anaesthetics</b>              |  |  |
| 41.   | Halothane, Cyclopropane, Diethyl ether, Methohexital sodium, |  |
| <b>Module 11: Antidepressant Drugs</b>              |  |  |
| 42.   | Amitriptyline, Nortriptyline, Imperamine                     |  |
| <b>Module 12: Analeptics</b>                        |  |  |
| 43.   | Theophylline, Caffeine*, Coramine                            |  |
| <b>Module 13: Adrenergic drugs</b>                  |  |  |
| 44.   | Biosynthesis of catecholamines                               |  |
| 45.   | Adrenaline, Noradrenaline, Salbutamol                        |  |
| 46.   | Isoprenaline, Phenylephrine                                  |  |
| 47.   | Terbutaline, Ephedrine, Pseudoephedrine.                     |  |
| <b>Module 14: Adrenergic Antagonists drugs</b>      |  |  |
| 48.   | Tolazoline, Propranolol, Practolol                           |  |

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| <b>Module 15: Cholinergic Drugs</b>                       |   |  |
| 49.   | Neostigmine, Pyridostigmine             |  |
| 50.   | Pralidoxime, Pilocarpine, Physostigmine |  |
| <b>Module 16: Cholinergic Antagonists</b>                 |   |  |
| 51.   | Atropine, Hyoscine, Homatropine         |  |
| 52.   | Propantheline, Benztropine              |  |
| 53.   | Tropicamide, Biperiden                  |  |
| <b>Module 17: Diuretics Drugs</b>                         |   |  |
| 54.   | Furosemide, Ethacrynic Acid             |  |
| 55.   | Benzthiazide,                           |  |
| 56.   | Hydrochlorothiazide, Chlorothiazide     |  |
| 57.   | Mannitol, Urea                          |  |
| <b>Module 18: Cardiovascular Drugs</b>                    |   |  |
| 58.   | EthylNitrite, Glyceryl trinitrate       |  |
| 59.   | Guanethidine, Clofibrate                |  |
| 60.   | Quinidine, Alpha methyl dopa            |  |
| <b>Module 19: Hypoglycemic Agents</b>                     |   |  |
| 61.   | Insulin, Chlorpropamide, Tolbutamide,   |  |
| 62.   | Glibenclamide, Phenformin, Metformin.   |  |
| <b>Module 20: Coagulants and Anti coagulants</b>          |   |  |
| 63.   | Thrombin, Menadione                     |  |
| 64.   | Bisphydroxy-coumarin                    |  |
| 65.   | Warfarin sodium, Heparin                |  |
| <b>Module 21: Local Anaesthetics</b>                      |   |  |
| 66.   | Procaine                                |  |
| 67.   | Benzocaine, Lignocaine                  |  |
| <b>Module 22: Histamine and Anti Histaminic Agents</b>    |   |  |
| 68.   | Histamine and physiological use         |  |
| 69.   | Diphenhydramine, Promethazine           |  |
| 70.   | Pheniramine, Chlorpheniramine           |  |
| 71.   | Mepyramine, uCyproheptadine             |  |
| <b>Module 23: Analgesics and Anti-pyretics</b>            |   |  |
| 72.   | Morphine, Pethidine, , Aspirin          |  |
| 73.   | Codeine, Mathadone                      |  |
| 74.   | Paracetamol, Analgin                    |  |
| 75.   | Dextropropoxphene, Pentazocine          |  |
| <b>Module 24: Non-steriodal anti-inflammatory agents-</b> |   |  |
| 76.   | Indomethacin                            |  |
| 77.   | Oxyphenbutazone, Phenylbutazone         |  |
| 78.   | Ibuprofen                               |  |
| <b>Module 25: Thyroxine and Antithyroids</b>              |   |  |
| 79.   | Thyroxine, Methimazole,                 |  |
| 80.   | Methyl thiouracil, Propylthiouracil     |  |
| <b>Module 26: Diagnostic Agents</b>                       |   |  |
| 81.   | Lopanoic Acid, Propyliodone             |  |

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| 82.  | Sulfobromophthalein-sodium, Indigotindisulfonate, |  |
| 83.  | Indigo Carmine, Evans blue                        |  |
| 84.  | Congo Red, Fluorescein sodium.                    |  |
| <b>Module 27 Anticonvulsants, Cardiac Glycosides, Antiarrhythmic, Antihypertensives &amp; Vitamins</b> |   |  |
| 85.  | Introduction of anticonvulsants                   |  |
| 86.  | Introduction of Cardiac Glycosides                |  |
| 87.  | Antiarrhythmic,                                   |  |
| 88.  | Antihypertensives                                 |  |
| 89.  | Vitamins  |  |
| <b>Module 28: Steroidal Drugs</b>  |   |  |
| 90.  | Betamethasone                                     |  |
| 91.  | Cortisone, Hydrocortisone                         |  |
| 92.  | Prednisolone, Progesterone                        |  |
| 93.  | Testosterone                                      |  |
| 94.  | Oestradiol, Nandrolone.                           |  |
| <b>Module 29: Anti-Neoplastic Drugs</b>  |   |  |
| 95.  | Actinomycin, Azathioprine                         |  |
| 96.  | Busulphan, Chloramubucil                          |  |
| 97.  | Cyclophosphamide                                  |  |
| 98.  | Fluorouracil, Mercaptopurine                      |  |
| 99.  | Methotrexate, Mytomyacin.                         |  |
| 100.   | Daunorubicin Hydrochloride, Cisplatin             |  |
| <b>Revision</b>  |   |  |
| 101.   | Revision of previous year question paper          |  |
| 102.   | Revision of previous year question paper          |  |
| 103.   | Revision of previous year question paper          |  |
| 104.   | Revision of previous year question paper          |  |
| 105.   | Revision of previous year question paper          |  |

**Teacher in-charge**

**HOD**

**Principal**