

PHARMACEUTICAL CHEMISTRY-IV (MEDICINAL CHEMISTRY) (Practical)

Paper 6

Marks 100

NOTE: Practical of the subject shall be designed from time to time on the basis of the above mentioned theoretical topics and availability of the facilities e.g. Estimation of functional groups; Carboxylic, Hydroxy, Amino and Nitro groups; Determination of Molecular weights of Organic Compounds. Synthesis of Paracetamol, Salicylic Acid, Methyl salicylate, Azobenzene, Benzoic Acid, 5-Hydroxy-1, 3-benzoxazol-2-one, Aspirin, P-nitrosophenol, 3-nitrophthalic acid, Chloro-benzoic acid. Assay of the Drugs like Sulpha drugs, Aspirin, Paracetamol, Benzyl Penicillin. Inorganic Preparations (**Note:** A minimum of 20 practicals will be conducted).

PHARMACY PRACTICE-VI (CLINICAL PHARMACY-II) (Theory)

Paper 2

Marks 100

1. **RATIONAL USE OF DRUGS:** Rational Prescribing, Rational Dispensing, Problems of Irrational Drug Use, Learning about drug use problem, Sampling to study drug use, Indicators of drug use.
2. **INTRODUCTION TO ESSENTIAL DRUGS:** Criteria for selection, Usage and Advantages. Development of EDL.
3. **DRUG UTILIZATION EVALUATION & DRUG UTILIZATION REVIEW (DUE/DUR):** Development of protocol of use of few very low therapeutic index drug groups like Steroids, Vancomycin and Cimetidine.
4. **CLINICAL PHARMACOKINETICS:** Therapeutic Drug Monitoring of Digoxin, Theophylline, Gentamycin, Lithium, Phenytoin, Cabamazepine, Phenobarbitone, Valproic Acid, Cyclosporins and Vancomycin.
5. **PHARMACEUTICAL CARE, ITS SCOPE, MANAGEMENT AND APPLICATION OF CARE PLAN:**
6. **CLINICAL THERAPEUTICS:** General Strategy: Terminology of Disease. Management and Treatment. Drug Selection.
7. **CLINICAL TOXICOLOGY:**
 - (a) General information. Role of pharmacist in treatment of poisoning and general management of poisoning & over dosage. Role and Status of Poison Control Centre.
 - (b) Antidotes and their mechanism of action.
8. **SAFE INTRAVENOUS THERAPY & HAZARDS OF IV THERAPY**
9. **NON-COMPLIANCE:** Definition, introduction and importance, Extent of non-compliance, Methods of assessment, Reasons for non-compliance, Strategies for improving compliance.

10. DISEASE MANAGEMENT:

- Unit V: Central nervous system unit (Stroke, Epilepsy, Psychosis)
- Unit VI: Infectious diseases (Meningitis, tuberculosis, dermatological infections, Rabies, Urinary track infection, Malaria fever, Typhoid fever, Fungal infections of skin, AIDS, Dengue fever, Common Cold, Pharyngitis & Tonsillitis, Conjunctivitis)
- Unit VII: Endocrinology Unit (Diabetes Mellitus, Hyper/Hypo-thyroidism, pituitary gland non-malignant disorders)
- Unit VIII: Oncology Unit (Types of tumors, Brief introduction to oncological diseases e.g. prostate cancer, breast cancer, lungs cancer)
- Unit IX: Nephrology Unit (Renal failure, nephrotic syndrom)
- Unit X: Hematology Unit (Bleeding disorders/coagulopathies/clotting disorders e.g. thrombocytopenia, hemophilia, Vit. K deficiency, Anemia).

PHARMACY PRACTICE-VI (CLINICAL PHARMACY-II) (Practical)

Paper 7

Marks 100

- Clerkship in the Clinical Setting. A project Related to Clinical Pharmacy Practices will be completed by the students and will be evaluated by the external examiner.
- Student are required to take/present verbal presentation, communication, written and problem-solving skills, critical analysis of data and provision of care through a weekly conference and projects

PHARMACEUTICS-VII (PHARMACEUTICAL TECHNOLOGY) (Theory)

Paper 3

Marks 100

1. **PRINCIPLES OF PHARMACEUTICAL FORMULATION AND DOSAGE FORM DESIGN:**
Need for dosage form; Pre-formulation Studies; Product Formulation.
2. **ADVANCED GRANULATION TECHNOLOGY (DESIGN & PRACTICE):**
Spray Drying Granulation Technology; Roller Compaction Technology; Extrusion/Spheronization as a Granulation Technique; Single-Pot Processing **Granulation Technology:** Rapid Release Granulation Technique; Particle Coating by Centrifugation Granulation Technology.
3. **POLYMERS USED IN DRUG DELIVERY SYSTEMS:**
4. **NOVEL DRUG DELIVERY SYSTEM (DDS):**
Sustained/ Controlled Release Drug Delivery System
 - i. Microencapsulation technique
 - Coacervation
 - Solvent evaporation
 - Interfacial polymerization
 - Spray drying
 - ii. Developmental aspects of Matrix and Reservoir Systems