

## **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

**5. NOVEL GIT DRUG DELIVERY SYSTEM (DDS):**

- Oral Osmotic Pumps
- Ion-Exchange Controlled DDS
- pH-Controlled DDS
- Bio/mucoadhesive DDS
- Floating DDS

**6. DRUG CARRIER SYSTEM:**

- Liposomes
- Niosomes

**7. TARGETED DRUG DELIVERY SYSTEM:**

- Active Drug Delivery System
- Passive Drug Delivery System

**8. PHARMACEUTICAL BIOTECHNOLOGY:**

- a. Introduction to Biotechnology: Genetics/Genomics, Proteomics, Biomolecular target Identification, Pharmacogenomics, Gene therapy and Nucleic acid therapeutics.
- b. Techniques Used in Pharmaceutical biotechnology: PCR, DNA Sequencing, Affinity Protein Purification.
- c. Fundamentals of Genetic Engineering and its Application in Medicine
- d. Pharmaceutical Recombinant therapeutic Proteins, Growth factors, Therapeutic antibodies, High-throughput screening of putative therapeutic compounds.
- e. Biotechnological aspects in the product development
- f. Principle, Synthesis and Application of Monoclonal Antibodies
- g. Immobilized Enzymes and their application in Medicine

**PHARMACEUTICS-VII (PHARMACEUTICAL TECHNOLOGY) (Practical)**

**Paper 8**

**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 requirements, e.g.

- Various techniques to develop the formulation,
- Granulation technology,
- Study of drug delivery systems,
- Biotechnological aspect of product development,
- In-vitro Quality Control of various dosage forms.
- Microbial assay,
- Particle size analysis using various methods,
- Stability studies of Pharmaceuticals,
- Coating of particles and to prepare,
- Examine and control specifications of packaging materials.