

### **3.2 Pharmaceutics IV (Pharm. Technology-II) (Including some aspects of Biological Pharmacy).**

1. Capsules: Hard gelatin capsules, shell formation, manufacturing sizes, storage, printing, filling, cleaning, binding, general formulation of contents, evaluation, soft gelatin capsules, shell formulation, content formulation, filling micro-capsules, advantages, coating materials, methods of application of coating materials, I.P. formulations.
2. Tablets: Types, ideal requirements, classification, granulation methods, general formulation, compression machines, difficulties in preparation, sugar coating, compression coating, film coating, I.P. formulations.
3. Parenterals: Products requiring sterile packing, Definition, type, advantages & limitations, general formulation, vehicles, production procedures, production facilities, control tests, selected I.P. injections, Sterile powders, implants, emulsions, suspensions.
4. Radio Pharmaceuticals: Therapeutic uses, diagnostic uses, facilities and work area, preparation of radiopharmaceuticals used in medicine.
5. Ophthalmic preparations: Requirements, formulation, methods of preparation, container evaluation, I.P. products.
6. Blood products and plasma substitutes: Collection, processing and storage of whole human R.B.C., dried human plasma, human plasma protein fractions, dried human serum, human fibrinogen, human thrombin, human normal immunoglobulin, human fibrin foam, Plasma substitutes: ideal requirements, PVT Dextran etc. experimental of blood products as in I.P.
7. Glandular products: Preparation of extracts or Isolation of pure substance for the preparation of dosage forms from pituitary, adrenal, pancreas, thyroid, parathyroid, ovary, liver, stomach etc.
8. Surgical Dressing: Sutures & ligatures, definitions, primary wound dressing, absorbant surgical cotton, surgical gauges etc. bandages, adhesive tapes, protectives, cellulosic haemostats, official dressings, absorbable sutures- catgut and others, non-absorbable sutures and others.

#### **Books Recommended:**

1. Theory & Practice of Industrial Pharmacy- Lachmann.
2. Remington's Pharmaceutical Sciences
3. Immunological & blood products- Danson & Milne.
4. Copper and Gunn's Tutorial Pharmacy.
5. Surgical dressings, ligatures & sutures- Fist and Dawson.