



Pharmaceutics-IV
Title: Pharmaceutics-IV
Subject Code: 412 PHT
Semester: Seventh Semester (Fourth year).
Duration: 2 + 0 Units (2 contact hours) per week.
Aims: To provide fundamental knowledge on sterile dosage forms, study of cosmetics, dermatological preparations, aerosols and sprays.
Objectives: Upon successful completion of this course the student should be able to demonstrate about parenteral solutions, cosmetics and dermatological preparations, pharmaceutical aerosols and sprays.
Contents: Lectures: MICRO-ENCAPSULATION: Types of microcapsule, importance of micro encapsulation in pharmacy, micro encapsulation by phase separation, co-acrvlation, multi orifice, spray drying, spray congealing, polymerisation, complex, formulation, emulsion, air suspension technique, coating pan and other techniques, evaluation of micro capsules. PARENTERAL PRODUCTS & OPHTHALMIC PREPARATIONS: Preformulation factors, routes of administration, water for injection, pyrogenicity, nonaqueous vehicles. Formulation details, containers and closures and their selection. Prefilling treatment, washing of containers and closures, preparation of solution and suspensions, filling and sealing of ampoules, vial, infusion fluids, lyophilization & preparation of sterile powders, equipment for large scale manufacture and evaluation of parenteral products.



PHARMACEUTICAL AEROSOLS: Definition, Propellants, general formulation, manufacturing and packaging methods, pharmaceutical applications

COSMETOLOGY AND COSMETIC PREPARATIONS: Structure of skin, formulation of cold cream, vanishing cream, cleansing cream, all purpose cream, protective cream, antiperspirants, deodorant, face powder. Hair structure, Shampoos, Conditioner, Shaving and after shaving products, Dentrifice & Mouthwash, Lipstick, Nail lacquer.

BLOOD PRODUCTS AND PLASMA SUBSTITUTES : collection , processing & storage of whole blood plasma , concerated human RBCs, dried blood plasma , human fibrinogen , human thrombin, human normal immunoglobulin, human fibrin , foam plasma substitutes, ideal requirements , PVP, dextran etc for con troll of blood pressures.

NDDS: Definition and concept of Controlled and novel Drug delivery systems with available examples, viz. parentral, trans dermal, buccal, rectal, nasal, implants, ocular

GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: Status and applicability of regulation, current good manufacturing practices in manufacturing, processing, packaging and holding of drugs, production and process controls, ISO 9000 certification

Minimum course requirements: 30 (2 x 15) Unit lectures per level.

Evaluation methods:

- Quizzes	15%
- Mid term examination	25%
- Final examination (written)	60%



Text Books (latest editions):

1. R.E. Avis, Pharmaceutical Dosage Forms: Parenteral Medication, Vol-I, Marcel Dekker-Inc, New York & Basel.2- Ophthalmic Drug Facts, Bartlett.
2. Dermatological and Transdermal Formulations, A.W. Kenneth.

Recommended books (latest editions):

1. Cosmetic Science and Technology, S.M. Balsam and Gershon S.D., New York.
2. Harrys Cosmeticology, Wilkinson J.P., and Moore J.S., New York.
3. Pharmaceutics the Science of Dosage Form Design, Aulton, M.E., Churchill Living stone.
4. Pharmaceutical Inhalation Aerosol Technology, Hickey.
5. Good Manufacturing Practices for Pharmaceuticals, S.H.,Wiling, M.M. Tuckerman and Marcel Dekker, New York.
- 6- Herbert A. Liebermann & Leon Lachman, Theory & Practice of Industrial Pharmacy, Lea & Febiger, Philadelphia, U.S.A.