

# PHARMACEUTICS

## Topic cover

**Solution, Suspension, Emulsion, Semisolids, Suppository, Tablets, Capsules, Microencapsulation, Aerosols and Ophthalmic**

### 1. **Solution** (syrups, elixir, mixture, mouth wash, gargles)

Definition, types, general formulation

Manufacturing procedure

Evaluation methods, IP products

### 2. **Suspension**

Suspension containing diffusible solids and liquids and their preparation

Study of adjuvants used in suspension, surfactants,

Formulation of deflocculated and flocculated suspension

Manufacturing procedure

Evaluation methods

### 3. **Emulsion**

Types of emulsion with examples

Identification of emulsion

Emulsifying agents

General formulation

Manufacturing procedure

Evaluation methods, IP emulsions.

### 4. **Semisolids**-introduction, classification , mechanism and factors which affect dermal penetration of drug through skin, evaluation of semisolids

1. Ointments- types of ointments, classification and selection of vehicles, preparation and stability of ointment

2. Pastes- difference between ointments and pastes, bases of pastes, preparation of pastes

3. Jellies- types of jellies and their preparation

### 5. **Suppositories**

Ideal requirements, bases

Manufacturing procedure,

Evaluation methods, IP products

## **6. Tablets**

Types, ideal requirement, classification

Granulation methods, general formulation

Compression machines

Different types of toolings, difficulties in tableting, troubleshooting aspects

Evaluation of tablets

Tablet coating, and types of tablet coating

Sugar coating and various steps, compression coating

Film coating, Difference between film and sugar coating tablets

Defects in tablet coatings, evaluation

## **7. Capsules**

Introduction of Hard gelatin and soft gelatin capsules

Shell formulation and manufacturing of hard gelatin capsules

Capsule sizes, storage, filing, cleaning process general formulation contents Soft gelatin capsules, shell formulation, formulation contents, filing, sealing and storage

Difference between hard and soft gelatin capsule

Evaluation of hard and soft gelatin capsules

## **8. Microencapsulation**

Microencapsulation, advantages

Encapsulation materials

Methods of microencapsulation

Application and evaluation of microencapsulation

## **9. Aerosols**

Definition, propellants

General formulation, manufacturing and packaging methods

Pharmaceutical applications. Impacts of propellants on the environment

## **10. Ophthalmic**

Requirement, formulation

Methods of preparation, containers

Evaluation, IP product

