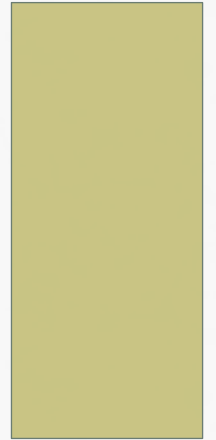


# SEMISOLIDS

5<sup>TH</sup> YEAR STUDENTS/ 1<sup>ST</sup> SEMESTER



# PHARMACEUTICAL SEMISOLID PREPARATIONS P.534

Properties of semisolid D.F.

Types of conventional semisolid D.F.

- **Ointment and their preparation**
- **Creams**
- **Pastes and their preparation**
- **Gels (jellies)**
- **Semisolid foams**

# HUMAN SKIN P.535-536

Functions

Structure

- Epidermis
- Dermis
- Subcutaneous tissues
- Skin appendages

## **Dermal routes of penetration**

**Viable epidermis or upper dermis routes of penetration (percutaneous absorption)**

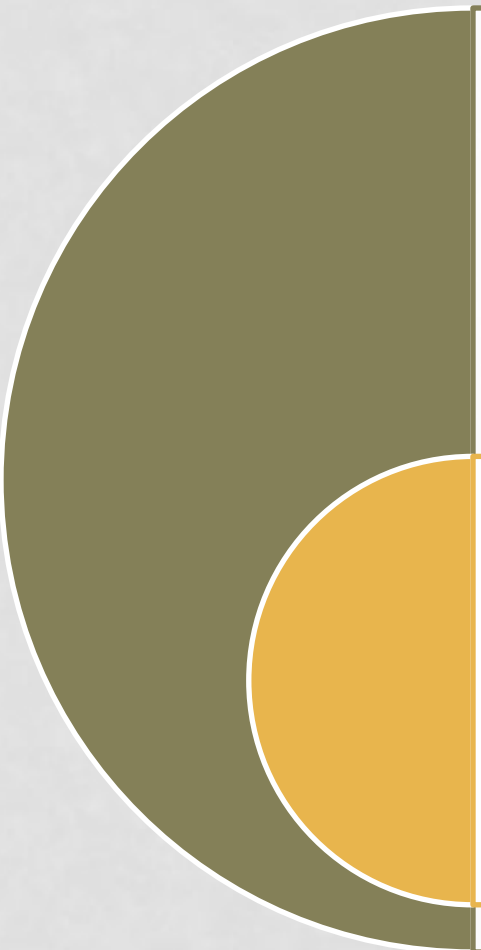
**Other routes of skin penetration (transcellular, Intercellular, Transappendageal)**

# STUDY METHODS P.537-538

In vitro  
techniques

In vivo  
techniques

# FACTORS IN SKIN PENETRATION



Fraction of drug that  
penetrate skin via any  
routes P.538

Vehicle and skin  
penetration

P.538-539

# FORMULATION OF SEMISOLID DOSAGE FORMS

## P.539

### Ingredients used in preparation

**Active ingredients**

**Bases**

**Antimicrobial preservative**

**Humectants**

**Fragrances**

**Emulsifier**

**Gelling agent**

**Permeation enhancer**

# Ingredients used in preparation of semisolids (Raw materials)

|  |                          |       |
|--|--------------------------|-------|
|  | Hydrocarbons             | P.540 |
|  | Hydrocarbon waxes        | P.540 |
|  | Oleoginous substances    | P.540 |
|  | Fatty acids and alcohols | P.541 |
|  | Emulsifiers              | P.541 |
|  | Polyols                  | P.544 |
|  | Insoluble powders        | P.544 |

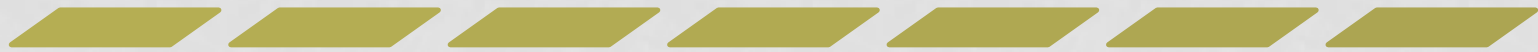


# OINTMENTS

## CLASSIFICATION OF OINTMENT BASES (TYPES OF VEHICLES)

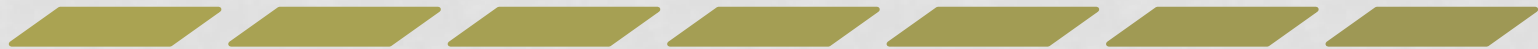
**Oleaginous (hydrocarbon bases)**

**P.544-545**



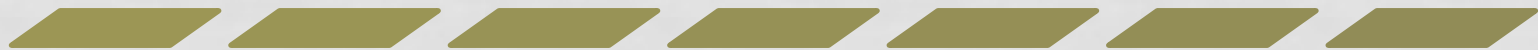
**Absorption bases**

**P.545-546**



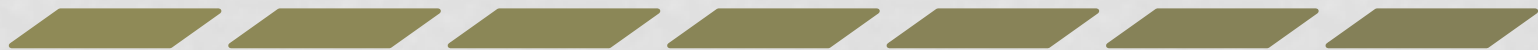
**Water removable base**

**P.547**



**Water soluble bases**

**P.547**



# OTHER SEMISOLID PREPARATIONS

Pastes, Gels,  
and Jellies  
P.548

Ophthalmic  
ointments  
P.548-549

# ADDITIVES USED IN PREPARATION OF SEMISOLIDS

Preservation  
from Microbial  
spoilage  
P.549-553

Antioxidants  
P.554

# INDUSTRIAL PROCESSING P.554-555



Trituration



Fusion



Milling

# EVALUATIONS FOR OINTMENT PREPARATIONS



**Microbial content  
P.550**

**Additional standards:  
Rheological studies and  
in vitro release P.555**

**Packaging, storage,  
labeling P.561-562**

Thank you  
for  
your

