

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai

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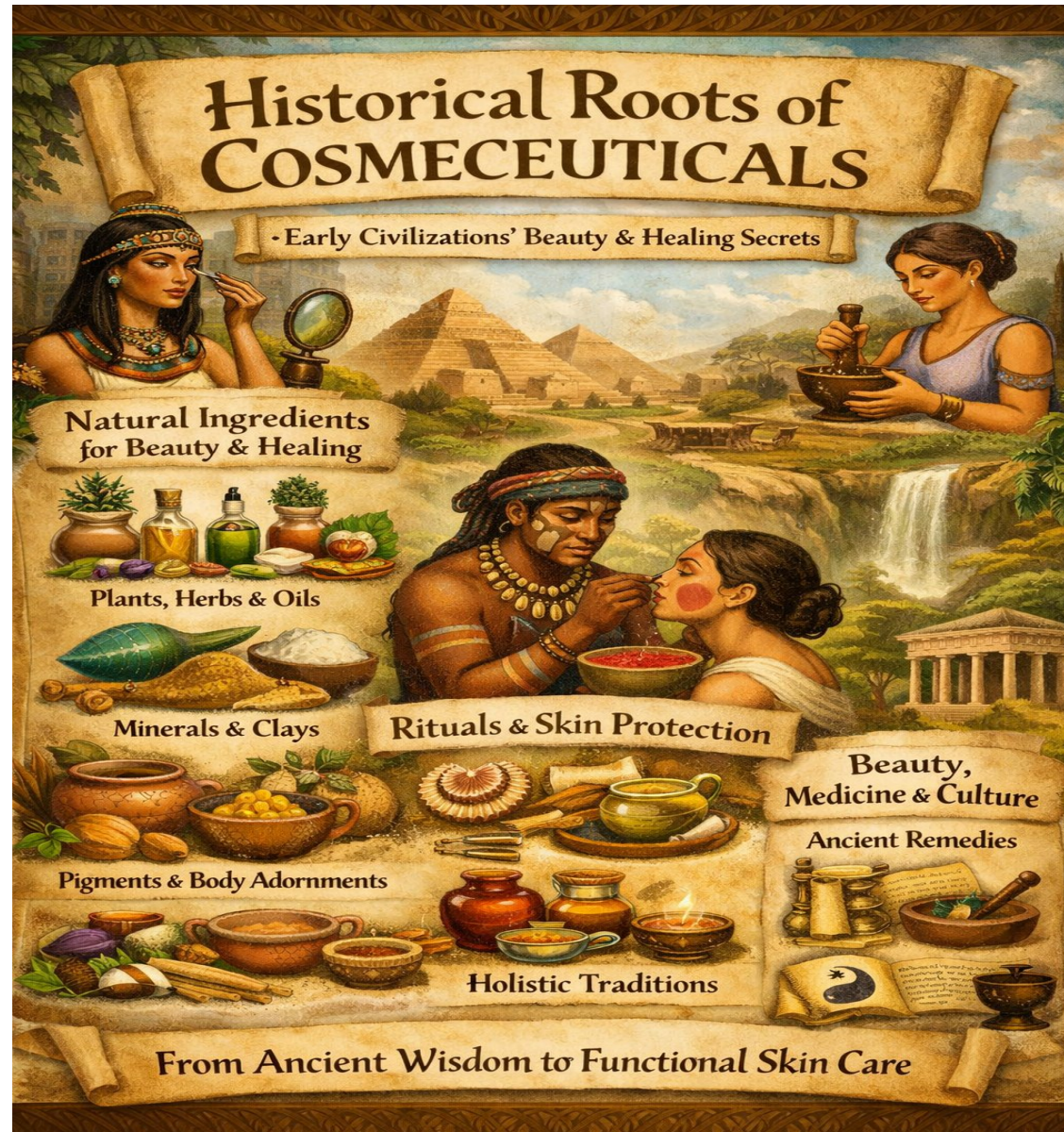
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COURSE NAME : COSMETIC SCIENCE- BP809ET

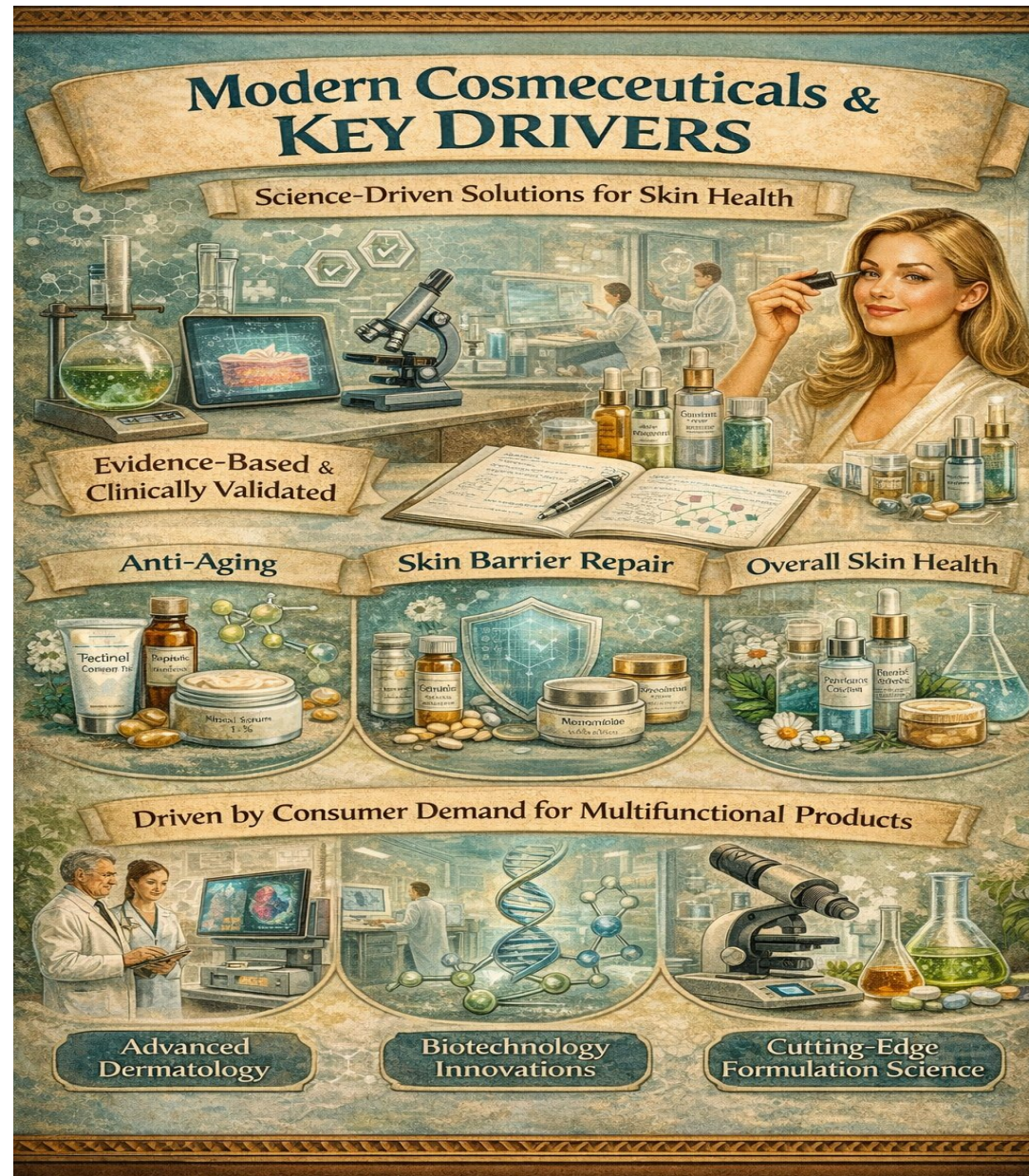
B.PHARM IV YEAR / VIII SEM

UNIT 1

SUB TOPIC : EVOLUTION OF COSMETICS AND EXCIPIENTS











Quasi Drugs: Examples & Global Perspective

Selective, Mild, Preventive & Corrective Actions

Acne Control Formulations

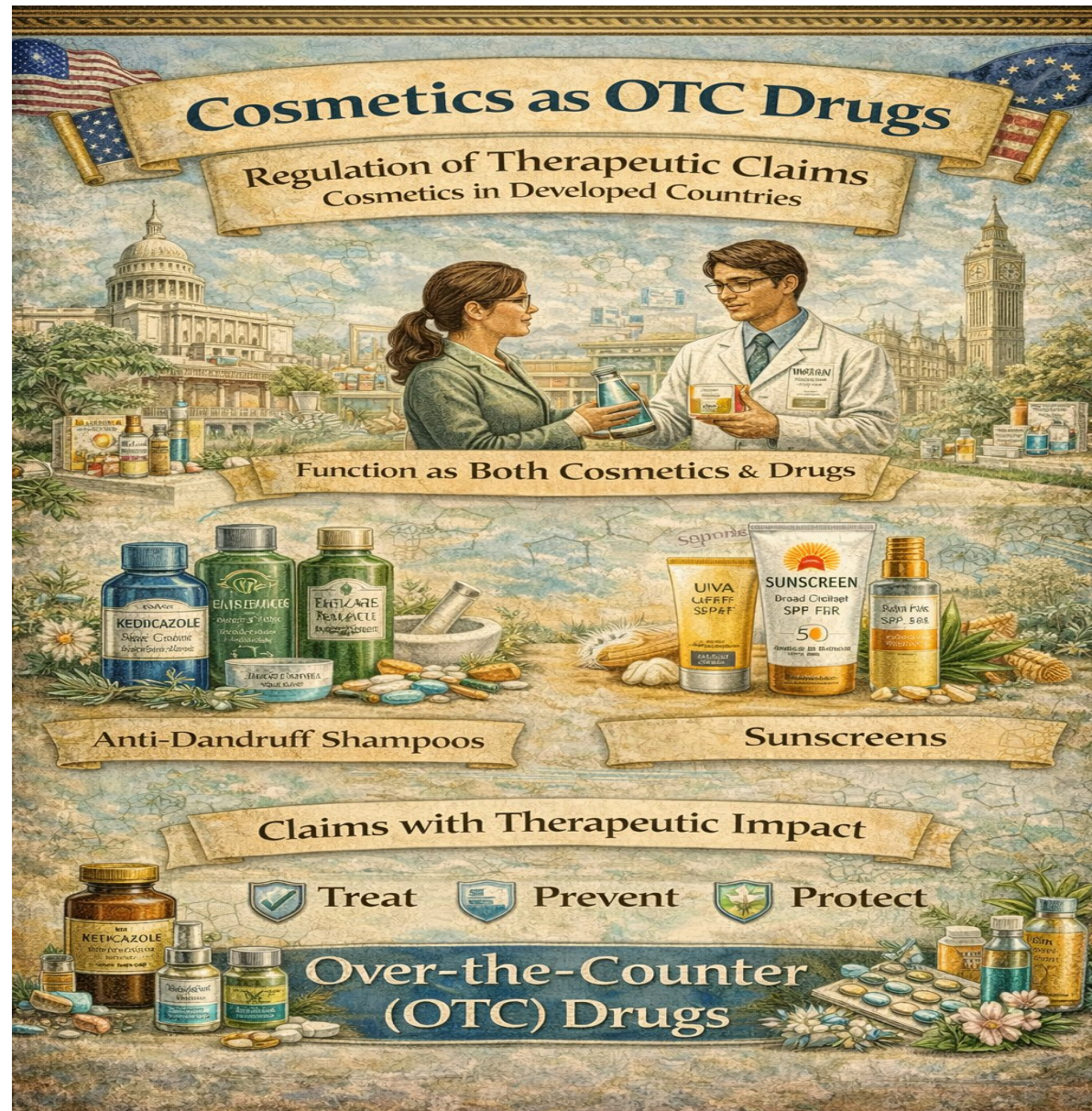
Whitening Creams with Active Claims

Scalp & Anti-Dandruff Care

Global Perspective & Influence

- ❖ Framework Not Recognized Globally
- ❖ Concept Influenced Modern Cosmeceuticals

Category Unique to Japan; Impact Seen in the Rise of Modern Cosmeceuticals





OTC Cosmetic-Drug

Examples & Monograph Compliance

Over-the-Counter (OTC) Cosmetic-Drug Products



Over-the-Counter (OTC) Cosmetic-Drug Products



Fluoride Toothpaste
Prevents Dental Caries



Antiperspirants
Reduce Sweat



Acne & Dandruff
Approved Active Ingredients

Strict OTC Monograph Compliance



Ingredients



Dosage



Labeling



Monographs Define Approved Ingredients, Dosage & Labeling



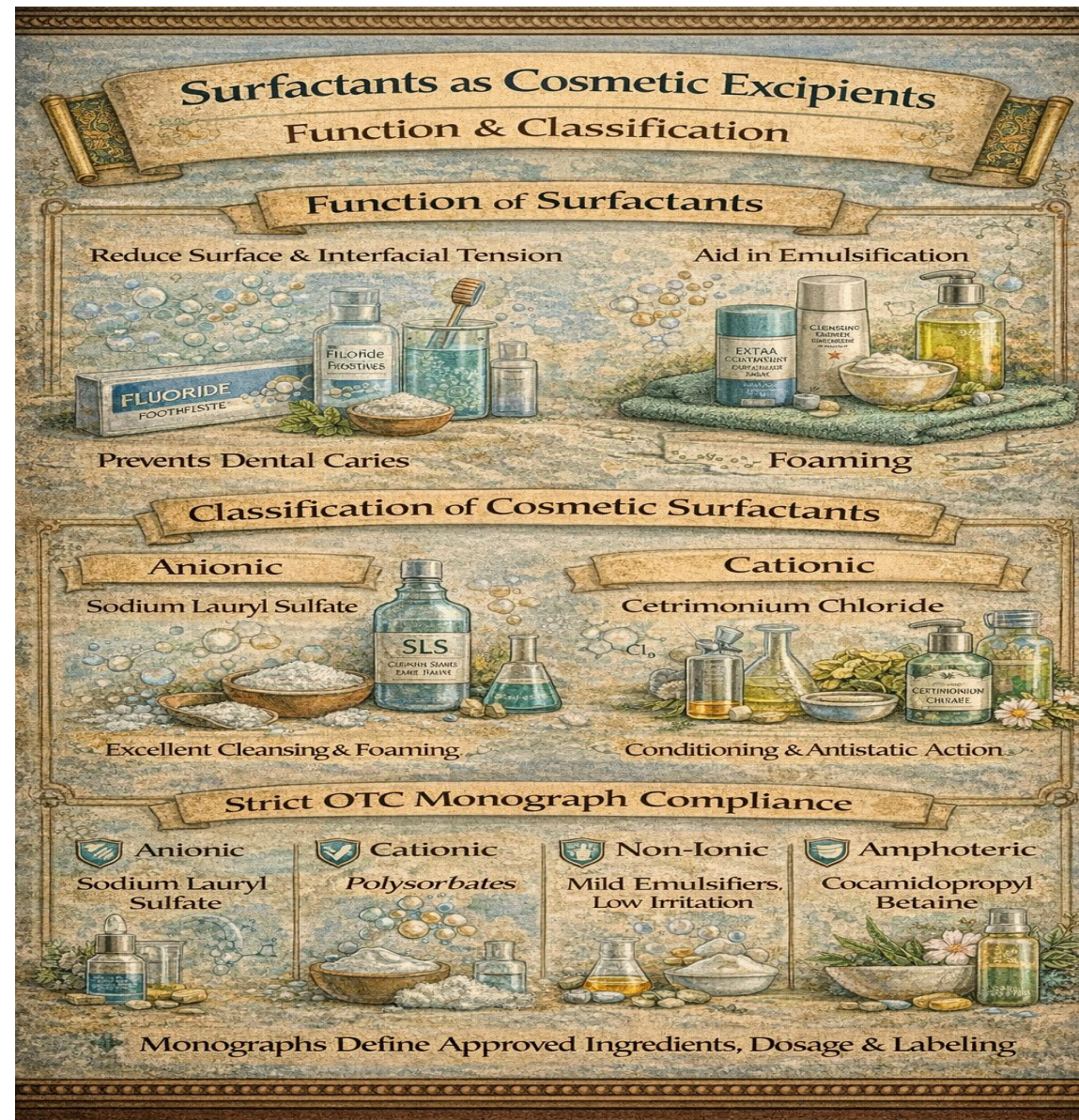
Ingredients



Dosage



Labeling





Rheology Modifiers & Humectants

Definition and Examples

Rheology Modifiers

- Control Viscosity, Flow, and Consistency of Formulations
- Improve Stability and Uniformity

Examples:

- Carbomers → Thickening of Gels and Creams



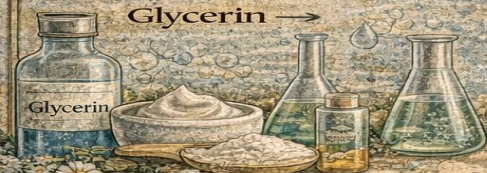
→ Viscosity Enhancement & Suspension Stability

Humectants

- Attract and Retain Moisture from the Environment
- Maintain Skin Hydration and Softness

Examples:

Glycerin →



→ Effective Water-Binding Agent

Hyaluronic Acid

Hyaluronic Acid →



→ Deep Hydration & Skin Plumping

Examples: →



Glycerin

Effective Water-Binding Agent

→ Hyaluronic Acid



Hyaluronic Acid

Rheology Modifiers & Humectants

Applications & Benefits in Cosmetic Products

Applications

- Lotions & Creams → Smooth Texture & Controlled Spreadability
- Moisturizers → Prevent Dryness & Improve Skin Barrier Function
- Carbomers → Thickening of Gels and Creams



→ Viscosity Enhancement & Suspension Stability

Benefits

- Enhance Product Feel & Consumer Acceptance
- Improve Shelf Life & Formulation Stability
- Increase Overall Efficacy & Performance of Cosmetics



Examples:



→ Enhance Product Feel & Consumer Acceptance



Effective Stability
→ Improve Stability

Increase Overall Efficacy & Performance of Cosmetics

1/1/2026

EVOLUTION OF COSMETICS AND EXCIPIENTS | N.MUTHUKUMAR | SNSCPHS.

14/20

Emollients & Preservatives

Definition and Examples

Emollients

- Soften, Smooth, and Lubricate the Skin
- Strengthen the Skin Barrier & Reduce Moisture Loss
- Examples:
- Mineral Oil → Effective Occlusive Barrier



Mineral Oil → Nourishment & Barrier Protection

Preservatives

- Prevent Microbial Growth in Cosmetic Products



→ Broad-Spectrum Antimicrobial

- Ensure Product Safety & Shelf Life



→ Effective Against Bacteria & Fungi



Enhance Product Feel



Increase Efficacy



Emollients & Preservatives

Classification, Applications & Benefits

Classification

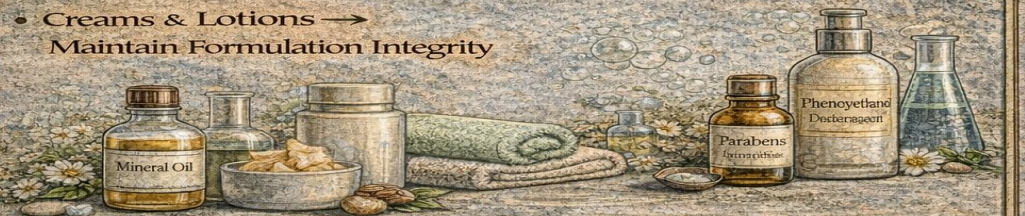
- **Natural:**
Essential Oils, Plant-Derived Butters
- **Synthetic:**
Mineral Oils, Synthetic Preservatives
- **Examples:**
 - Mineral Oil → Effective Occlusive Barrier



→ Nourishment & Barrier Protection

Applications

- Creams & Lotions → Maintain Formulation Integrity



- Creams & Lotions → Maintain Formulation Integrity
- Broad Spectrum Antimicrobial Activity



Enhance Skin Health & Sensory Feel



Extend Product Shelf Life & Stability



Ensure Consumer Safety & Efficacy



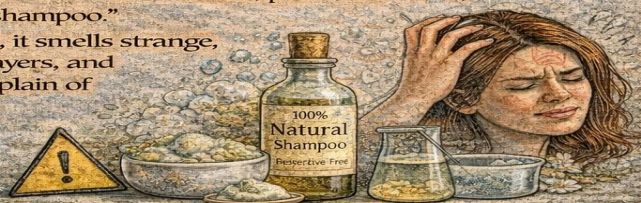
The Shampoo Disaster Scenario

Critical Thinking Task

Shampoo Disaster Scenario

1 The Shampoo Disaster Scenario

- A company launches a “100% natural, preservative-free, ultra-foaming shampoo.”
- After one week, it smells strange, separates into layers, and customers complain of scalp irritation.



Identify Which Excipient Choices & Suggest Better Ingredients

Applications

- Creams & Lotions → Maintain Formulation Integrity
- Improve Skin Hydration, Smoothness, & Protection



Benefits



Enhance Skin Health & Sensory Feel



Extend Product Shelf Life & Stability



Ensure Consumer Safety & Efficacy

“Natural” is Not Always “Safe”

- Natural products can still spoil, harbor dangerous microbes and cause irritation. Proper ingredients ensure product safety and stability

The Sticky Moisturizer Mystery

Critical Thinking Task

The Sticky Moisturizer Mystery

2 The Sticky Moisturizer Mystery

- A moisturizer claims “72-hour hydration” but users report: “My skin feels hydrated... but also sticky like glue.”



Identify, Correct, & Understand the Moisturizer Blunder

2 Problem Areas:

 Which Humectant-Related Formulation Mistake Likely Occurred?

Too Much Glycerin

- Excess glycerin pulls too much humidity from the air, sitting tacky on the skin.

 Which Emollient or Rheology Modifier Could Correct the Sensory Problem?

- Add Silicones or Emollient Creams
- Light, silky silicones (e.g. Cyclopentasiloxane) reduce stickiness
- Emollients can smooth out humectant tackiness



(Extra fun: Would you still buy it if it hydrated well but glued your phone to your face? 📱 🍯)

Cosmetic or Drug?

The Borderline Case

Critical Thinking Task

➡ The Sticky Moisturizer Mystery

- A face cream claims:
“Improves skin appearance”
“Prevents acne formation”
“Reduces bacterial growth”



➡ Cosmetic or OTC Drug?

🔍 In the USA, Would This Be Classified As A Cosmetic Or OTC Drug?

- OTC Drug ❌
Cures, treats, or prevents a medical condition like acne, making it a drug.



🔍 In Japan, Could It Fall Under Quasi-Drug?

- Yes ✅
Quasi-drugs address minor health issues but fall short of being full-fledged drugs.

🛡️ Which Claim Wording Causes the Regulatory Trouble?

- “Prevents Acne Formation” ❌
Implies the product treats or prevents a disease, like acne, triggering drug regulations.



(Funny Angle: One Sentence Turns A Cream Into A Drug 😊)

One Wording Blunder Doctorifies Your Face Cream! 📖

“Prevents Acne” ➡ Turns Into A Drug. 📖

“Shelf-Life” Time Bomb

Critical Thinking Task

Critical Thinking Task

Two creams are stored at room temperature for 6 months:

- Cream A: Perfect texture, zero Microbes
- Cream B: Smells Odd, Watery Layer On Top, Fungal Growth Visible



Identify Cream B's Deficiencies & Explain Shelf Life Science

🛡️ Preservatives Missing Microbe Protection



🛡️ Science of Shelf Life

- Preservatives destroy or inhibit microbial growth
- Rheology Modifiers keep the cream thick and uniform

🛡️ Science of Shelf Life

- Prevents spoilage and contamination
- Avoids ineffective or unsafe products efficacy

🛡️ Why Shelf Life Science Matters (Not Just Marketing?)

- Prevents spoilage and contamination
- Avoids ineffective or unsafe products
- Ensures consumer safety and product efficacy

💡 Critical thinking task:

- Identify the Missing Excipient Categories in Cream B
- Explain How Preservatives : Rheology Modifiers Work Together



REFERENCES :

- 1) Harry's Cosmeticology, Wilkinson, Moore, Seventh Edition, George Godwin.
- 2) Cosmetics- Formulations, Manufacturing and Quality Control, P.P. Sharma, 4th Edition, Vandana Publications Pvt. Ltd., Delhi.
- 3) Text book of cosmeticology by Sanju Nanda & Roop K. Khar, Tata Publishers.

