

# **SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES**

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

*Approved by Pharmacy Council of India, New Delhi.*

**Coimbatore -641035**

**COURSE NAME : COSMETIC SCIENCE- BP809ET**

**B.PHARM IV YEAR / VIII SEM**

**UNIT III**

**SUB TOPIC : CLASSIFICATION OF SUNSCREENS AND SPF - ROLE OF HERBS IN COSMETICS**

# Importance of Sun Protection



Protects skin from UV radiation, preventing premature aging, sunburn, and skin cancer.

## UVA Rays



**Causes Deep Damage**  
Wrinkles & Loss of Elasticity

## UVB Rays



**Causes Surface Burns**  
Sunburn & Redness



Up to **24%**  
Less Photoaging

**Daily Use of Sunscreen Reduces Aging Signs**

## FDA: Broad-Spectrum Protection

For All Skin Types – Even Indoors!

✓ UVA + UVB Protection





## Risks of Inadequate Sun Protection

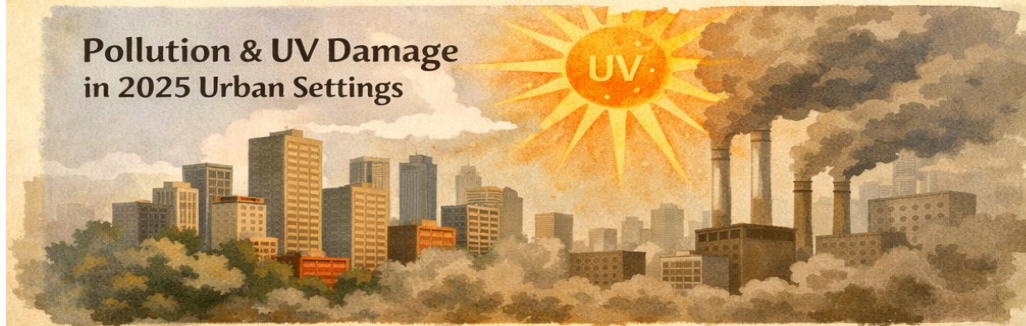
Increased risk of  
Melanoma & Non-Melanoma  
Skin Cancers



Hyperpigmentation,  
Fine Lines &  
Weakened  
Skin Barrier



Pollution & UV Damage  
in 2025 Urban Settings



**Recommendation: Use Sunscreen + Clothing, Hats & Shade for Full**





# Benefits of Effective Sun Protection

**Maintains Skin Health, Hydration & Collagen Production**

**Reduces Inflammation & Oxidative Stress from Free Radicals**

**Global Trend: Rise in Reef-Safe Formulas to Minimize Environmental Impact**

# Classification of Sunscreens: Overview

## Physical (Mineral)



Zinc Oxide & Titanium Dioxide

- Reflect UV Rays
- Ideal for Sensitive Skin

## Chemical



- Absorb UV & Convert to Heat
- e.g, Avobenzone, Oxybenzone

VS



### Latest 2025 Update:

FDA Proposes Adding Bemotrizinol  
As New Broad-Spectrum Ingredient  
After 25 Years




# Classification of Sunscreens

## Key Differences

### Physical


 Immediate protection

 Less irritating

 May leave white cast


### Chemical

 Lightweight

 Cosmetically elegant

 Absorption concerns

### Hybrid Formulas

 Combine both for enhanced efficacy

2025 Update:

## SAFE Sunscreen Standards Act

Aims to streamline approval of innovative filters



## Understanding SPF & Guidelines

### SPF Measures UVB Protection

SPF 30 blocks ~97% of UVB rays



### Broad-Spectrum Protection

Guards against UVA & UVB Rays

⌚ Reapply Every 2 Hours



### Sunscreen Recommendations

☀️ SPF 15+ Daily



SPF 30+ Extended Exposure

Water-Resistant 40-80 Minutes



### Latest 2025 Update

Minimum **SPF 50** Required

**373 nm UVA** Protection Standard

*New Guidelines*







# Role of Herbs in Skin Care

Natural Antioxidants • Anti-Inflammatory • Healing Properties

Sustainable, Plant-Based Beauty in 2025

 Aloe Vera & Turmeric for  
Hydration, Brightening & Protection

 Safer Alternatives to Synthetics

 Proven & Effective Natural Solutions



*Nature's Safe & Effective Skincare Solutions*

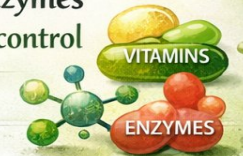


# Aloe Vera in Skin Care



Soothes irritation, hydrates deeply,  
and reduces inflammation

Rich in vitamins & enzymes  
for wound healing and acne control



**Latest Applications:**

- ◆ Anti-Aging Effects in 2025 Studies
- ◆ Treating Skin Diseases & Microbiome Support

**Use: In Gels, Masks & Serums for Overnight Regeneration**



# Turmeric in Skin Care



Curcumin provides  
**Antioxidant &  
Anti-Inflammatory**  
Benefits

- ✓ Brightens Skin
- ✓ Fades Dark Spots
- ✓ Fights Acne

## 2025 Applications:

Oral & Topical Extracts for Photoaging  
Prevention & Wound Healing



Cleansers



Face Masks



Serums

Effective in Skin Care Without Staining Issues







# Henna in Hair Care

-  Natural dye for vibrant color without ammonia or peroxides
-  Binds to keratin for stronger, less breakage-prone hair
-  In 2025: Vegan blocks & powders for anti-fading & scalp soothing
-  Used as masks or dyes for voluminous, pregnancy-safe results





# Amla

— in Hair Care —

**High vitamin C**  
boosts collagen  
& fights dandruff



**Promotes growth,**  
thickens strands  
& inhibits  
hair thinning  
enzymes



**In 2025:**  
Shampoos  
& Oils  
for Scalp  
Nourishment &  
Adaptogen Blends



***Use: In Rinses, Masks & Powders for Regrowth***





## Role of Herbs in Oral Care: *Introduction*

Herbs provide  
**Antibacterial &  
Anti-Inflammatory**  
Oral Benefits



Natural Alternatives to  
**Chemicals** in 2025 Products

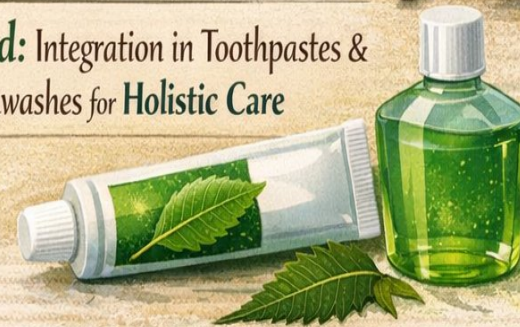


### **Focus:**

**Neem & Clove** for  
Gum Health,  
Plaque Control  
& Pain Relief



**Trend:** Integration in Toothpastes &  
Mouthwashes for **Holistic Care**





# Neem in Oral Care

- Antibacterial properties fight plaque, cavities, and bad breath
- Reduces gum inflammation and promotes healing
- By 2025: Herbal Toothpastes & Sticks for Preventive Dental Care



Neem Twigs	Neem Oil	Neem & Guava & Clove
		

Used as Twigs, Oils, or in Formulations with Guava & Clove



## Clove in Oral Care

Eugenol offers pain relief  
for toothaches and sensitivity

Antimicrobial action enhances  
antibiotic efficacy against bacteria

**Latest Applications:**  
In 2025 dentist-crafted toothpastes  
and capsules for oral hygiene

**Use:** In mouthwashes, gels,  
and powders for  
fresh breath and gum support



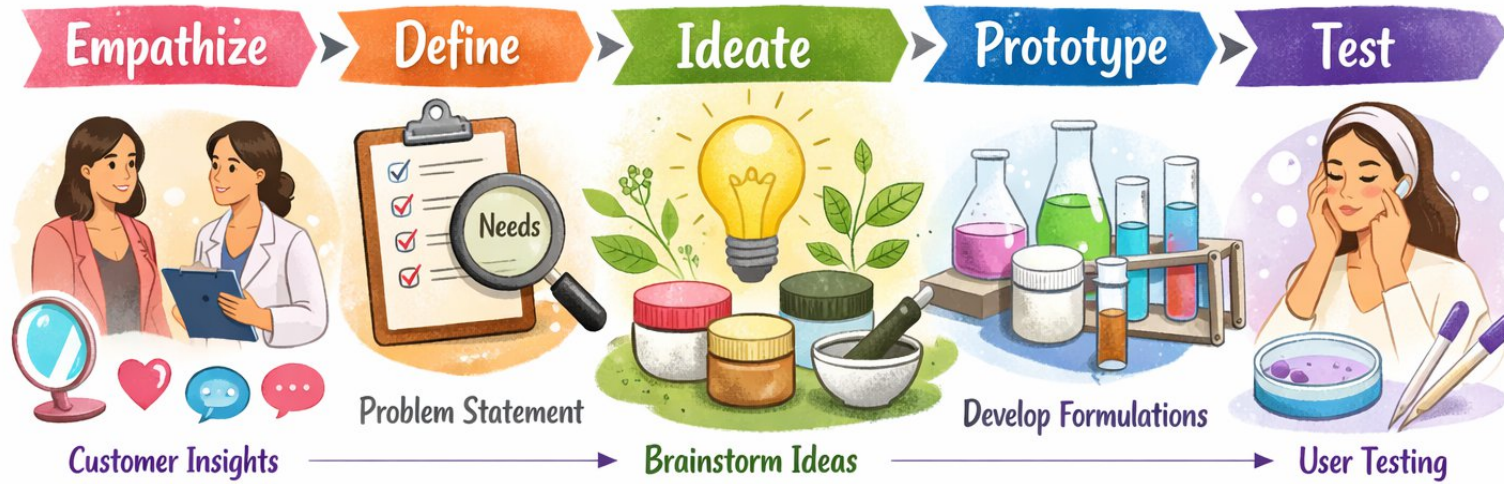
## ASSESSMENT QUESTIONS





# Design Thinking

— for **Cosmetic Formulation** —





## 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.

