

## COURSE : 1

### Lecture 1

	Description
Unit 1: Introduction to Cosmetics Industry	Overview of the cosmetics industry. History and cultural significance. Market trends, revenue, and major players. Impact of digitalization on the cosmetics industry
Unit 2: Concepts and Terminology	Definition of cosmetics, skincare, and personal care products. Common cosmetic ingredients. Regulations and standards. Regulatory affairs by PCA.
Unit 3: Types of Cosmetic Products and Their Functions	Makeup products and their applications. Skincare essentials and concerns. Haircare and fragrance industry basics. Rise of cosmeceuticals and hybrid beauty products.
Unit 4: Product Development and Formulation Basics	Role of cosmetic chemists in formulation. Safety, stability, and texture testing. Overview of natural vs. synthetic ingredients. Importance of biotechnology in cosmetic formulation.
Unit 5: Career Opportunities in the Cosmetics Industry	Marketing, branding, and retail. Research and regulatory affairs. Entrepreneurial opportunities in the beauty industry.

week 1  
session 1

### Lecture 2: Cosmetic Formulation and Ingredient Science

Unit 1: Key Ingredients in Cosmetic Formulation	Basic ingredients: Water, oils, preservatives, emulsifiers. Active skincare ingredients: Retinol, hyaluronic acid, antioxidants. Active skincare ingredients: Retinol, hyaluronic acid, antioxidants.
Unit 2: Formulation Techniques	Role of active ingredients and excipients. Emulsification and consistency control. Safety testing and quality assurance. Encapsulation techniques for active ingredients. Benefits and challenges of natural ingredients. Clean beauty and green cosmetics. Market trends in sustainable cosmetics.
Unit 3: Natural vs. Synthetic Ingredients	Biodegradable packaging and eco-friendly formulations.

week 2  
session 1

<b>Unit 4: Stability and Quality Control in Formulations</b>	pH balancing and testing. Shelf-life considerations and preservative efficacy. Texture, fragrance, and effectiveness testing. Nanotechnology in cosmetic formulations.
<b>Unit 5: Advanced Concepts in Cosmetic Formulation</b>	Preparation of serums (Vitamin C, hyaluronic acid, retinol). Facewash formulations (foam-based, emulsion-based, gel based). Sunscreen and anti-aging product formulation

**week 3  
session 1**

## **Lecture 3: Skin Science and Cosmetic Applications**

<b>Unit 1: Skin Structure and Function</b>	Epidermis, dermis, and hypodermis. Role of keratinocytes, melanocytes, and immune cells. Skin barrier and hydration maintenance.
<b>Unit 2: Skin Chemistry and pH Balance</b>	The role of pH in skin health. Lipids and natural moisturizing factors (NMFs). Sebum production and its impact. Oxidative stress and skin damage.
<b>Unit 3: Chemical Interactions in Skincare</b>	Emulsions and surfactants. Antioxidants, retinoids, exfoliants. Moisturization and hydration science. Role of peptides and growth factors in skin regeneration.
<b>Unit 4: The Impact of Aging on Skin Chemistry</b>	Collagen and elastin degradation. Changes in lipid composition. Anti-aging treatments and skincare. Epigenetics and personalized skincare.
<b>Unit 5: Skin care Techniques</b>	Hydrafacial and exfoliation techniques. Anti-aging product development. Customized skincare solutions. Light-based treatments and laser therapies

**week 4  
session 1**

## **Lecture 4: Cosmetic Regulations , Safety and Marketing**

<b>Unit 1: Cosmetic Regulations and Compliance</b>	Global regulatory bodies (FDA, EU regulations). Labeling and ingredient transparency. Product claims and compliance.
<b>Unit 2: Safety Testing and Consumer Protection</b>	Dermatological testing and patch tests. Identifying allergens and irritants. Ensuring safety in product formulations.
<b>Unit 3: Market Research and Consumer Trends</b>	Understanding consumer needs. Market segmentation and target audience. Branding strategies in cosmetics.
<b>Unit 4: Launching a Cosmetic Product</b>	Product development cycle. Positioning and branding. Distribution and sales strategies.

## **Unit 5: Practical Marketing Applications**

Digital marketing for cosmetic brands. Consumer engagement and brand loyalty. Social media influence on beauty trends.

### **Lecture 5: Golden Pearl Industry Representatives**

### **Lecture 6: Laser Skin Treatment**

**week 5  
session 1**

**week 6  
session 1**

Lab #	Lab Name	Formulation Name	Description	week 1, two sections
Lab 1 and 2	Formulation of Serums	<i>Vitamin C Serum</i>	Prepare a stable and effective serum by dissolving the active ingredient in water, enhancing stability with additional components, and ensuring proper pH adjustment before storage.	
	Formulation of Serums	<i>Hyaluronic Acid Serum</i>	Develop a hydrating serum by hydrating the key ingredient in water, incorporating moisturizing agents, and preserving the formulation for long-term use.	
	Formulation of Serums	<i>Niacinamide Serum</i>	Formulate a brightening and soothing serum by dissolving the active component in water, enhancing solubility, and stabilizing the mixture.	
	Formulation of Serums	<i>Glycolic Acid Serum</i>	Create an exfoliating serum by dissolving the essential component in water, incorporating soothing agents, and ensuring proper pH adjustment for safe application.	
	Formulation of Serums	<i>Retinol/Tritium Serum (Oil-Based)</i>	Design a nourishing and anti-aging oil-based serum by blending the active ingredient with a suitable carrier, stabilizing the formulation, and ensuring optimal storage conditions.	
Lab 3 & 4	Formulation of Facewash	<i>Gel-Based Facewash</i>	Formulate a gentle cleansing gel by dispersing the base component, refining the consistency, and ensuring smooth application.	week 2 session 2
	Formulation of Facewash	<i>Oil-Based Facewash</i>	Develop a deep-cleansing oil facewash by blending essential components, ensuring proper solubilization, and maintaining uniformity.	
	Formulation of Facewash	<i>Exfoliating Facewash</i>	Create a mild exfoliating cleanser by dispersing key components, refining texture, and adjusting the formulation for gentle application.	
	Formulation of Facewash	<i>Hydrating Facewash</i>	Design a moisturizing cleanser by integrating necessary components, optimizing consistency, and balancing the formulation for sensitive skin.	

## Lab 4 & 5

Formulation of Facewash	<i>Brightening Facewash</i>	Prepare a radiance-enhancing cleanser by dispersing the essential components, ensuring uniformity, and optimizing stability for prolonged use.
Sunscreen and Anti-aging Products	<i>Protective Sunscreen</i>	Develop a sun protection formulation by dispersing the key UV-blocking components, ensuring uniform application, and stabilizing for prolonged effectiveness.
Sunscreen and Anti-aging Products	<i>Lightweight Sunscreen</i>	Formulate an effective sun protection product by dissolving active components, ensuring uniform dispersion, and maintaining stability under various conditions.
Sunscreen and Anti-aging Products	<i>Tinted Sunscreen</i>	Incorporate protective components with skin-toning ingredients to create a multifunctional formulation, ensuring homogeneity and durability.
Sunscreen and Anti-aging Products	<i>Water-Resistant Sunscreen</i>	Design a long-lasting sunscreen by optimizing the formulation to enhance adherence and maintaining stability under exposure to moisture.
Sunscreen and Anti-aging Products	<i>Moisturizing Sunscreen</i>	Prepare a dual-purpose sunscreen by integrating protective and hydrating components, ensuring smooth application and prolonged efficacy.
Sunscreen and Anti-aging Products	<i>Firming Cream</i>	Develop a targeted formulation by dispersing key components that promote skin firmness, ensuring smooth texture and long-term stability.
Sunscreen and Anti-aging Products	<i>Elasticity-Boosting Serum</i>	Create a lightweight and effective serum by blending essential components that enhance skin elasticity, ensuring proper absorption and stability.
Sunscreen and Anti-aging Products	<i>Nourishing Night Cream</i>	Formulate a replenishing overnight treatment by incorporating moisture-retaining components, optimizing texture, and ensuring deep skin penetration.
Sunscreen and Anti-aging Products	<i>Eye Treatment Cream</i>	Design a gentle yet potent formulation by dispersing the necessary ingredients for reducing puffiness and fine lines, ensuring skin compatibility and effectiveness.
Sunscreen and Anti-aging Products	<i>Revitalizing Mask</i>	Prepare a skin-renewing treatment by incorporating restorative components, ensuring uniform dispersion, and optimizing stability for prolonged benefits.

week 3  
session 2

<b>Lab 6</b>	Formulation of Shampoos	<i>Cleansing Shampoo</i>	Develop a formulation that effectively removes impurities while maintaining hair and scalp health.	week 4 session 2
	Formulation of Shampoos	<i>Moisturizing Shampoo</i>	Prepare a hydrating shampoo by blending key components to nourish and soften hair while preventing dryness.	
	Formulation of Shampoos	<i>Volumizing Shampoo</i>	Formulate a lightweight shampoo that enhances hair volume and texture without leaving residue.	
	Formulation of Shampoos	<i>Anti-Dandruff Shampoo</i>	Disperse key components to create a specialized shampoo that helps maintain scalp balance and reduce flaking.	
<b>Lab 7 &amp; 8</b>	Formulation of Shampoos	<i>Strengthening Shampoo</i>	Develop a shampoo that reinforces hair structure, promoting resilience and reducing breakage.	week 5 session 2
	Formulation of Hydrafacial	<i>Cleansing and Exfoliation</i>	Perform a deep cleansing and gentle exfoliation step to remove impurities and prepare the skin for further treatment.	
	Formulation of Hydrafacial	<i>Hydration and Nourishment</i>	Infuse essential moisturizing components into the skin to enhance hydration and maintain skin balance.	
	Formulation of Hydrafacial	<i>Extraction and Purification</i>	Apply a mild extraction process to remove clogged impurities and refine skin texture.	
	Formulation of Hydrafacial	<i>Brightening and Rejuvenation</i>	Integrate revitalizing components to enhance skin radiance and improve overall skin tone.	
<b>Lab 9 &amp; 10</b>	Formulation of Hydrafacial	<i>Protection and Finishing</i>	Apply a final protective layer to ensure long-lasting hydration and shield the skin from environmental stressors.	week 6 session 2
	Skin Moisturizing and Nourishing Products	<i>Daily Moisturizer</i>	Develop a lightweight moisturizing formulation that hydrates and protects the skin barrier for daily use.	
	Skin Moisturizing and Nourishing Products	<i>Deep Hydration Cream</i>	Formulate an intensive moisturizing cream that provides long-lasting hydration and nourishment.	
	Skin Moisturizing and Nourishing Products	<i>Nourishing Body Lotion</i>	Prepare a body lotion that replenishes moisture and improves skin softness and elasticity.	
	Skin Moisturizing and Nourishing Products	<i>Night Repair Cream</i>	Design a restorative night cream that deeply hydrates and supports skin regeneration overnight.	
	Skin Moisturizing and Nourishing Products	<i>Protective Balm</i>	Create a rich, nourishing balm to protect dry and sensitive skin, forming a moisture-locking barrier.	