

Course Code	Course Name	Credits
26CH104	COSMETIC CHEMISTRY	04

Course Objectives

- This course in cosmetic chemistry aims at providing knowledge to the students on cosmetics, and related sciences cosmeceuticals (cosmetics with skin, hair and oral care benefits), Personal care and hygiene products.
- To study the classification, identification, and cosmetic applications of carbohydrates and starch derivatives used in modern cosmetic products.
- Provide a multidisciplinary scientific knowledge to gain expertise in the field and to respond the industry challenges effectively.

Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Understand the key ingredients used in the cosmetic industry and current trends in the selection of cosmetic raw materials.
- Explain the relationship between cosmetic ingredients and their functional properties in developing stable and effective product formulations.
- Apply basic methods of analysis to evaluate and assess cosmetic raw materials.

Unit 1 - Physicochemical Analysis of Cosmetics (12 Hrs.)

Determination of acid value; ester value; Saponification value; rancidity; moisture; ash; Volatile matter; heavy metals; fineness of powders; density and viscosity of cosmetics raw materials and finished products.

Unit 2 – BIS Raw Material Analysis (12 Hrs.)

General methods of analysis of following raw material used in cosmetic manufacture as per BIS: Mineral oil; Sodium Lauryl Sulphate (SLS); Sodium Laureth Sulphate (SLES); Calcium carbonate, Sorbitol; Methyl parahydroxy benzoate; cetyl alcohol; isopropyl myristate; Talc; glycerine; Titanium Dioxide.

Unit 3 - BIS Cosmetic Standards (12 Hrs.)

Indian standard specifications laid down for sampling and testing of various cosmetics in finished forms such as personal hygiene preparations, lips sticks, hair products and skin creams by the Bureau Indian Standards.

Unit 4 – Ethers (12 Hrs.)

Definition; preparation; properties and reaction of ethers,, diethyl ether, an aesthetic ether, thioether and vinyl ethers. Role of various ether derivatives in cosmetic industry.

Unit 5 - Carbohydrates (12 Hrs.)

Definition; classification and general identification tests. Starches-Wheat; maize; rice; potato and their cosmetic application; recent sophisticated derivatives available in market and their merits over traditional starches.

Reference Books:

1. P.P. Sharma, Cosmetics –Formulation, Manufacturing and Quality Control, 4th edition, Vandana Publications Pvt. Ltd., Delhi.
2. Indian Standard specification, for raw materials, BIS, New Delhi.
3. Indian Standard specification for 28 finished cosmetics BIS, Harry's Cosmeticology, New Delhi.
4. Wilkinson, Moore, seventh edition, George Godwin.
5. Quantitative Inorganic Analysis-Vogel.
6. Kirtikar & Basu- Indian medical plants.
7. Dr. Satish Sakharwade- Naturals and Cosmetics.

Websites and eLearning Sources:

1. BIS Standards for Cosmetics Manufacturing in India
2. https://youtu.be/1b-5HgdXF1c?si=2158Pr7y3dTzFJ_F

COs and Bloom's Taxonomy Mapping – 26CH104

Course Outcomes	On completing U.G. program the students will be able to	BTL
CO1	Understand the content and different chemical composition of cosmetics and their finished products.	K1, K2
CO2	Identify, testing and discarding various cosmetics product which is not under Bureau Indian Standards.	K3
CO3	Analyze the different raw materials present in the cosmetics as per BIS.	K4
CO4	Utilization of chemical and physical properties of different chemical that constitute the cosmetics products in the manufacturing variety of products.	K5
CO5	Comparing the different chemical composition of traditional available and derived chemical product in the manufacturing cosmetics using sophisticated instruments.	K6

BTL K1 and K2 – remembering and understanding, K3- Applying, K4 – Analyse, K5- Evaluate and K6- Create

Relationship Matrix – 26CH104

Course Outcomes	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)						Mean Score of Cos
	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	
CO1	2	2	2	1	1	1	2	2	1	1	1	1	1.41
CO2	2	3	2	2	2	1	2	3	2	1	1	2	1.91
CO3	2	3	2	2	2	1	2	3	2	1	1	1	1.83
CO4	3	3	3	2	2	1	3	3	2	3	1	2	2.33
CO5	3	3	3	3	2	1	3	3	3	3	2	3	2.66
Total													2.02

Mean Score: 3- High, 2- Medium/Moderate, 1-Low

