

**JYOTI NIVAS COLLEGE (AUTONOMOUS), BANGALORE- 95**

**III Semester M. Sc. Chemistry**

**JOC 304: Chemistry in Daily Life**

**(Open Elective for Non-Chemistry students)**

**UNIT I**

**Hair care products (2 Hours)**

Shampoos – principal constituents – dry shampoo – perfumes – preservatives- conditioning agents – antidandruff shampoos. Hair cream – composition – hair dyes

**Skin care Products (1 Hour)**

Skin cleansers – classifications – cold cream – cleansing milk – moisturizers – hand and body lotions – sun screen lotions – constituents

**Chemistry of Cosmetics (3 Hours)**

Lipstick – constituents- manufacturing methods- lip glosses- nail polish- formulation- manufacture- foundation – constitution.

Natural aloe vera, orange peel, skin care agents

**Dental Products (1 Hour)**

Tooth paste – tooth powder – oral rinses – mouth washes – comparison between synthetic and herbal oral product.

**water softening (2 Hours)**

Bathing salt– soap and detergents – constituents of soaps and detergents – laundry pods – mechanism of cleansing action.

**Color chemistry (1 Hour)**

Red cabbage as a pH indicator, chemistry behind LED lights, chemistry behind colored glass, chemistry behind color of autumn leaves, Rangoli colors, chemistry of henna.

**Practical (4 Hours)**

pH of shampoo, conditioners, moisturizers, other cosmetics and oil

**UNIT II (Food Chemistry)**

**Food and skin care (3 Hours)**

Daily vegetables for skin care, acne reducing, hair growth natural process and Salt as meditative and disinfectant

**Food Additives (3 Hours)**

Definition and classification, preservatives, food color, pH control in food, sequestrates, flavor enhancers, sweeteners, baking agents, stabilizers and thickeners, surface active agents (emulsifiers). Natural food colors

**Food Adulterants (3 Hours)**

Adulterants- definition, examples of adulterants in food and beverages, harmful effects of food adulteration.

**Lab activity:** Detection of adulteration in edible oil, milk, beverages, spices, and pulses.

**Chemistry of Food (3 Hours)**

The chemistry of spinach, mangoes, bell peppers, eggs and eggshells, dark, milk, and white chocolates, ice cream, candy,

**Chemistry of Beverages (3 Hours)**

The chemistry of tea, chemistry of coffee, chemistry of tequila, mojito, port wine, vodka, rum, gin, molecular cocktails: gelification, chemistry of cocktails foams, what gives bear bitterness and flavor?

Practical: testing of honey, milk, adulteration in spices and polishing of ornaments. **(4 hours)**

Natural food colors

### UNIT III

**Chemistry of Aesthetic living**

Aroma therapy what oil to be used for what temperament, Scented candles, Lavendar oil, sandalwood oil, Eucalyptus oil, rose oil, jasmine, civetone, muscone.

**Living space**

Diffusers, potpourri-dried flowers, disinfectants for living space.

**Practical:** preparation of sanitizer using natural aloe vera, essential oils, potpourri using dried flowers.

Industrial visit

### UNIT IV

**Fashion chemistry**

Types of fabrics, blends of fabrics,  
Eco friendly fabrics and composition.

Guest lecture

**References:**

1. Modern Technology of Cosmetics, Asia Pacific Press Inc, New Delhi, 2004
2. E. Stocchi: Industrial Chemistry, Vol 1, Ellis Horwood Ltd. UK
3. C Jain, M. Jain: Engineering Chemistry, Dhanpat Rai & Sons, Delhi
4. Sharma B.K & Gaur H, Industrial Chemistry, Goel Publishing House, Meerut (1996)

5. Chemistry: Impact on Society, M.D. Joesten, D.O. Johnston, J.T. Netterville and J.L. Wood, Saunders College Publishing, 1988.
  6. Chemistry of food and nutrition, H.C. Sherman, Agrobios (India) 2009
  7. E Source: Chemgeneration. Com/milestones/food-and –agriculture.html
  8. E. Stocchi: Industrial Chemistry, Vol 1, Ellis Horwood Ltd. UK
  9. Sharma B.K & Gaur H, Industrial Chemistry, Goel Publishing House, Meerut (1996)
  10. Nano: The Essentials- T. Pradeep, Tata McGraw Hill Education Private Limited, 2013.
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