

Unit-1

INTRODUCTION

□ word derived from Greek **KOSM TIKOS** means 'having the power, arrange, skilled in decorating.

□ According to FDA-

Articles intended to be rubbed , poured, sprinkled, or sprayed on, introduced into ,or otherwise applied to the human body, for cleansing, beautifying, promoting attractiveness or altering the appearance

HISTORY OF COSMETICS

- The first archaeological evidence of cosmetics is found in Ancient Egypt in the year 4000 B.C.
- Ancient Greeks, Romans and Egyptians used cosmetics out of mercury ,white lead, and myrrh

15TH - 16TH CENTURY

- Italy and France became the chief centers of cosmetic manufacturing
- France begin to create new fragrances and cosmetics by blending ingredients

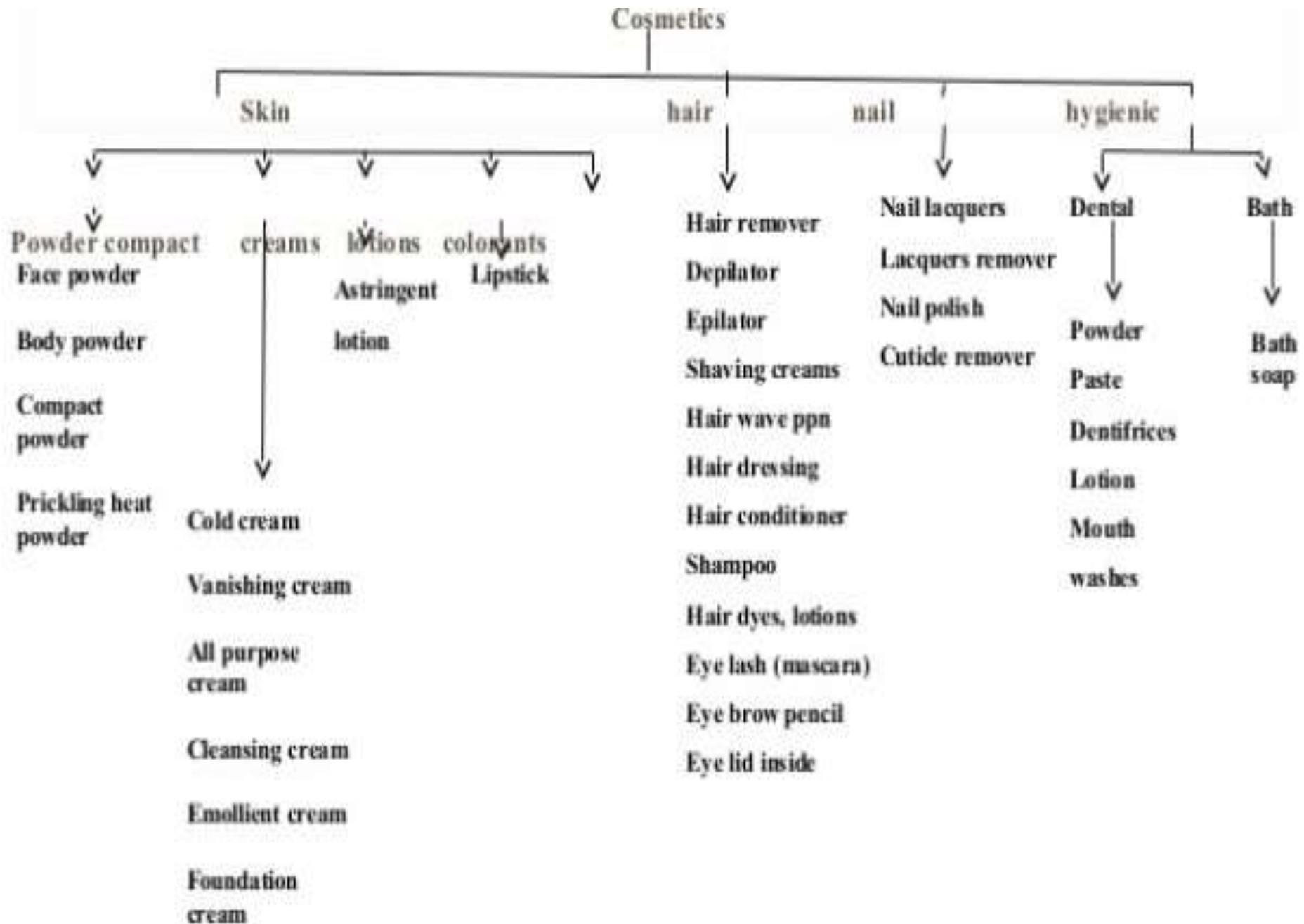
19TH CENTURY

- Cosmetic deodorant was invented in 1888, by an unknown inventor from Philadelphia.
- France develop chemical processes to replace fragrances made by natural method
- Zinc oxide widely used as facial powder- replaced mixtures of lead and copper
- **In** the 1930s manufactures employed chemists in quality control & development laboratories .
- In 1940 British govt start licensing toiletry & cosmetic factories.
- The perfumery manufactures association was formed in 1945

Consumerism

- Grew in 1960s & 1970s in USA and in UK & rest of Europe.

Classifications of cosmetics



Raw Material used for cosmetics Preparation

1. Purified Water
2. Preservatives
3. Oils, fats & waxes
4. Fragrance & perfumes
5. Colourants
6. Humectants or moisturizer
7. Surfactants

- 1. Purified Water-** It is mainly used as solvent or as a vehicle for many ingredients in manufacturing of cosmetics. There should not be any inorganic contaminants & presence of microorganisms.
- 2. Preservatives-** These are chemical agents used to prevent spoilage of cosmetics by oxidation of oils, fats and microbial growth.

Examples:-

- Antimicrobial agents like Formaldehyde, Salicylic acid, Benzyl alcohol
- Antioxidants like vitamin A,C,E & Alpha lipoic acid

3. Oils, Fats & Waxes:

These are used as bases of cosmetics preparation like cream, ointment, Soaps, lipsticks, lotions, Shampoos etc.

3(a) Oils-

- i) Vegetable oils- ex Almond oil, castor oil, olive oil, coconut oil
- ii) Mineral oils- ex Heavy & light liquid paraffin

(b) Fats-

- i) Fatty acids- Stearic acid, oleic acid
- ii) Fatty acid esters-These are non greasy ex Butyl Stearate, isopropyl Stearate
- iii) Fatty alcohols- These helps in hydration of dry skin. Ex Cetyl and steryl alcohols used as emollients
- iv) Lanolin- It is good emollient because of its hydrophobic and adhesive character .Lanolin alcohol is a mixture of sterols, triterpine alcohols and aliphatic alcohols.
- v) Soft Paraffin- used as emollient it prevents water loss from skin.

(c) **Waxes**- It is used for thickening and water proofing properties Ex Bees wax, Paraffin wax, carnauba wax

4. **Fragrances & Perfumes**- Perfume (Fragrance) is a mixture of **essential oils** or aroma compounds, used to give the human body "a pleasant scent". Fragrances are used in a wide variety of products to impart a pleasant odour, mask the inherent smell of some ingredients, and enhance the experience of using the product. ex sandalwood oil

5.Colourants-

- In coloring decorative cosmetics several products are of vital importance:
e.g titanium dioxide is most important white pigment
- Iron oxides and iron hydroxides for the colors yellow,red and black,ultramarine especially in blue and violet,prussian blue,coal black.
- By combining iron oxides with titanium dioxide various brown tones can be created in makeup and toning creams
- The most significant colorant is composed of the organic colorants and pigments

CLASSIFICATION OF COLORANTS:

- Based on its solubility there are three classes
- 1. Colorants that are soluble in the medium being colored (usually water or oil soluble)
- 2. Pigments and colour lakes that are not soluble in the medium being colored
- 3. Water dispersible colorants

COLORANT GROUPS:

□ WATER SOLUBLE COLORANTS:

Creams, soap, toothpaste gel, mouthwash, bath products

□ OIL SOLUBLE COLORANTS:

Oil products and soap

□ PIGMENTS:

Makeup powder, lipstick, soap, toothpaste

● COLOR LAKES:

Eye makeup, lipstick

● WATER DISPERSIBLE PIGMENTS:

Soap

6. Humectants:

- A humectant is a hygroscopic substance used to keep skin moist.

✚ **Classification of humectants with examples :**

✚ **3 types** of humectants such as inorganic humectants, metal organic humectants and organic humectants.

✚ **1. Inorganic humectants:**

✚ **Calcium chloride** is an example.

✚ has compatibility problems and corrosive in nature.

✚ Hence not frequently used in cosmetics.

✚ **2. Metal organic humectants:**

✚ limited used in cosmetics because of compatibility problems, corrosive nature and pronounced taste.

✚ Example : **sodium lactate**.

✚ **3. Organic humectants:** **widely used in cosmetics.**

✚ The most commonly used organic humectants are **glycerol, ethylene glycol, polyethylene glycol (PEG), diethylene glycol, triethylene glycol, propylene glycol, dipropylene glycol, glycerin.**

7.Surfactants:

Surfactants are compounds that lower the interfacial tension between boundaries of the system. Surfactants are used in cosmetics for the properties like emulsification, foaming, detergency, wetting and solubilization.

Classification of Surfactants:-

1. Anionic surfactants: Soaps ex sodium oleate.
2. cationic Surfactants: Quaternary ammonium salts, phosphonium and sulphonium salts

3. Non-Ionic surfactants: Alkanomides,
polyethylene glycol
4. Ampholytic surfactants: Alkyamino acids,
acylamino acids