

## Natural resources in Cosmeceutical

Ankita Soni\*, Richa Singh, Shubham Bhatt, Deepak kr. Chaurasia, Dr. Tarkeshwar P. Shukla

S.C.P.M COLLEGE OF PHARMACY, GONDA, U.P

Submitted: 08-12-2022

Accepted: 17-12-2022

### ABSTRACT

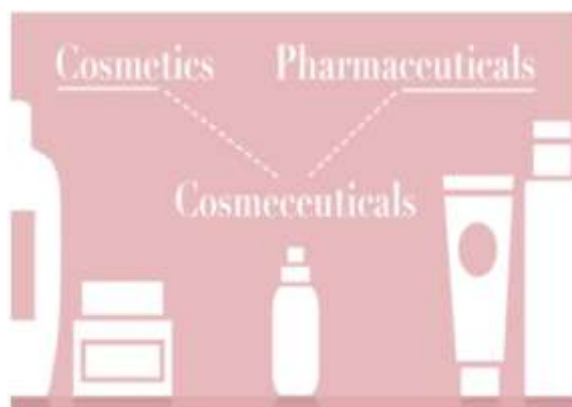
Cosmeceutical is a preparation in which possess both property such as “Cosmeceutical” and “pharmaceutical” such as skin whitening, moisturizer, sunscreen etc. The drug and cosmetics Act was launched; the purpose of this Act “to deliver safe, effective drug and cosmetics to people. Cosmeceutical product improves our skin appearance. Over- the- counter and are generally used as part of skin care to help improve skin tone and texture. Promote Beauty through health, wellness of skin and Safe for long terms. Increasing preference of general population towards natural products to boost demand for Cosmeceutical. “The global Cosmeceutical market size was valued at USD 50.75 billion in 2021. The market is projected to grow from USD 54.57 billion in 2022 to USD 96.23billion by 2029.” And the high point of this review is skin care, hair care Cosmeceutical and its function.

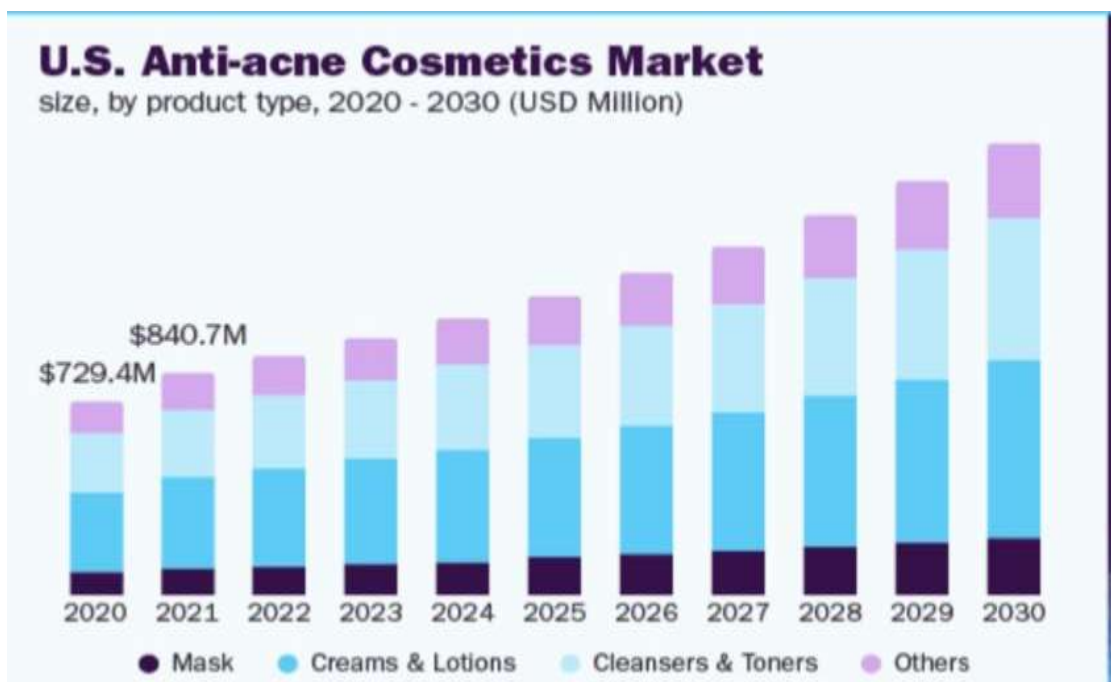
**Key words:** Skin care, Oral care, Hair Care ,Global Cosmeceutical market

### INTRODUCTION:-

Cosmeceutical are very hot topic in cosmetic industry field because Cosmeceutical connect to people both. Herbal / plant and medical.

Generally Cosmeceutical are the “combination of cosmetic and pharmaceutical”. Cosmeceutical are topical cosmetic pharmaceutical hybrids intended to enhance the health and beauty of skin. It is a cosmetic with pharmaceutical active ingredient which promotes health and beauty of human body. Cosmeceutical declare to reduce the skin imperfections. The law was launched in 1940 that is drug and cosmetics Act with aim people meet safe, effective, medicine or product. The cosmetics were first used by Egyptian in 4000BC whose records are being available. The word Cosmeceutical was developed by Raymond Reed in 1961 and 1971 Albert kligman developed a formula to protect skin from harmful radiation which cause wrinkled, acne etc. some examples related to this-A dark powder called as kohl was being applied around the eyes with a stick; Red clay mixed with water was the choice of make up for the cheeks and lips; Henna was used to paint the finger nail. Cosmeceutical are future generations of skin care. Cosmeceutical act as a carrier of personal care products and pharmaceutical. Ex; Moisturizing, sunscreen etc. Many researchers have studies various natural resource and enhance their Cosmeceutical and pharmaceutical efficacy.





**Classification –**

Cosmeceuticals products classified into following categories:

- 1) Skin cosmeceutical product.
- 2) Hair cosmeceutical product.
- 3) Other cosmeceutical product.

Skin Cosmeceutical	Hair Cosmeceutical	Other Cosmeceutical
Sunscreen agent	Onion	Eye care
Moisturizing agent	Lemon peel	Oral care
Skin lightening	Neem	Personal care
Lipoic acid	Lemon grass	
Vitamin E	Garlic	
Vitamin C	Mustard	
Antioxidant		
Catalase		
Hydroxy acid		
Polyphenol		
Boswellic acid		
Tetrahydrocurcuminoids		

**Skin care Cosmeceutical**

Skin is the largest organ in the body and it protects internal environment from external harmful radiations, Cosmetics and skin care products have become the part of everyday grooming. UV radiations coming from the sunlight penetrate the skin and accelerated damage due to free radicals, which consist of wrinkling, inflammation and hyper pigmentation. Numerous plant extracts and antioxidants that are obtained

from natural sources are able to prevent the aging and also improving the appearance of the skin.

**Sunscreen-** Sunscreen also known as Sun block, Blackout., Sunscreen agents are used to prevent sunburns, skin cancers. Cream or liquid applied on the skin to protect it from the harmful effects of the sun and prevent sunburn. Mainly, it is the effect of UV light from the sun that causes most of the visible effect of ‘aging’ skin.



**Moisturizing** - A preparation (such as a lotion or cream) applied to the skin or hair to prevent or relieve dryness. Its function is to soften the age line, help brighten and tone of skin.

These are 3 types –

**1. Emollients** – It is oil based. They hydrate, protect and smooth out your dry and rough skin.

**2. Humectants** - It is water based. This type does is, it extracts moisture from environment and seal inside your epidermis.

**3. Occlusive** – These moisturizers actually act as physical barrier for your skin while preventing water loss.

#### **Skin Lightening Agents:**

Skin lightening agents are applied to treat hyperpigmentation.

This change in pigmentation can be divided into two pathophysiologic processes:

1) Melanocytosis (increased number of melanocytes) and

2) Melanosis (increased amount of melanin).

Hydroquinone: Hydroquinone has been the popular agent of choice for skin lightening.

Common depigmenting ingredients include hydroquinone, ascorbic acid (vitamin C), Kojic acid, and licorice extract (glabridin).

**Antioxidant** – External factor such as –

U.v radiation, pollution, internal factor can generate molecule called free radical. Which damage skin?

Antioxidant reduces free radical damage so that preventing imperfectness at cellular level.

Ex- Alpha Lipoic acid, Vitamin E, NAG, vitamin C.

These antioxidants mediate at different levels in the protective process.

**Catalase** – catalase is present in almost all cell of human body which function is to catalyze decomposition of hydrogen peroxide in to water and oxygen. High quantities of catalase in the skin can impart antioxidant activity.

**Vitamin C** - Vitamin C and its derivatives are believed to show reducing effects on melanin

intermediates. Vitamin C has become a popular topically applied cosmeceutical because topical application of L- ascorbic acid is the only way to further increase skin vitamin C is easily degraded by heat and light, which along with its high acidity, presents certain challenges for use in a multipurpose skin care formulation. For example, vitamin C: is safe for most skin types, can brighten your skin, can reduce redness, can reduce hyperpigmentation, can reduce the appearance of under-eye circle, promotes collagen production, may help prevent sagging, may protect against sun damage.

**Vitamin E** - Vitamin E is a fat-soluble vitamin that acts as an antioxidant, helping protect cells from damage throughout your body. In moisturizers, vitamin E:

- Stops skin from losing moisture.
- Protects cells from damage.
- Softens skin.

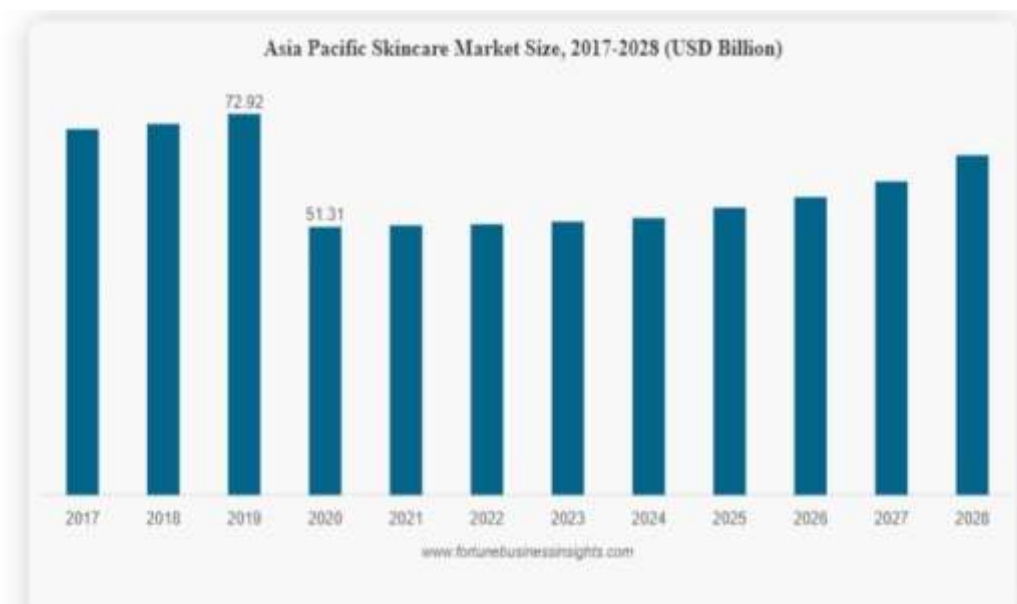
Vitamin E topically applied before UV radiation has been shown to reduce erythema, edema, sunburn cells, immunosuppression caused by sunlight, and DNA adduct formation.

#### **Boswellic acid**

These are obtained from *Boswellia serrata* and the key function is to inhibit the enzymes responsible for inflammation (5-lipoxygenase) and damage of the skin. **Boswellic acid** (BA) is an ancient herbal drug prescribed in the Indian traditional medicine systems (Ayurveda) for treatment of coughs, colds, hoarseness, bronchitis, asthma, dyspnea and diarrhea. Current research suggests it also has therapeutic potential in modern medical practice

**Hydroxy acid** - it is a group of animal and plant both derived acid used in a skin care product formulation. It is used to improve appearance of surface lines and wrinkles, prevent acne, increase blood flow and skin pigmentation.

### Skin care and beauty infographic



#### Hair care Cosmeceutical

The look of hair is a factor of the body personality. The extent, style, colour of hair can be modified according one's wish to appear. And it play vital role in personality. Hair loss, oily /greasy hair, dry hair, spit ends, fizzy hair are few problems which is faced by human. To thisproblem, human try Manyasures and homemade remedies'.

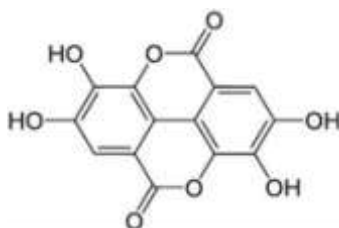
Ancient Egypt was hair set by the use of henna and mud. Hair oil is only substance which promotes hair growth and reduces hair related problems. Shampoos are the primary product to clean hair and scalp and make hair dandruff free. Hair Cosmeceutical product consists – hair growth stimulants, special care ingredient, conditioning agent, and some medicinal effect.

#### Different herbs used in hair care Cosmeceutical

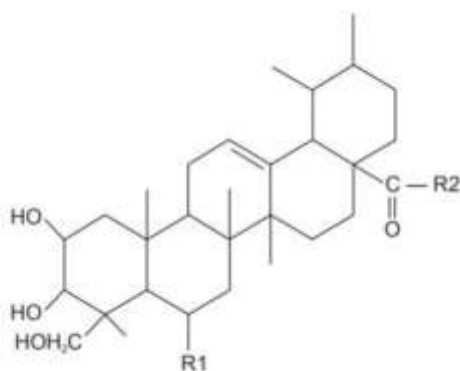
##### 1. Amla–

**Biological name** – *Emblica officinalis*

**Use** – Amla powder is known as promote hair growth and treating scalp condition



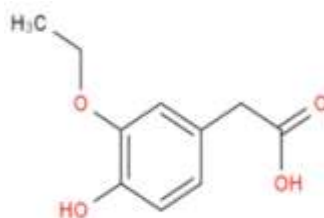
## 2. Brahmi



**Biological name** –Bacopa monnieri

**Use** – it apply on hair on a regular basis, it reduces dryness, itchiness and nourish at all time.

## 3. Coconut



**Biological name** – cocos nucifera linn

**Use** – coconut oil is used in formulation of hair products such as shampoos, hair oil.

## 4. Henna –

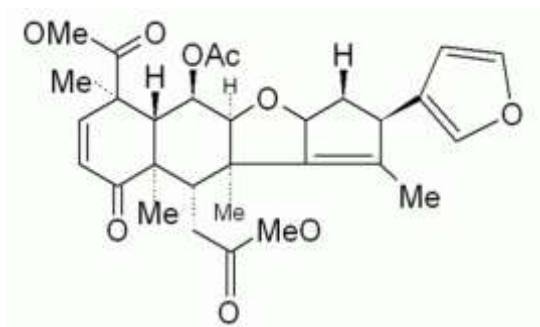
**Biological name** - Lawsonia inermis

**Use** – It is useful for both hair and skin. It has a cooling effect on the scalp.

Henna curbs hair fall and boosts hair growth.

Henna strengthens and repairs hair.

## 5. Neem –



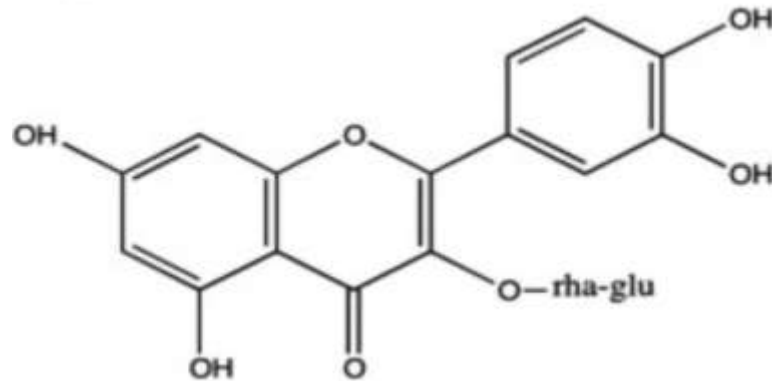
**Biological name-** Azadirachta indica

**Used-** Anti dandruff

Promote hair growth

Provide strengthens to hair follicles

## 6. Gurhal

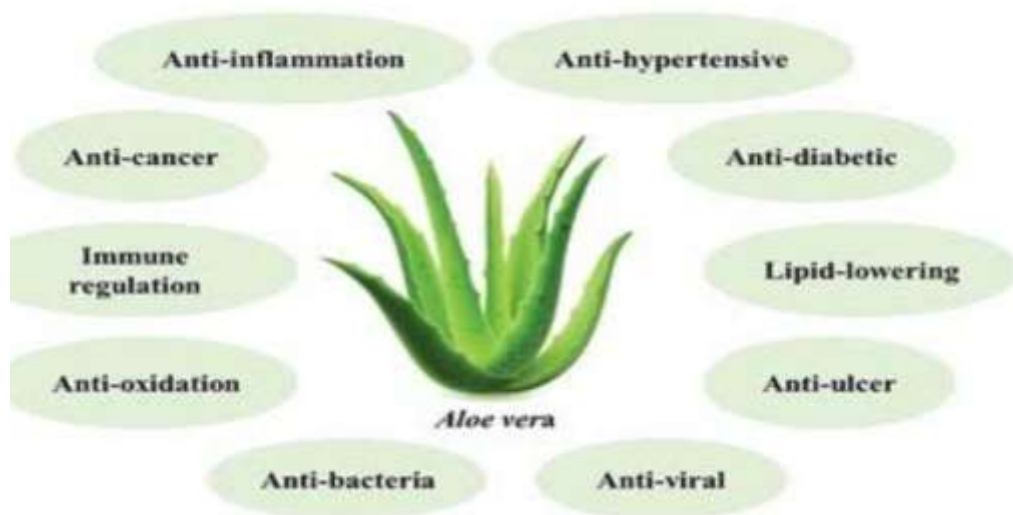


**Biological name-** Hibiscus rose sinesis

**Use-** It improves blood circulation, makes hair follicles stronger.

#### 7. Alerovera

**Biological name** - Aloe barbadensis miller.



#### Used -

- It's Anti-Ageing. ...
- 2) It fights Acne. ...
- 3) It Reduces Plaque. ...
- 4) Its Hydrating. ...
- 5) Its Moisturizing. ...
- 6) It Boosts Digestion. ...
- 7) It Soothes Razor Burn. ...
- 8) It Lowers Blood Sugar.

**Collection of Plant Materials:** Many hair oil prepared by collecting various plant material like onion, mustard ,Garlic ,Lemon peel ,Lemon grass , olive oil etc

#### 1. Onion –

**Biological name – Allium cepa**

**Use –**

- **Prevent hair fall** - onion juice is help to prevent hairfall because presence of sulphur in it. Onion juice massage can increase blood circulation and improve hair growth

- **Prevent dryness of hair** – onion juice have micronutrients which nourishes our dry and

increase blood supply of hair roots.



- **Prevent Dandruff** –Dandruff is common problem of people related to hair which is occur due to fungus infection. Onion juice has a anti fungal property.

## 2. Mustard–

**Biological name** –

**Use** –

- **Anti microbial property** – some studies have found that mustard oil is a powerful anti microbial properties. Them it prevent the growth of bacteria and many studies also prove that it also inhibit growth of fungus and mold.

- **It is also used to make hair soft-** Heat up some mustard oil slightly then massage on scalp 2 hours before shampoo, and wash properly for shiny hair.

## 3. Garlic

**Biological name-** Bulbs of *Allium sativum*

**Use-**

Garlic helps to promote hair growth.

Garlic is high in vitamin and mineral such as vitamin B-6 and C. Manganese and selenium which promote healthy hair.

In 2016 study was found that garlic protected keratinocytes from ultra violet damage. (Keratinocytes are present in all four layer of the epidermis of skin).

Many conditioners are formulated by garlic.

## 4. Lemon peel –

**Biological name** - Citrus limon.

**Use-**

Lemon peel promote hair growth

Antimicrobial property

Antiseptic benefits.

it cleanses and balances the pH of the scalp, the antimicrobial properties will assist with any latent fungus.

## 5. Hibiscus:

**Botanical name-** (*Hibiscus Rosa sinensis*)

**Use-** In herbal formulations, hibiscus petal is used to stimulate thicker hair growth and to prevent premature graying, hair loss and scalp disorders. Nourishes the Hair by Conditioning It. Henna strengthens and repairs hair.

## Oral care product

Oral hygiene is the practice of keeping the mouth & teeth clean to prevent oral problems such as,

Dental cavities,

Sensitivity,

Gingivitis,

Periodontal (GUM) diseases &

Bad breath.

## Objective

- Prevention is always better than cure.
- Good oral hygiene will keep away most of the severe oral or dental problems saving you from painful & costly treatments.
- To keep mouth & teeth in good condition & to prevent drying or cracking of mucous membrane.

- To prevent bacteria in the mouth from causing local & general infection, as well as to prevent sores leading to ulceration.

**Anatomy**



**Oral problem** These are -  
 Dental Cavities  
 Bleeding Gums (Gum Diseases)  
 Sensitive  
 Teeth Mouth Odor.



**Formulation**

- Tooth powder
- Toothpaste
- Mouthwash & Gargles
- Mouth spray
- Fluoride gels & Varnispray
- Chewing gums

**Tooth powder**

Tooth powder is defined as a powder that you mix with a small amount of water and use for cleaning your teeth.



Ancient people used myrrh, eggshells, animal bone ash etc. Used to remove mouth odor and make clean teeth.

#### Formulation Consideration:

- Abrasive: cal. carbonate, sod. carbonate
- Whitening agent
- Detergent: dental soap powders
- Sweetener: sod. saccharine, cal. saccharine, xylitol
- Flavor: clove oil, peppermint oil
- Fluorides: sod. Fluoride, sod. Monofluorophoxylitol
- Absorbent: activated charcoal

#### Benefits

- Reduce plaque
- Controlling gingivitis
- Whitening effects.

#### Tooth paste

Toothpaste is a paste or gel dentifrice used with a toothbrush to clean and maintain the aesthetics and health of teeth.

#### Formulation Consideration:

- Abrasive: cal. carbonate, sod. Carbonate, alumina, silica.
- Surfactant: SLS, sod. lauryl sarcosinate
- Humectant: glycerol, sorbitol
- Gelling agent: CMC, sod. CMC, cesorbitol
- Vehicle: water
- Preservatives: parabens sod. Benzoate
- Sweetener, Flavor Benzoate
- Fluorides: sod. fluoride & mono fluorophosphate, stannous fluoride
- Desensitizing agents: pot. Nitrate, pot. citrate, strontium chloride

#### Benefits

- Remove plaque.
- Resist decay.
- Help strengthen the enamel that been attacked by acids.
- Clean and polish teeth.
- Remove teeth stains.
- Freshen breath.

#### Mouth wash and Gargles

##### Formulation Consideration:

- Antiseptic: hexachlorophene, formalin, boric acid
- Astringent: zinc chloride, zinc acetate
- Anesthetic: eugenol, benzoic acid

- Deodorizing agents: chlorophyllin
- Mouthwashes are aq. solutions with a pleasant taste & odor used to clean & deodorize buccal cavity.
- Gargles are aq. hydroalcoholic solutions used to prevent/ treat throat infections.
- Flavors: menthol, oils
- Surfactant: tweens
- Preservative: sod. benzoate
- Sweeteners: saccharine
- Colors: saffron, cacavity
- Vehicles: alc. + H<sub>2</sub>O, glycerin

#### Benefits

Get A Fresh Breath. This one is the most common.

- Say Goodbye to Particles. It is very common nowadays that most of the people use mouthwash only after brushing their teeth. ...
- Avoids Plaque. ...
- Fights Cavities from Growing. ...
- Cures Canker Sores.

#### Chewing gums –

A soft, usually sweet, sticky substance that you chew to get its flavor, but which you do not swallow.

#### Formulation consideration

- Gum base.
- Mild sweetener/ Sugar alcohol: maltitol, sorbitol.
- Sugar / calorie free sweeteners: Aspartame, acesulfame K.
- Cooling agent: menthol, mentha oil.
- Flavoring agent: peppermint, spearmint, oils.
- Whitener: Sod. Bicarbonate.
- Emollient: glycerin.
- Stimulate salivary flow that relieves dry mouth problem, thereby freshens oral cavity & avoids bad breath. .
- Made up of “Gum base” having- resin (chewable part), wax (gum softener) & elastomer (flexibility).

#### Benefits

- Combating bad breath
- Preventing tooth decay
- Increasing saliva flow
- Whitening teeth
- Stress relief

#### REFERENCE -

- [1]. Sanket Rathod\*, Sneha Mali, Namdeo Shinde, Nagesh Aloorkar. Cosmeceuticals and Beauty Care Products: Current trends

- with future prospects, Research Journal of Topical and Cosmetic Sciences. Vol. 11 | Issue-01 | January-June | 2020.
- [2]. Basavaraj K. Nanjwade, Kishor A. Bellad, Meghana S. Kamble, Teerapol Srichana, Nagi F. Idris. Development of cosmeceuticals.; world journal of pharmacy and pharmaceutical sciences; Volume 6, Issue 4, 643-691
- [3]. Nikita Wanjari, \*Jyotsna Waghmare. A Review on Latest Trend of Cosmetics-Cosmeceuticals. International Journal of Pharma Research & Review, May 2015; 4(5):45-51 ISSN: 2278-6074.
- [4]. Amit Gupta\*, Rishabha Malviya, Tej Prakash Singh, Pramod Kumar Sharma. Indian Medicinal Plants Used in Hair Care Cosmetics: A Short Review. Pharmacognosy Journal Vol2, Issue10, June, 2010 Page 361-364
- [5]. Omkar. Narule<sup>1\*</sup>, Manohar D. Kengar<sup>1</sup>, Pranali P. Mulik<sup>1</sup>, Sohel Nadaf<sup>1</sup>, Bhagyashree A. Mote<sup>1</sup>, Trupti D. Dudhagaonkar<sup>2</sup>. Formulation and Evaluation of Poly Herbal Hair Oil. Research J. Topical and Cosmetic Sci. 10(1): January – June 2019.
- [6]. Shaibu Bello; Usmanu Danfodiyo University Sokoto. Cosmeceuticals: A review.
- [7]. e discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/268293743>.
- [8]. <https://www.Dermatologytime.com=>....>
- [9]. <https://www.merram-webster.Com>....>
- [10]. <https://pharameasy.in/blog/onion-juice-can-improve-hair/amp/>.
- [11]. Adrienna santos-longhurst. Garlic on hair, what to keep in mind .
- [12]. Noreen iftikhar MD. Mustard oil for hair. m. Hindustan Times .com
- [13]. <https://www.pharmatutor.org/pharmapedia/henna-in-cosmetics?amp>
- [15]. Harish Dureja, D Kaushik , M Gupta ,V kumar ,V lather. “Cosmeceuticals: An Amerging concept. EDUCATION FORUM. Year : 2005 |volume :37| Issue :31 |page : 155- 159
- [16]. Dilip kumar J. “A Concise Book of cosmetic science.
- [17]. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/>
- [18]. Ms. Bhandari kartiki M. “Design of Cosmeceutical products, Oral hygiene products”. M.pharm pharmaceuticals.
- [19]. Churchley D, Schemehorn BR. In vitro assessment of a toothpaste range specifically designed for children. Int Dent J. 2013;63 Suppl 2:48–56.
- [20]. <https://drmwdds.com/2018/06/25/5-benefits-of-mouthwash/>