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## Formulation and Evaluation of Herbal Skin Exfoliator

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### ABSTRACT :

The main purpose of studying herbal skin exfoliator is to overcome skin problems in day to day life. The environment clogs the skin pores with dirt and toxins and our internal body excretion mechanism also tries to get rid of its toxic components of metabolism through the same pores. This leads to build up of dead skin cells. The utilization of the natural exfoliator which assists with further developing blood flow and increases oxygen supply to all surfaces of the skin. It gives best outcomes and makes the skin glowing and healthy. Here we are using all natural ingredients so that there is less chances of adverse drug reactions. Herbal exfoliant is a cleansing formula and treatment mask that detoxifies the skin and stimulates its metabolism. The utilization of natural ingredients utilized in the formulation to stay healthy skin and of good appearance, to battle against skin break out, wrinkles and furthermore to control secretion of oil.

**Keywords :** Herbal Cosmetics, Turmeric powder, Sandalwood powder.

### Aim & objective:

• **Aim:** To formulate and evaluate Herbal Skin Exfoliator.

• **Objectives:**

The primary goal of the exploration study was to formulate an herbal exfoliator utilizing natural ingredients incorporated into a gel. The utilization of natural ingredients is utilized in the formulation to maintain healthy skin and good appearance, to battle against skin breakouts and wrinkles, and to control the secretion of oil.

Natural cosmeceuticals normally contain plant parts that utilize antimicrobial, antioxidant, and anti-aging properties. Herbal beauty care products have less or no side effects consequently utilization of herbal beauty care products gets expanded. Exfoliation not only rids your face and body of dead skin, but it also helps with other skincare imperfections and improves the effectiveness of your regular skincare routine so you can benefit from healthy, glowing skin.

The main objective for using herbal exfoliator is that the Exfoliating simply helps to keep your skin silky soft and smooth by buffing away and removing dead skin cells. A tan will naturally fade away due to the exfoliating of the skin. An exfoliant gives the skin a smoother, more even surface and in the long run can make wrinkles less noticeable. This is because an exfoliator works deeper into the skin than a scrub, which works more superficially.

### Introduction :

Cosmetics are an important part of our daily life; without any cosmetic product, the skincare routine is incomplete. According to the United States, Food and drug Administration (FDA), Cosmetics are described as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into, or otherwise applied to the human body or any part thereof, for cleansing, beautifying, promoting attractiveness or altering the appearance.

Herbal Cosmetics, here referred to as Items, are formulated, using different permissible cosmetic ingredients to form the base in which one or more herbal ingredients are utilized to supply characterized corrective preferences as it were, might be called as "Herbal Cosmetics". The herbs employed in cosmetic preparations have a variety of qualities, including antioxidant, anti-inflammatory, antiseptic and antibacterial characteristics.

These herbal products assert that they don't have any adverse effects.

## Need and demand :

The demand for herbal skin exfoliators, particularly those incorporating sandalwood, can vary based on factors like consumer preferences, trends in skincare, cultural traditions, and perceived benefits. Sandalwood has been used for centuries in skincare for its purported anti-inflammatory, antimicrobial, and soothing properties. Here are some factors contributing to the potential need and demand for a herbal skin exfoliator with sandalwood.

**1.Natural and Herbal Trend:** There's been a growing preference among consumers for natural and herbal skincare products. Sandalwood fits into this trend as it's a natural ingredient known for its skincare benefits.

**2.Exfoliation Benefits:** Exfoliation is a crucial step in skincare routines as it helps remove dead skin cells, revealing smoother and brighter skin. A herbal exfoliator with sandalwood can offer not only exfoliation but also the purported benefits of sandalwood, such as reducing inflammation and promoting skin radiance.

**3.Sandalwood's Properties:** Sandalwood is known for its aromatic fragrance and potential skincare benefits. Its anti-inflammatory properties may help soothe irritated skin, while its antimicrobial properties could assist in preventing acne and other skin issues.

**4.Cultural Significance:** In certain cultures, sandalwood holds significant cultural and religious value. Products containing sandalwood may be sought after by consumers who appreciate its cultural significance.

**5.Marketing and Branding:** Effective marketing highlighting the benefits of sandalwood and the herbal formulation of the exfoliator can attract consumers who are looking for natural skincare solutions.

To meet the demand for an herbal skin exfoliator with sandalwood, ensuring product quality, ingredients authenticity, and effective marketing strategies targeting consumers interested in natural skincare solutions is essential. Additionally, conducting research and clinical studies to support the purported benefits of sandalwood in skin care can further enhance the product's credibility and appeal to potential customers.

## Skin :-

Skin is the outermost and one of the largest and most complex organs of the human body, it is a protective cover for the internal tissues and organs and serves as a variety of useful physiological functions. It consists of three layers i.e.

1. Epidermis.
2. Dermis.
3. Hypodermis.

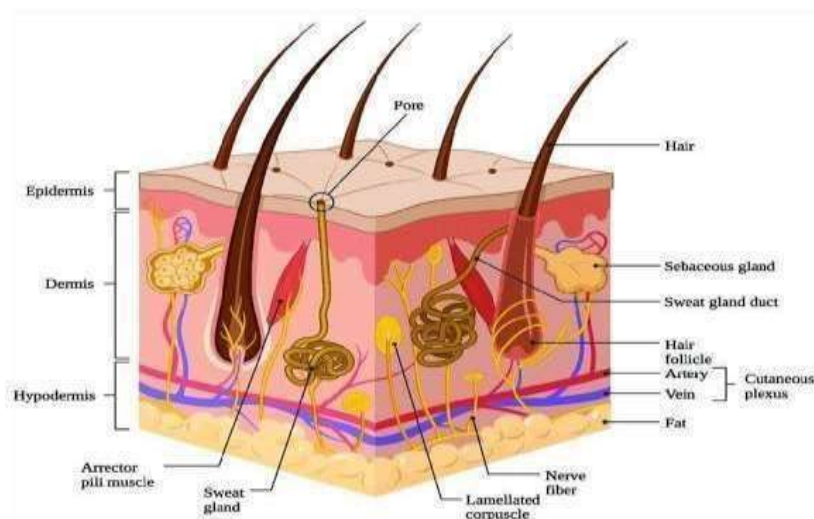


Fig.no. 1.1

## Epidermis :-

It is composed of keratinized, stratified epithelium and is derived from ectoderm. It grows continuously but maintains its normal thickness by the process of desquamation. The epidermis, based on different types of cells further divided into five distinct layers i.e. stratum basale, stratum spinosum, stratum granulosum, stratum lucidum, and stratum corneum. The stratum corneum or horny layer, is the uppermost layer which is composed of keratinized cells called corneocytes and made up of 10 to 30 thin layers of continually shedding, dead keratinocytes, which are also known as dead skin cells. These keratinocytes are the predominant cell type of the epidermis. Stratum corneum prevents water loss and also protects underlying tissue from infection, and chemical and mechanical stress.

**Dermis :-**

The dermis is a fibrous structure composed of collagen, elastic tissue, and other extracellular components that include vasculature, nerve endings, hair follicles, and glands. The role of the dermis is to support and protect the skin and deeper layers, assist in thermoregulation, and aid in sensation.

**Hypodermis:-**

Hypodermis is the bottom layer of skin. It is deep to the dermis and is also called subcutaneous fascia. It has many functions, including insulating the body from harm, storing energy, and connecting your skin to your muscles and bones.

**Herbs used for Various Types of Skin:-**

- ✧ **For Dry Skin** - Rubia Cardifolia (Manjistha), Triphala, Tulsi, Glycyrhiza glabra in sesame oil, Fruit face mask Banana or avocado pulp.
- ✧ **For Sensitive Skin** - Usheero, Curcuma longa, Triphala, Azadirachta indica mustaka, Nimba in coconut oil, Fruit face mask Banana or pineapple pulp.
- ✧ **For Oily Skin** - Tulsi, Idhora, Nimba, Curcuma longa, Fruit face mask strawberry or papaya pulp.

**Exfoliation:-**

Exfoliation meaning is the process of removing dead skin cells from the surface of the skin, to improve its appearance & make skin look soft, smooth & supple and the cosmetic product is called an 'Exfoliator'. Exfoliating is necessary for every skin. It also helps to remove excess oil from skin pores.

An exfoliator is mostly used on the outermost part of the skin, which is the epidermis. Every type of exfoliation may not work for every skin type, so it's important to consider your skin type before choosing an exfoliation method : □ Sensitive skin may sting or burn after product use

- ✧ Normal skin is clear and not sensitive
- ✧ Dry skin is flaky, itchy, or rough
- ✧ Oily skin is shiny and greasy
- ✧ Combination skin is dry in some areas and oily in others.

Natural cosmeceuticals normally contain plant parts that utilize antimicrobial, antioxidant, and anti-aging properties. Herbal beauty care products have less or no side effects consequently utilization of herbal beauty care products gets expanded. This unbiased exfoliant supports eliminating debasements, impurities, toxins, and an abundance of oil. This flexible mix can be utilized as a facial clean or a facial cover.

**There are three types of Exfoliation i.e.****1. Natural Exfoliation:-**

Exfoliation occurs naturally as cells detach from the skin. Normal peeling occurs invisibly as single corneocytes, or very small aggregates of them, detach from the skin's surface and start to shed off.

**2. Cosmetic Exfoliation:-**

The exfoliation of the skin surface can be renormalized by using cosmaceutical products.

**Cosmetic exfoliation is of two types i.e. -****2.1. Mechanical Exfoliation:-**

It is a physical exfoliation process that can be achieved by using scrubs with small exfoliating grainy particles such as pulverized walnut shells, apricot pits, pistachio shells, almond shells, and salt crystals. Microdermabrasion is a mechanical process in which light cosmetic procedures are used to remove the dead skin cells from the epidermis.

**2.2. Chemical or Herbal Exfoliation:-**

This type of exfoliation includes the use of creams, lotions, and gels. Chemical exfoliants include scrubs containing salicylic acid, glycolic acid, fruit enzymes, citric acid, or malic acid which may be applied in high concentrations by a dermatologist, or in lower concentrations in over-the-counter products. Chemical exfoliation may involve the use of products that contain alpha hydroxy acid (AHA) or beta hydroxy acids (BHAs) or enzymes that act to loosen the glue-like substance that holds the cells together allowing them to slough off.

This type of exfoliation is recommended for people treating acne. While the precise mechanism of action of hydroxy acids is still open to debate, there is a consensus that exfoliating the outermost layers of the stratum corneum (the stratum disjunctum) results in improved skin texture, and a reduction in fine lines and hyperpigmentation. It is thought that AHAs primarily affect the skin by normalizing cell turnover in the epidermis. This stimulates the formation of normal healthy skin, sloughing off of dead cells from the stratum corneum, a decreased formation of dry scales on the skin's surface and stimulation of the cell cycle.

While this is plausible, there are some researchers who believe the mechanism of action for AHAs cannot be tied solely to stimulation of the skin as measured by traditional cell renewal techniques. Studies on cell cohesion and skin pH changes indicate that keratin bonds may be affected and that low pH levels associated with active AHA solutions may dissolve the desmosome protein linkages causing a burst in skin exfoliation. It is often said that AHAs affect the skin from the inside out because of the suggestion that they influence coenocyte cohesion in the lower layers of the stratum corneum.

The result is a thinner stratum corneum that is more flexible and compact, reflects more light, and overall gives the skin a more youthful appearance. In recent years, retinol (vitamin A) has been included in exfoliation formulas because the skin can convert retinol to retinoic acid, a potent skin exfoliant and antiaging agent. Retinol has been shown to reduce the visible signs of both photoaging and normal chronological aging when used daily.

#### **Ideal Properties and Benefits of Cosmetic Exfoliators:**

- ❖ Cosmetic exfoliators should be non-toxic.
- ❖ The formula should be non-sticky.
- ❖ The chemical used in the exfoliator should be mild on the skin.
- ❖ They should be able to remove excess oil, impurities, and dead skin.
- ❖ The formula should be formulated according to the skin type.
- ❖ Abrasives with irregular edges should be avoided in scrubs, cream, and gels

#### **3. Enzyme Exfoliation:-**

Plant enzymes are different from AHAs or BHAs because they work by dissolving the top layer of dead skin cells. The main plant enzymes used in skin exfoliation are papain from papaya, bromelain from pineapple, and an enzyme from pumpkin.

#### **Skin types benefitting from exfoliation:**

##### **1. Aged and mature skin:-**

In aged skin with a thin epidermis and atrophied dermis, the fatty tissues of the hypodermis may also decrease. The texture of the dermal tissue changes as the collagenous fibers progressively organize in large bundles. Blood circulation decreases in the skin's microvessels, and sweat production decreases due to a reduction in the number of active sweat glands. Sebum production is lower and pigmentation changes occur leading to age spots. In aging skin the natural sloughing of older cells from the skin becomes more difficult, causing a dull, thick skin with less tone. Exfoliation with a formulation containing skin nutrients and moisturizers is especially effective on prematurely aged and mature skin, as it stimulates natural cell renewal.

##### **2. Acneic skin:-**

Acneic skin produces five times more dead skin cells than occur in other skin conditions and exfoliation can have great benefits for acneic skin. Hydroxyacids are effective in preventing dead skin cells from clogging hair follicles and contributing to acne.

##### **3. Hyperpigmentation:-**

Hyperpigmentation is a darkening of skin color caused by either an increase in melanin or melanocytes or the deposition of a colored substance in the skin. Exfoliation helps to shed these pigmented cells more quickly and lighten age spots. Special ingredients in the exfoliant allow it to effectively penetrate a hyper pigmented area at its source.

##### **4. Dehydration:-**

In dehydrated skin, the lack of moisture leads to fractures in the cellular barrier, leaving skin tight and stretched. Over moisturization leads to a dull, uneven skin tone. By applying an exfoliant, the dying skin cells are effectively removed and moisturizing and hydrating ingredients can penetrate deeper into skin to help ease dry skin conditions.

##### **5. Photodamage:-**

Exposure of the epidermis and dermis to UV radiation from sunlight causes photodamage. UV radiation can induce acute and chronic changes in the DNA, protein, and lipid building blocks. Acute effects include sunburn, phototoxicity, photoallergy, cutaneous degeneration, and actinic elastosis. Photodamaged skin appears thicker (actinic keratosis) and less elastic due to hypertrophy of elastic tissues and alterations in collagen fibers (Hawk 2001). Exfoliation may help people with sun- damaged skin containing potentially abnormal cells to eliminate these cells before they become dangerous, and this may help prevent skin cancer.

#### **EXFOLIATOR:-**

Exfoliators or Exfoliants are the ingredients or substances that help remove dead skin cells from the skin's surface.

There are two types of exfoliants: physical exfoliants and chemical exfoliants.

##### **1. Physical Exfoliants:-**

Physical exfoliants scrub away dead skin cells using abrasive particles or tools. Some common physical exfoliants include -

1. Sugar or salt scrubs
2. Ground coffee or rice
3. Facial brushes or sponges
4. Microbeads (although these are now banned in many countries due to environmental concerns).

## 2. Chemical Exfoliants:-

Chemical exfoliants work by breaking down the bonds between dead skin cells, allowing them to be easily removed from the skin. Some common chemical exfoliants include -

1. Alpha-hydroxy acids (AHAs) such as glycolic acid and lactic acid
2. Beta-hydroxy acids (BHAs) such as salicylic acid
3. Enzymes such as papain (found in papaya) and bromelain (found in pineapple).

## Properties of Exfoliants:-

Exfoliants are products that are designed to remove dead skin cells and impurities from the skin, leaving it smoother and brighter. The ideal properties of exfoliants depend on the type of exfoliant and the skin type they are intended for, but in general, the following are some key properties to look for:

1. **Effective** - An ideal exfoliant should be effective at removing dead skin cells and impurities without being too harsh or abrasive. It should provide noticeable results without causing any damage to the skin.
2. **Gentle** - While exfoliation is important for maintaining healthy skin, it should not be too aggressive, as this can cause irritation, inflammation, and even damage to the skin. Therefore, an ideal exfoliant should be gentle enough to avoid causing any harm.
3. **Safe** - An ideal exfoliant should be safe to use and not contain any harmful ingredients. It should be free from synthetic fragrances, preservatives, and other potentially harmful chemicals.
4. **Hydrating** - Exfoliation can sometimes leave the skin feeling dry and dehydrated, so an ideal exfoliant should be hydrating and moisturizing, to counteract any dryness and leave the skin feeling soft and supple.
5. **Non-comedogenic** - An ideal exfoliant should be non-comedogenic, meaning it should not clog the pores or cause acne breakouts. It should be suitable for all skin types, including sensitive and acne-prone skin.
6. **Natural** - An ideal exfoliant should be made from natural, organic, or sustainable ingredients, to minimize the environmental impact and provide the best possible benefits for the skin.
7. **Customizable** - An ideal exfoliant should be customizable, to suit individual skin types and concerns. It should be available in different formulations, strengths, and textures, to provide a personalized experience and optimal results.

## Benefits of Herbal Skin Exfoliator:-

1. Preventing clogged pores, helping your skin stay clear and breakout-free.
2. Increasing collagen production, to promote skin elasticity.
3. Leaving skin looking brighter and feeling smoother.
4. Improving the effectiveness of skincare products by aiding absorption.
5. It removes dead skin cells and gives a fine texture to the skin.
6. Herbal exfoliator gives less side effects than the synthetic one.
7. It improves skin hydration and moisture levels.
8. It gives the effects of scrub as well as moisturizer in one product.

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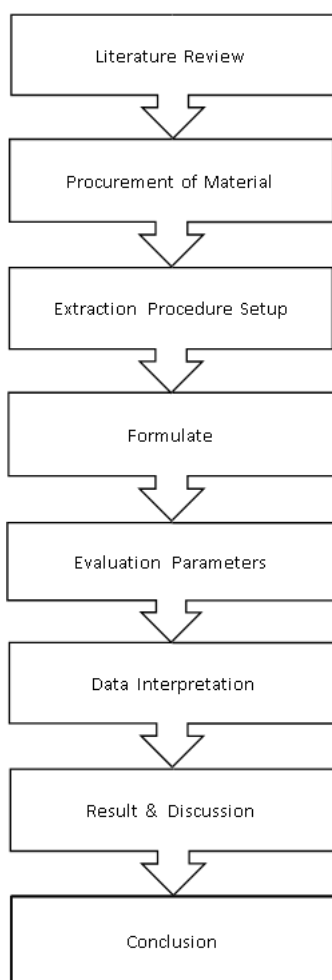
## LITERATURE REVIEW

1. **Sanju N., et.al:** According to the United States, Food and Drug Administration (USFDA), Cosmetics are described as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into, or otherwise applied to the human body or any part thereof, for cleansing, beautifying, promoting attractiveness or altering the appearance.

2. **Sana V., .et.al:** Herbal exfoliator is a restorative item that contains somewhat unpleasant materials that can eliminate dead skin cells. It is typically a cream- based item that contains little exfoliation pieces that when massaged across the skin assist with smoothing the skin by genuinely lifting dry, dead skin cells.
3. **Vidya K., .et.al:** Herbal Cosmetics, starting 1990's cosmetic manufacturers updated the term 'cosmeceuticals' to describe the OTC skincare items that claim therapeutic advantage by the addition of plant-based active ingredients such as alpha-hydroxy acid, retinoic acid, ascorbic acid, and coenzyme.
4. **Manish D., .et.al:** Properties of exfoliants: Exfoliants are products that are designed to remove dead skin cells and impurities from the skin, leaving it smoother and brighter. The ideal properties of exfoliants depend on the type of exfoliant and the skin type they are intended for.
5. **Nilani P., .et.al:** Exfoliation methods: Manual/mechanical skin exfoliation, Chemical/herbal exfoliation, Enzyme exfoliation.
6. **Vaishnavi T., .et.al:** Physical exfoliation: Abrasive substances are applied to the skin and gently rubbed into the skin in circular motions with the hands or a rough sponge.

□ Chemical exfoliation: Chemically breaks down the initial adhesion holding together dead (keratinized) skin cells before penetrating the top layer of skin to completely remove dead cells.

### PLAN OF WORK



## METHODS & MATERIALS

### Methods to be used:-

- Weighing of the required quantity of active ingredients such as turmeric powder, sandalwood powder, multani mitti, and cinnamon powder will be done.
- Kept on hot air oven for 20 minutes at 70°C.

- Other ingredients will be weighed separately such as preservatives, moisturizers, surfactants, neutralizers, gelling agents, etc.
- Liquorice will be dissolved in a beaker containing water.
- Tragacanth will be added and stirred constantly for a few minutes to form a gel.
- Then aloe vera gel will be added.
- The turmeric powder, sandalwood powder, cinnamon powder, and lemon juice will triturate well with a mortar and pestle.
- The above gel will be added to this mixture to get the herbal exfoliator. Rose water will be used as a vehicle in this preparation.

**Materials to be used:-**

Sr.no.	Name of ingredients	Category	Quantity (20g)
1	Turmeric powder	Exfoliant	2.5 g
2	Sandalwood powder	Lighten skin tone	5 g
3	Multani mitti	Lighten pores	2.5 g
4	Cinnamon powder	Exfoliant	2.5 g
5	lemon juice	Exfoliant	2.5 ml
5	Liquorice	preservative	0.5 g
6	Tragacanth	Gelling agent	0.5 g
7	Aloe vera gel	Moisturizer	2 ml
8	Rose water	Vehicle	Q.S.

**INGREDIENTS USED IN HERBAL SKIN EXFOLIATOR :-**

**1. Turmeric (Curcuma longa):-**

Turmeric is a product of *Curcuma longa*, a rhizomatous herbaceous perennial plant belonging to the ginger family Zingiberaceae, which is native to tropical South Asia. As many as 133 species of *Curcuma* have been identified worldwide.



Fig.no. 6.1

**Uses -**

1. It helps brighten dark spots, moisturizes dry skin, and acts as an exfoliate.
2. It exhibits anti-inflammatory, anti-HIV, anti-bacterial, antioxidant, nematocidal, antiparasitic, antispasmodic, and anticarcinogenic activities.
3. Extraction Procedure: Dehydrate the turmeric until the pieces are completely dry. When done drying they will easily crack and snap in half, rather than bend. Use a blender, then grind it to form a thin powder.

**2. Sandalwood (Santalum):-**

Sandalwood is a genus of about 25 species of semiparasitic plants of the family Santalaceae, especially the fragrant wood of the true or white sandalwood.



Fig.no. 6.2

**Chemical constituents -**

The main constituents are Santene, alpha-santalene, beta-santalene, Tesresantalol, alpha-santalol, beta-santalol, Norticycloekasantalol, etc.

**Uses -**

1. It is used as a cosmetic to prevent wrinkles, reduce acne, and dark spots and heal wounds.
2. It is also useful in skin conditions like psoriasis, eczema, Molluscum contagiosum, and scabies. It helps combat pigmentation and evens out skin tone.
3. Extraction procedure: Earlier hydro-distilled sandalwood is dried, pulverized, and then extracted employing the Soxhlet apparatus. The powder was extracted using toluene for 5.15 h in the Soxhlet apparatus.

**3. Lemon juice (Citrus limon):-**

Citrus limon is a tree with evergreen leaves and yellow edible fruits from the family Rutaceae, native to Asia, primarily Northeast India (Assam), Northern Myanmar, or China.



Fig.no. 6.3

**Chemical constituents -**

The major acid in lemons is citric acid, which constitutes around 5-6% of the lemon juice.

**Uses -**

1. Lemon juice boosts collagen which is responsible for maintaining elasticity of the skin.
2. It reduces dark spots and causes skin brightening.
3. Skincare products enriched with lemon extracts and vitamin C can be very beneficial for the treatment of acne.

**4. Cinnamon (Cinnamomum verum):-**



*Cinnamomum zeylanicum*, the source of cinnamon bark and leaf oils, is an indigenous tree of Sri Lanka, although most oils now come from cultivated areas.

Cinnamon is made from the inner bark of the *cinnamomum* tree.



Fig.no. 6.4

#### Chemical constituents -

Cinnamon consists of a variety of resinous compounds, including cinnamaldehyde, cinnamate, cinnamic acid, and numerous essential oils.

#### Uses -

1. Cinnamon is used to prevent acne and it reduces the signs of aging.
2. It evens out the skin texture and helps to control eczema.
3. It is used for exfoliating the skin and can help plump up the lips instantly owing to the slightly spicy and stinging effect that it has when used on the lips.
4. Extraction procedure: Take *Cinnamomum verum* bark and grind it in a mortar and pestle to form thin uniform cinnamon powder.

#### 5. Liquorice (*Glycyrrhiza glabra*):-

*Glycyrrhiza glabra* is known as mulaithi in north India. It is a flowering herbaceous perennial legume native to Europe, parts of Asia, and most of North America, but not to the Southeastern United States.



Fig.no. 6.5

#### Chemical constituents -

Its main bioactive component that imparts a sweet flavor is glycyrrhizin; in addition, contains some volatile compounds, flavonoids, and saponins.

#### Uses -

1. Liquorice is said to have a soothing effect on the skin and helps to ease inflammation.
2. It is also used as a preservative.
3. The glycyrrhizin found in licorice can reduce redness, irritation, and swelling and is used to treat skin conditions like atopic dermatitis and eczema.

4. Extraction procedure: This method starts with heating the shredded roots of licorice for 4-6 hrs in ten times its volume of distilled water at 60°C at a neutral pH. The suspension is centrifuged and the supernatant is evaporated in a vacuum to about 75%.

#### 6. Tragacanth (*Astragalus gummifer*):-

Tragacanth is a natural gum obtained from the dried sap of several species of Middle Eastern legumes of the genus *Astragalus*. It is a viscous, odorless, tasteless, water-soluble mixture of polysaccharides.



Fig.no. 6.6

#### Uses -

1. It is used as a gelling agent in cosmetics preparations.

#### 7. Aloe vera (*Aloe barbadensis miller*) :-

It is a dried latex of leaves of *Aloe barbadensis* & it is also known as curcaw aloe, cape aloe, and socotrine aloe. It belongs to the Liliaceae family. Aloe vera is nowadays one of the most significant ingredients used in the field of cosmetics is Aloe vera.



Fig.no. 6.7

#### Uses –

1. Aloe vera enhances the skin's capacity to hydrate itself and also helps in the removal of dead skin cells.
2. It treats acne, dark spots, and skin allergies and makes skin brighter.
3. It has antibacterial, anti-inflammatory, and healing properties.
4. Extraction procedures: the gel extraction from aloe vera leaves has been carried out by removing its exudates and its mucilage will be scraped out with a blunt blunt-edged knife. This mucilage will be stirred vigorously in a blender to make uniform. This solution was strained through a muslin cloth and filter.

#### 8. Rose (*Rosa rubiginosa*):-

Rose water is an antibacterial using rose water for face and body care can prevent wounds such as burns and cuts from becoming infected and it can also be used to reduce the appearance of scars when used in high concentrations. Rose water restores the PH balance of your skin and removes dirt and oil from your skin by unclogging your pores. It acts as a vehicle in the preparation of herbal skin exfoliators.



Fig.no. 6.8

**9. Multani mitti (Bentonite clay):-**

It is also known as Solum Fullonum or Fuller's Earth. Multani mitti clay is exfoliating in nature and has anti-pollution and smoothening properties. It is similar to kaolin clay & is formed by the decomposition of volcanic ash. Sometimes it is used in place of sandalwood powder.



Fig.no. 6.9

**Chemical constituents -**

Multani mitti comprises hydrated aluminum silicates, magnesium chloride, and calcium bentonite and has a composition similar to bentonite clay.

**Uses -**

1. It may show skin-brightening properties.
2. It may show anti-acne properties and anti-inflammatory properties.
3. It shows absorbent and antimicrobial properties and demonstrates astringent activity.
4. Extraction procedure: It will be extracted at a depth of nearly 100 feet from the mine in the Multani Mitti belt near Barmer town in Rajasthan, India. Then it will be taken out and kept for sun drying after that it will be blended in the mortar pestle to form a thin texture like powder.

***Evaluation parameters to be performed:*****1. Physical evaluation:-**

Physical evaluation such as colour and odour will be detected manually.

**2. Consistency:-**

The consistency of the prepared herbal exfoliator will be detected with visual observation. Texture containing small medium particles.

**3. pH:-**

A small quantity of herbal exfoliator will be applied to the pH meter. Then pH will be detected.

**4. Moisturizing Property:-**

Enhances absorption and retention of moisturizing agents and restore the skins natural moisture factor.

**5. Absorptivity:-**

The absorptivity of the herbal exfoliator will be evaluated. 1g of herbal exfoliator will be weighed and applied on the small area of the skin and after 1 hour take the weight of the exfoliator. Calculate the different weights.

$$\text{Absorptivity} = \text{Initial weight} - \text{Final weight}$$

**6. Irritability:-**

Irritability of prepared herbal exfoliator will be evaluated. A small amount of exfoliator will be applied to the small area of the skin and kept for a few minutes. When the prepared formulation shows no irritation, no redness, and no inflammation during studies, then that prepared formulation will be safe to use.

**7. Wash ability:-**

The wash ability of the prepared herbal exfoliator will be evaluated. A small amount of exfoliator will be applied over the small area of the skin and rinsed off.

**8. Spread ability:-**

A small amount of the sample was placed on the glass slide and another glass slide was placed on the sample. A wooden weight was placed on it. The time required for the sample to spread and the area was measured. The amount and the area of the sample on the glass slide represent the efficiency of spread ability.

PARAMETERS	OBSERVATIONS
Colour	Brown
Odour	Characteristic
Consistency	Good
pH	7.0
Moisturizing property	Good
Absorptivity	Low to slow
Irritability	Non-irritant
Washability	Easily washable
Spreadability	6.72g.cm/sec

**Conclusion:**

The key to healthy skin is daily exfoliation and hydration. The environment clogs the skin pores with dirt and toxins and our internal body excretion mechanism also tries to get rid of its toxic components of metabolism through the same pores.

The formulated herbal skin Exfoliator was found to show effective action in the removal of blackheads and whiteheads. According to individual evaluation, the exfoliator showed excellent effects on dry and normal skin. It showed better results on oily skin. The exfoliator cleanses, nourishes, moisturizes, and protects the skin. It exfoliated the skin without scratching the skin surface. The formulated herbal Skin Exfoliator did not show any side effects or irritation to the skin. The herbal ingredients were found to be soft on the skin and also gave results within 1-2 use. The formulated Herbal Skin Exfoliator passed all the evaluation tests and improved its appearance.

**References:**

1. Cosmetic technology by Sanju N., Arun N., R. Khar, Birla publication, P.P. 238306.
2. A Textbook of Cosmetic Science Mr. S. Borsate, Dr. P. Pingale, Everest Publication House, edition 2022 Volume 95.

3. Shivani B., Swati G., Review article: Skin Care With Exfoliation Process, International Journal of Current Science, Volume 12, Issue 2 May 2022, P.P. 372379.
4. Manish D., Rajkumar V., H. Jain, Nitin N, Formulation and Evaluation of Herbal Exfoliating Scrub, Career Point International Journal of Reasearch, Volume 1, Issue 2, P.P. 42-52.
5. Sana V., Celestin V., Shiji K., Research article: Formulation and Evaluation of Herbal Exfoliator, World Journal of Pharmaceutical Research, Volume 11, Issue 9, P.P. 774-781.
6. Vidya K., N. Dhokale, Rutuja S., S. Sayyed, A Review on: Herbal Face Scrub For Skin Exfoliation, International Journal of Creative Research Thoughts, Volume 10, Issue 3 March 2022, P.P. 223- 239.
7. Nilani P., Ruckmani K., Research article: Skin Care with Herbal Exfoliants, Issue April 2011, P.P. 94-97.
8. Vaishnavi T., S. Dongre, Pratik U., S. Bane, Research article: Polyherbal Facial Exfoliator Using Natural Ingredients, International Journal of Pharmacy and Pharmaceutical Research, Volume 25, Issue 4, P.P. 539-551.
9. A Textbook of Pharmacognosy by C. Kokate, A. Purohit, S. Gokhale, Nirali Publication, 55<sup>th</sup> edition.
10. Amar S., Resham V., Aloevera: A Short Review, Indian Journal of Dermatology, Issue 2008.
11. Suresh S., Amla B., Bioenvironmental Issues Affecting Men's Reproductive and Sexual Health, Issue 2018, P.P. 557-569.
12. A. Salvador, M. Marti, Cosmetics and Toiletries, Encyclopedia of Analytical Science, 2<sup>nd</sup> edition, Issue 2005, P.P. 226-233.
13. <https://skintypesolutions.com/blogs/skincare/exfoliation-and-desquamation- ofskin>
14. <https://www.beautsy.com/en/blogs/beautsy-blog/what-is-the-differencebetween- scrub-and- exfoliato/>
15. <https://nopalera.co/blogs/news/the-joy-of-exfoliation-history> 16. <https://www.vocabulary.com/dictionary/exfoliation>