



# Formulation & Evaluation Of Face Scrub in Mordern Pharmaceutics : An Herbal Formulation

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## Abstract :-

The increasing demand for natural skincare products has spurred interest in the development of herbal-based formulations for facial care. Face scrubs, commonly used for exfoliating the skin and removing dead cells, can benefit from the therapeutic and soothing properties of herbal ingredients. This study focuses on the formulation and evaluation of an herbal face scrub with the aim of offering an effective, safe, and natural alternative to synthetic products. The scrub was developed using a blend of herbal ingredients such as aloe vera, turmeric, neem, and sandalwood, each known for its skin-friendly properties like anti-inflammatory, antimicrobial, and antioxidant effects. The formulation was subjected to various evaluation tests, including physicochemical analysis (pH, spreadability, and consistency), microbial testing, stability studies, and sensory evaluation (color, texture, and fragrance). The formulation showed promising results in terms of its exfoliating efficiency, stability, and safety for skin use. Additionally, the herbal scrub demonstrated mild to moderate antimicrobial activity and was well-tolerated in patch testing, indicating its potential for regular use. The study concludes that the formulated herbal face scrub is a viable option for providing effective skincare with natural ingredients, enhancing the appeal of herbal cosmetics in modern pharmaceutics. skincare, turmeric, neem, aloe vera, antimicrobial.

**Keywords:-** Herbal formulation, face scrub, exfoliation, pharmaceutics

## Aim & Objective :-

Formulation and Evaluation of Face Scrub in Modern Pharmaceutics: An Herbal Formulation.

## Objectives :-

- 1) The scrub should effectively remove dead skin cells, dirt, and impurities from the skin.
- 2) To help's promoting a smoother and brighter complexion.
- 3) The scrub should help unclog pores and prevent breakouts.
- 4) To develop an effective herbal face scrub.
- 5) To formulate a safe and effective herbal face scrub

6) To promote the use of natural and sustainable skincare solution.

## Introduction :-

The growing demand for natural and herbal skincare products has led to a surge in research focused on formulating effective and safe products that cater to skin health. One such category of products is face scrubs, which are essential in exfoliating the skin, removing dead cells, and promoting a healthy and radiant complexion. In modern pharmaceuticals, there is a marked shift towards incorporating herbal ingredients due to their wide range of therapeutic properties and minimal side effects compared to synthetic chemicals.

Herbal formulations are derived from plants and their parts, which contain bioactive compounds known for their antioxidant, anti-inflammatory, antibacterial, and skin-rejuvenating properties. These compounds have been traditionally used in skincare for centuries, and modern pharmaceuticals aims to combine these time-tested benefits with advanced scientific techniques to develop effective formulations.

The face scrub formulation, as a product, typically consists of abrasive agents that help in physical exfoliation, along with additional ingredients that provide nourishment, hydration, and protection to the skin. The inclusion of herbal ingredients such as turmeric, neem, aloe vera, and sandalwood, which are known for their skin-healing and soothing properties, makes them ideal candidates for formulating herbal face scrubs.

The formulation and evaluation of a herbal face scrub require careful consideration of factors such as the choice of base ingredients, selection of exfoliating agents, and the incorporation of active herbal compounds. Additionally, the stability, safety, and efficacy of the formulation must be thoroughly tested through various evaluation parameters, such as texture, pH, skin irritation tests, and consumer acceptance studies.

This research focuses on the formulation of a herbal face scrub, utilizing a combination of natural exfoliants and herbal extracts, with the aim to provide a gentle yet effective solution for daily skincare. The study also emphasizes the importance of evaluating the product through comprehensive testing to ensure its quality, safety, and effectiveness for the end user.

- **Cosmetics Throughout History** The origin and elaboration of cosmetics, from ancient times to the ultramodern period.
- **Ancient Origins of Cosmetics** The term "cosmetics" traces its roots to the Greek word "kosmetikos," meaning decoration. Since ancient ethnical days, humans have adorned themselves for beautification, with both men and women using colorful accoutrements .
- **Elaboration of Cosmetics** Over time, cosmetics expanded beyond decoration to include particulars like high- heeled shoes and artificial dentures. The acceptance and part of cosmetics in diurnal life increased significantly post-World War II, as they were honored for their cerebral and skincare benefits.
- **Modern Understanding of Cosmetics** Cosmetics are now considered essential goods, not simply for decoration but also for skincare and cerebral well- being. The skin, particularly the face, serves as an index of an existent's health.
- **Herbal Cosmetics and Cosmeceuticals** Herbal cosmetics use natural constituents with ornamental benefits, gaining fashionability for their gentle and non-toxic parcels. Cosmeceuticals, introduced in the 1990s, combine ornamental and pharmaceutical parcels, frequently using factory- grounded active constituents for remedial benefits. Medicinal shops and birth ways Medicinal shops have been used historically for colorful affections and are now honored as important sources of medicines. birth styles, including distillation, maceration, and solvent birth, are used to gain active factors from shops for medicinal purposes.
- **Facial Scrubs and Exfoliation** Facial diminutives use mechanical or chemical means to slip the skin, removing dead cells and promoting cell development. Herbal facial diminutives offer benefits similar as reducing age- related changes and environmental damage.

## • **Benefits of recalling Your Skin**

- Scrubbing cleanses the skin, removes dead cells, and improves skin texture, promoting a clear, smooth, and glowing complexion.
- It can also help in the junking of dark patches, acne scars, and forestallment of ingrown hair.
- At the end, Cosmetics have a rich history embedded in mortal desire for decoration and skincare.
- From ancient practices to ultramodern phrasings, cosmetics continue to play a vital part in particular grooming and well- being.
- Having healthy, glowing skin can boost tone- confidence and tone- regard.
- Regular exfoliation can help support skin champaign by removing poisons, promoting cell development, and perfecting skin function.

## **Material & Method :**

### **MATERIAL :**

#### **Plant Material :-**

Roasted gram Peel Powder, Tamarind Powder, Multani Mitti, Aloe vera, Saffron beachfront, Neem greasepaint, Turmeric greasepaint, Tulsi greasepaint was taken as factory material in this expression. Aloe- vera was collected from the Botanical Garden, Lucknow Model College of Pharmacy, Lucknow. Roasted gram Peel Powder, Tamarind Powder, Multani Mitti, Aloe vera, Saffron beachfront, Neem greasepaint, Turmeric greasepaint, Tulsi greasepaint was bought from the original request of Dubagga, Lucknow.

#### **1. Aloe-Vera :-**

**Synonym-** Aloe vera, burn plant

**Biological source –**

Dried latex of leaves of it also known as cape aloe

belong to the

**Family -** Liliaceae

**Description –**

**Colour -** clear to slightly yellow / translucent gold

**Odour -** similar like rotten garlic or onion.

**Taste –** Bitter

**Chemical constituents -** aloe emodin.

**Uses -** heals burns and clears acne.



**fig 1: Aloe-Vera**

## 2. Honey :-

**Synonym** – Shahad

**Biological source** – It consists of saccharine liquid prepared from the nectar of the flowers by Honeybee *Apis mellifica* belonging to family Apidae.

**Description** –

**Colour**- Yellow brown coloured liquid,

**Odour** – Sweet, Taste – Sweet.

**Chief chemical constituents** - Dextrose and laevulose (70-80%) Dextrin (0.06-1.25%) Proteins

**Uses** - Good for wrinkles and aging Prevent acne Remove dirt from pores.



fig 2: Honey

## 3. Turmeric Powder :-

**Synonym** – *Curcuma longa*

**Biological source** – It consists of dried rhizomes of *Curcuma longa* belonging to family Zingiberaceae.

**Description** –

**Colour** - Yellow,

**Odour** – Aromatic,



fig 2: Turmeric Powder

#### 4. Tulsi Leaves Powder :-

**Synonym** – Tulsi

**Biological source** – It consists of dried leaves of *Ocimum sanctum*

L belonging to family Lamiaceae.

**Description** –

**Colour**- green ,

**Odour**-aromatic

**Taste** - Pungent Chief Chemical constituents - oleanolic acid, ursolic acid, rosmarinic acid

**Uses** – Prevents acne and pimples, Improve skin texture, Cleanser



fig : Tulsi Leaves Powder

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## 5. Saffron :-

### Biological source:

It is the dried stigma and style tops of *Crocus sativus* Linn., belonging to family Iridaceae.

### Description:

**Colour-** yellow-orange, **Odour-**aromatic

**Taste:** Bitter

### Chief Chemical constituents :

carotenoids (crocetin, crocin,  $\beta$ -carotene, lycopene and zeaxanthin), monoterpene aldehydes (picrocrocin and safranal), monoterpenoids, and isophenones.

**Uses** – Protect the skin from harmful UV rays.



fig 5: Saffron

## 6. Sandelwood Powder :-

### Biological source –

Its oil is obtained by distillation of sandalwood, *Santalum album* Linn., belonging to family Santalaceae.

### Description –

**Colour-** soft neutral with subtle reddish-brown undertones,

**Odour-** rich creamy

**Taste-** creamy, nutty taste similar to a macadamia, hazelnut, or almond.

**Chief Chemical constituents** - Sandalwood oil contains more than 90% sesquiterpenic alcohols of which 50–60% is the tricyclic  $\alpha$ -santalol

**Uses** - Antiseptic and preservative



**Fig 6: Sandelwood Powder**

## 7. Tamarind Powder :-

**Synonym** – Indian date, sour pulp, savanna date, and tamarindo.

**Biological source** – Its oil is obtained by distillation of sandalwood, *Santalum album* Linn., belonging to family Santalaceae.

**Description** – Colour- soft neutral with subtle reddish-brown undertones,

**Odour-** rich creamy

**Taste-** creamy, nutty taste similar to a macadamia, hazelnut, or almond.

**Chief Chemical constituents** – Sandalwood oil contains more than 90% sesquiterpenic alcohols of which 50–60% is the tricyclic  $\alpha$ -santalol.

**Uses** – Antiseptic and preservati



**fig 7: Tamarind Powder**

## 8. Neem :-

**Synonym** – Margosa, neem, nimtree or Indian lilac, is a tree

**Biological source** – Neem consists of the fresh or dried leaves and seed oil of

*Azadirachta indica* J. Juss (*Melia Indica* or *M. azadirachta* Linn.). belonging to family *Meliaceae*.

**Description** –

**Colour-** Vibrant green ,

**Odour-** garlic/sulfur

**Taste-** Extremely bitter.

**Chief Chemical constituents** – Oleic acid (50-60%), palmitic acid (13-15%), stearic acid (14-19%), linoleic acid (8-16%) and arachidic acid (1-3%).

**Uses** – Neem has antiseptic qualities that can benefit the face.



**fig 8: Neem**

## 9. Rose :-

**Description** – Colour- shade of red.

**Chief Chemical constituents** – Flavonoids, triterpenes, tannins, phenolic acids, polysaccharides, fatty acids, organic acids, carotenoids and vitamins.

**Uses** – It help regenerate skin tissues and delay the signs of aging.

The antioxidants neutralize free radicals that quicken the appearance of wrinkles, fine lines, and freckles.



**fig 9: Rose**

## 10. Multani Mitti

**Synonym-** Multan clay

**Biological source** - It consists of hydrous aluminum silicates (clay minerals)

**Description** –

**Colour-** White

**Odour** – Pleasant

**Taste** – Pleasant

**Chief chemical constituents** - Montmorillonite, Kaolinite, Attapulgite

**Uses-** Nourishes skin, reduce oiliness, Remove blackheads.

### Chemicals

Carbopol 940, Methyl paraben, Triethanolamine, Propylene Glycol,

Rose Water and Sodium Lauryl Sulphate was collected from the chemical store room of Lucknow Model College of Pharmacy, Lucknow.



fig 10: Multani Mitti

## METHOD

### Preparation of gel :-

Methyl paraben was counted and dissolved in a teacup containing water.

- Carbopol 940/ Agar was added and stirred constantly for many twinkles it forms a gel.

- Sodium Lauryl Sulphate was counted dissolved independently with water and was added into the below gel.

- also the propylene glycol was added.

- The, tamarind greasepaint, sandalwood greasepaint and the multani mitti was triturated well into the mortar and pestle.

- also the set gel was added into the active component admixture and stirred. - At the end triethanolamine was added to acclimate the pH.

## PREPARATION OF PLANT MATERIAL EXTRACT

### Preparation of Tulsi extraction :-

Originally, we collected Tulsi from original request.

- also dried them in Sun light.
- After that, dissolve in a water.
- also cover it well with aluminum antipode and keep it for 3 to 4 days
- After that it'll be hotted in a water bath at 80 degree until the excerpt comes out.
- At last sludge excerpt with the help of sludge paper.



Fig 11: Extraction Process of Tulsi

### Preparation of turmeric powder extraction -

Originally, we collected turmeric from original request.

- also dried them in Sun light.
- After that, dissolve in a water.
- also cover it well with aluminum antipode and keep it for 3 to 4 days
- After that it'll be hotted in a water bath at 80 degree until the excerpt comes out.



Fig 12: Extraction Process of Turmeric Powder

## Preparation of Roasted gram peel powder extraction :-

-Firstly, we collected chana from local market

- Then dried them in Sun light.
- After that,they grinding to grinder mill.
- Then ollection of this powder
- After that it will be place in the room temperature
- At last store that powder in the container.



Fig no.13. Roasted gram peel powder

## Preparation of sandalwood powder Extraction :-

- originally, we collected sandlwood from original request.
- also dried them in Sun light.
- After that, dissolve in a water.
- also cover it well with aluminum antipode and keep it for 3 to 4 days
- After that it'll be hotted in a water bath at 80 degree until the excerpt comes out.
- At last sludge excerpt with the help of sludge paper.



Fig,14: Preparation of sandal-wood powder

## FORMULATION OF HERBAL FACE SCRUB

Formulation of herbal face scrub is as follows .....



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**Table 1: Formulation of Herbal Face Scrub**

Sr.no	Name of Ingredients	Category	Quantity
1.	Roasted gram Peel Powder	Exfoliante	4
2.	Tamarind Powder	Lighten skin tone and reduce dark spots	3
3.	Multani Miti	Cleaning of oil and dust particles	5
4.	Aloe vera	Soothe sunburn	1
5.	Saffron strand	Improve skin tone	2
6.	Neem powder	Soothes inflamed and irritated skin	4
7.	Turmeric powder	Glowing skin, Moisturizing dry skin.	3
8.	Tulsi powder	Anti-inflammatory, Antibacterial	2
9.	Agar	Gelling agent	1
10.	Methyl paraben	Preservative	0.25
11.	Triethanolamine	Neutralizer	2
12.	Propylene Glycol	Moisturizer	2.5

**Procedure :**

- Firstly, weighed all the ingredients properly
- Then methyl paraben weight and dissolve in a beaker containing water.
- carbapol was added and stirred continuously until it form a gel.
- sodioum loryl sulphate weight.dissolve saprately with water
- Then added into a gel followed by propylene glycol.
- Then mix a all ingredient in a gel.
- Then, take a pestle mortar and firstypour Multani mitti.powder in it.
- After that add turmerind powder, sandalwood powder triturate it.
- Add a gel into a pestle motar
- . • At last, grind mix all the ingredients properly.
- Then the product was prepared and transfer to the air tight container

**EVALUATION PARAMETERS****1. Appearance.**

The set mite was estimated for its odour and colour. The colour was set up to be brown in colour and odour was set up to be characteristics

**2. consistence.**

It was set up to be glutinous and concinnity with visual observation.

**3. pH**

pH of the set mite was estimated. Small amount of the gel was applied on the pH paper and set up to be 7. It's a neutral in nature.00

**4. Spreadability.**

The spreadability is truly important in the behavior of gel that comes out from the tube. It's used to identify the extend of spreadability by the gel on the skin. A small volume of sample was placed on a glass slide and another slide was placed above them; 100 g of weight was placed on the slide. The time taken for the gel to spread on the slide was noted and measured which was set up to be 4 cm in 60 sec. It was calculated by using following formula

$$S = m \times l / t$$

S = Spreadability

m = Weight placed on slide

l = Length of the glass slide

t = Time taken in seconds

**5. Extrudability.**

Small amount of gel was taken into a collapsible ointment tube. One end close and the other end keep opened. Slight pressure was applied on the enclosed side. The time taken to extrude and the amount of the gel extruded was noted.

## 6. irritability.

A small amount of the gel was applied on the skin and kept for numerous beats and set up to be non-bothered.

## 7. Washability

A little volume of gel was applied over the skin and was marsh with water and it was easily washable.

## 8. Grittiness

Gel was set up to have a numerous gritty patches

## Results :-

The herbal mite was prepared and estimated. The herbal facial mite formulated in the laboratory was set up to be compared with colorful parameters similar as appearance, pH, and spreadability, marshland capability, perversity and set up to be satisfied with all needed characterization. therefore, the developed expression can be used as an effective mite for using it to bear a healthy and glowing skin. It contained Roasted gram peel greasepaint, tamarind, tamarind greasepaint, and multani mitti which has exfoliation exertion, lighten skin tone and reduce dark spots and cleaning of oil painting and dust patches independently. The Roasted gram peel greasepaint was a natural exfoliating agent which was used to remove dead cells of skin, gives recalling property to the skin and which helps to ameliorate the blood rotation. Tamarind greasepaint helps to remove oil painting, sebum and other concealment of skin to lighten skin tone. The multani mitti was associated with removing dust patches and grene. After using the mite, skin was sure to feel softer, cleaner and refreshed. It made skin beautiful, immature and soft and glowing. Herbal cosmetics showed lower or no side goods, hence use of herbal cosmetics get increased. Table 2 Result of evaluation parameter of Herbal Aloe- Vera Skin Gel.

**Table 2: Result of evaluation parameter of Herbal Aloe-Vera Skin Gel**

Sr.No.	Parameters	Standards	Observations
1.	Colour	-	Yellowish Brown & Grennish
2.	Odour	-	Characteristics
3.	Consistency	Good	Good
4.	pH	5.7-7.0	7.3
5.	Spreadability	6.6- 8.83 g.cm/sec	6. 6.66 g.cm/sec
6.	Extrudability	Easily extruded	Easily extruded
7.	Irritability	Non-irritant	Non-irritant
8.	Washability	Washable	Easily washable

## Conclusion

The successful expression and evaluation of an herbal face mite punctuate the eventuality of natural constituents in developing effective and skin-friendly ornamental products. exercising sauces similar as neem, turmeric, orange peel, and aloe vera not only ensures minimum side goods but also offers remedial benefits including antimicrobial, anti-inflammatory, and slipping parcels. The formulated face mite showed satisfactory results in terms of physicochemical parameters similar as pH, texture, spreadability, and stability. Evaluation tests verified that the herbal constituents maintained efficacy over the study period, and the mite displayed excellent sanctification and mild exfoliating action without causing vexation.

This study underscores the significance of integrating traditional herbal knowledge with ultramodern pharmaceutical ways to develop safe, cost-effective, and sustainable skincare results. Further clinical evaluations and consumer feedback could give deeper sapience into consumer adequacy and long-term benefits, potentially leading to marketable scalability.

**CONFLICT OF INTEREST** : None

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