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A Research Article on: Devlopment and Evaluation of a Herbal Face Pack

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Abstract
Cosmetics are commercially available products that are used to improve the appearance of the skin by action of cleansing, beautifying, promoting attractiveness. From the ancient time, different herbs are used for cleansing, beautifying and also to manage them. Face skin is the major part of the body, which indicates the health of an individual. It consists of materials such as amino acids, lipids & carbohydrates etc. So that a balance nutrition is required for the skin to keep it clear and glossy and healthy. In ayurveda, a herbal paste which is called as "Mukha Lepa" is used for a facial therapy. This herbal paste is used on face to treat acne, pimple, scars, marks & pigments.

Keywords: cosmetics, herbal, Facepacks, Enhancement

Introduction:
Face pack is a smooth powder which is used for facial application. These preparations are applied on the face in the form of liquid or pasted and allowed to dry and set to firm film giving tighten, straitening effect on the skin. They are usually left on the skin for 10-25 minutes and allow all the water to evaporate. The resulting film thus contracts and hardens and can easily be removed. The warmth & tighten effect produced by application of face pack produces the stimulant sensation of rejuvenated face. While the colloidal and absorption clays used in the preparations removes the dirt and impurities from the skin. When the applied face absorption clays used in the preparations removes the dirt and impurities from the skin. When the applied face pack is removed, skin dermis and deposited dirt gets removed with it.
Face packs are basically additives delivering some additional benefits. Different types of herbal face packs are used for different types of skin. Herbal face packs are helps to reduce wrinkles, pimples, acne and dark circles. Also increase the fairness and smoothness of skin. It also helps someone to boost their confidence. Ayurveda is the most useful and successful means for achieving this purpose.
These packs are available in various types and forms and broadly classified into the following categories:
Plastic masks: Wax based, latex based, or vinyl based
Hydrocolloid masks: Gel masks (ready to use)
Argillaceous masks: Clay based or earth based (ready to use or dry powder)
Present research article deals with the formulation and evaluation of cosmetic herbal face pack for glowing skin at home by using natural materials i.e., multanimitti, turmeric, Aloe vera, sandalwood, almond, gram flour, sandal & neem.

Purpose of face pack:

Increases the effectiveness of skincare-

When you apply face packs on a regular basis, its facilities in obtaining the most of the skin care products that you use. The face packs wash away the dirt and grime making it ready for the skin care products that are about to follow.

Hydrates the skin-

To maintain a radiant-looking youthful skin you need to drink a lot ofwater and stay hydrated throughout the day. Apply face packs that will add moisture to your skin such as cucumber, potato, banana, strawberry and the leaves of rosemary or mint are your best options

Deep cleansing-

It really doesn't matter if your skin is dry, oily or combination, a face pack can instantly brighten up your face as it deep cleanses it. Using a face pack on a daily basis can keep your skin healthy by getting rid of the oil and dirt accumulated on not only the surface of the skin but also from the endodermis.

Unclog pores-

When you apply a face pack on your skin, it not only cleans up the topmostlayer of the skin, but it also brings up the dirt that is trapped deep inside the pores. The ingredients of the face pack are such that they either pull out all the impurities on the surface of the skin or they penetrate deep inside the pores pushing out the dirt to the surface along with the dead skin cells.

Needs

By promoting the oxygenated blood circulation, such a face pack enhances your skin health and makes it soft and supple. A face pack prepared from ingredients like Neem leaves or Turmeric can keep acne and blemishes at bay. It fades away acne scars, dark spots and can also even out the skin tone.

Selection of drugs:

We have used Herb for the Preparation of the multipurpose Herbal Face Pack are gram flour, Neem powder, almond powder, Aloe vera powder, turmeric, sandalwood powder, Fullers earth. These ingredients are used traditionally from ancient year in the various herbal medicinal System. Such as Ayurvedic ,Homeopathic & Siddha. The Ayurvedic System of medicine was one of the most important systems that use herbal Plants & extracts for the treatment of management of various disease. Selected plant material such as almond powder used in face pack preparation for almond have vitamin e which bring shine on the face. Turmeric has antiinflammatory quantities and help hydrating your pores and instant glow. Aloe vera give moisturizes dry skin soothes irritated skin, remove dark circle and puffiness and eliminate dead skin.

Table 1: sName of Drugs

Sr. No.	Scientific Name Of Drug	Common Name Of Drug
1.	Pe Hmont	Gram flour
2.	Azadirachta indica	Neem Powder
3.	Prunus dulcis	Almond Powder
4.	Aloe barbadensis	Aloe vera powder
5.	Curcuma longa	Turmeric powder
6.	Santalum album	Sandalwood powder
7.	Calcium bentonite	Multanimitti

Properties of drugs:

1. Pe Hmont

Fig 1.1 : Gram flour

Synonyms: garbanzo, bean flour, besan.

Family: Cicer arietinum

Chemical Constituents: The composition of gram flour is approximately 11.2% moisture, 22.5% protein, 5.2% fat and 58.9% carbohydrates.

Parts to be used: Fresh & dried fruits.

Uses: Removes oiliness, removes dirt, gives a glow. Offers blemishes-free skin.

s

2. Azadirachta Indica:

Fig 1.2 :- Neem

Synonyms: Neem tree, margosa, arishth, melia.

Family: Mahogany

Chemical Constituents: The chemical constitutes are found in a leaf of neem as nimbin, nimbanene, 6-desacetylnimbinene, nimbandiol, nimbolide, ascorbic acid, n-hexacosanol and amino acid, 7-desacetyl-7-benzoylazadiradione, 7desacetyl7benzoylgedunin, 17-hydroxyazadiradione and nimbiol

Parts to be used: Fresh & dried leaves.

Uses: It has antibacterial, antifungal, antiviral properties so actually of the benefits of neem leaves for skin is that it can also treat skin infections, soothes irritation and reduces inflammation without drying out the skin.

3. Prunus dulcis:

Fig.1.3:- Almond powder

Synonyms: Prunus dulcis
Family: Rosaceae
Chemical Constituents : Almonds contain lipids (around 50%), proteins (around 25%) and carbohydrates (around 20%), and have a low moisture content and diverse minor bioactive compounds.
Parts to be used: Seeds
Uses: Reducing fine lines & wrinkles from your face, to clear acne, zits, pimples, whiteheads & blackheads.

4. Aloe Barbadensis:

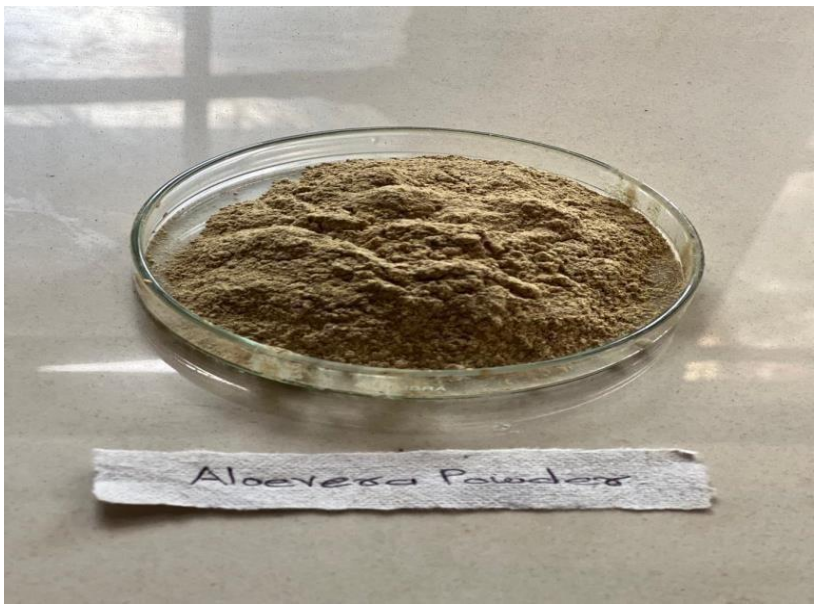


Fig.1.4 :- Aloe vera

Synonyms: Aloe indica, kumari, aloe flava.
Family: Asphodelaceae

Chemical Constituents: sAcetylated mannans, polymannans, anthraquinone C-glycosides, anthrones, and other anthraquinones, such as emodin and various lectins
Parts to be used: Aloe vera leaves
Uses: Anti-aging, Moisturizer, Reduces acne & pimples.

5. Curcuma Longa:

Synonyms: Indian saffron, Curcuma, Haldi, Turmeric.
Family: Zingiberaceae
Chemical Constituents: 5% volatile oil, Resin, 50-60% curcumin
Parts to be used: Rhizome
Uses: Anti-inflammatory, Skin protective, Antioxidant .

6. Santalum album:

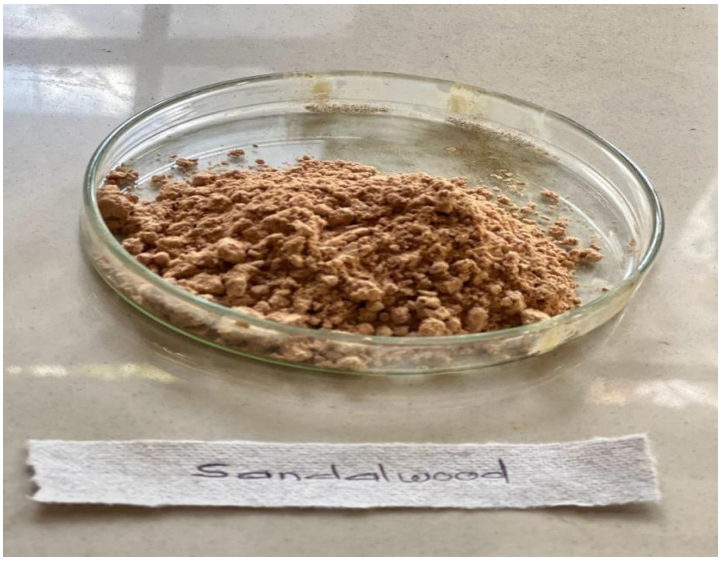


Fig.1.6 :- Sandalwood

Synonyms: Chandan, Shwet Chandan, Rakta Chandan

Family: Santalaceae
Chemical Constituents: Chandan is aromatic substance which is utilized for sesquiterpene alcohol, alpha santalol, beta santalol, and aldehyde santalol and santenone.
Parts to be used: Bark of sandalwood tree
Uses: Anti-bacterial, Promotes skin health, Astringent property.

7. Calcium bentonite:

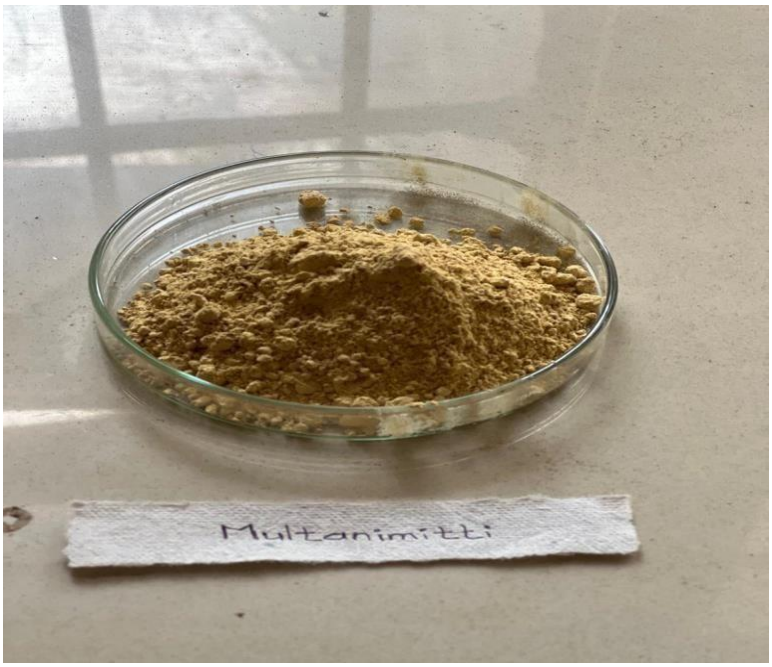


Fig.1.7 :- Multani mitti

Synonyms: Fullers earth clay powder
Chemical Constituents: Fullers earth is a clay like substance that mostly co posed of aluminium magnesium silicate.
Uses: Natural cleanser and astringent, offering a host of benefits for the skin, including reducing oil, fighting acne, balancing and brightening skin tone, reducing pigmentation.

Equipment and glassware:

Sr. No.	Equipment's	Glassware's
1.	Weighing Balance	Beaker
2.	PH Meter	Stirrer
3.	Microwave	Funnel
4.	Sieves	China dish
5.	Hot air oven	Measuring cylinder
6.	Soxhlet Apparatus	Volumetric Flask
7.	Sonicator	Test tube

Preparation of powder:

Neem Powder :-

Take a few fresh neem leaves and shadow dry them for 5-6 days until all the moisture from leaves gets dried out becoming dry and crispy. Put them in a blender and grind into a fine powder and store it in an airtight container.

Fig 2.1 :- Neem Powder

Aloe vera powder :-

aloe vera leaves are manually selected for the preparation of aloe-vera juice. Infested, bruised and shriveled leaves are discarded.

Selected aloe-vera leaves ar stored at 4°C in a refrigerator

Washing:

The aloe-vera leaves are washed using fresh water to remove adhered dirt and soil from the leaves

Cutting: The aloe-vera leaves are then cut into

Dipping into water:

Aloe-vera leaves are dipped in distilled water for 2-3 hours for removing along (a yellow sap present in higher concentrations in aloe-vera leaves).

Filleting operation:

In filleting operation sides of the aloe-vera leaves are cut and sap is extracted The filleting operation is to be completed within 36 hours of harvesting.

Grinding/homogenization:

The aloe gel fillets are crushed and homogenized using a high speed tissue crusher/roller at room temperature (25°C).

Pasteurization:

LTHT (Low temperature high time) treatment (65 Cfor 15-30 min)is given to the homogenized aloe-vera juice obtained after grinding operation to destroy the pathogens and to increase the shelf life. Cooling After pasteurization, the aloe-vera juice is cooled to room temperature (25°C). Polypropylene glycol (antioxidant) and charcoal (decolorizer) are added to the cooled aloe-vera juice. Filtration: The aloe-vera juice is filtered using ordinary filter paper to remove the desirable juice from the undesirable components

Addition of sodium benzoate: Class-11 preservative sodium benzoate was used for the preservation of aloe-vera juice .

Preparation of aloe-vera powder :

then fed to the spray drier (LSD-48 mini spray dryer). Drying of incoming liquid feed is accomplished by the atomization of the liquid feed stream into droplets and their dispersion in a hot gaseous phase. The dried particles are then recovered in the form of powder by using acyclone separato provided in the spray drier.

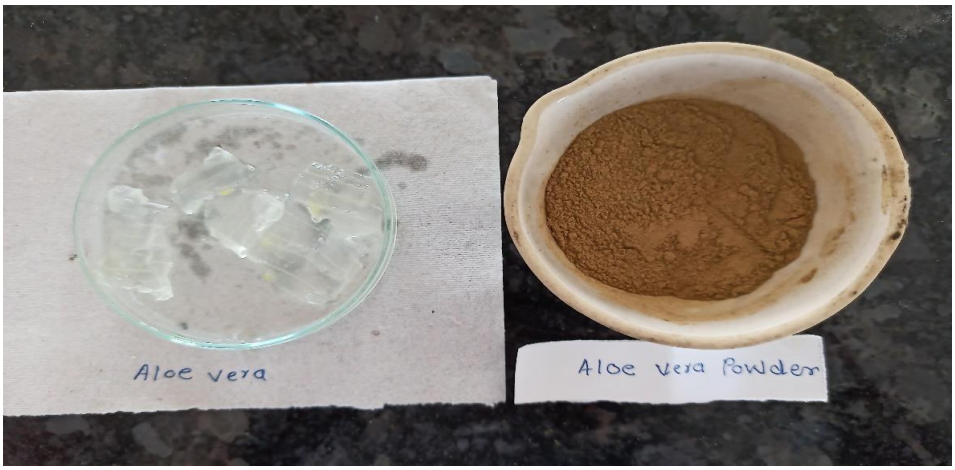


Fig 2.2 :- Aloe vera powder

Turmeric:

to clean the rhizomes) Draining (to remove water used to wash) Spreading (to air-dry in order to reduce moisture content before slicing) Slicing (to increase the surface area for quick drying) Oven Drying (at 60°C) Milling/Grinding Storage/Sample Collection.

Identification test:

Neem Powder:-

Organoleptic Properties:-

Colour: Dark green

Odor: Garlic / sulfur smell

Taste: Bitter

Chemical constituents: Flavonoids and Small amount of carbohydrates.

Sr. No.	Test	Observation	Inference
1.	Alkaline reagent test: Extract is treated with 10% NaOH solution.	Yellow colour present or indicate.	Neem powder present.
2.	Zn Test: 2ml extract with zinc dust add Conc.Hcl	Yellow colour present or indicate.	Neem powder present.
3.	Mg Turning Test: Extract treated with Mg turning	Crimson red colour present or indicate.	Neem powder present.

Table 3 :- Detection tests of Neem powder

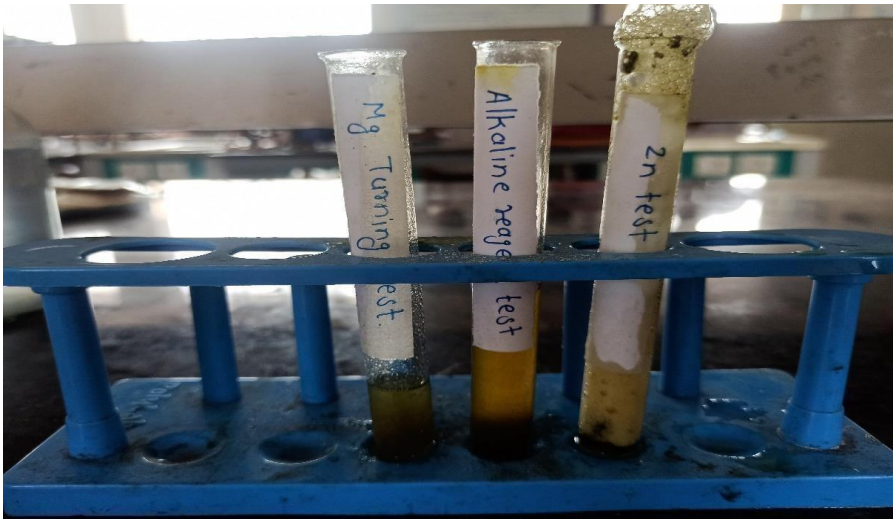


Fig 3.1 :- Detection tests of Neem powder

Aloe vera:

Organoleptic Properties:-

Colour:

Yellowish brown to chocolate brown.

Odour:

Strong odour resembles with iodoform.

Taste: Bitter.

Chemical constituent:

Anthracene , glycoside, and resins. Glycoside are defined as organic compound from plant and animal source which an enzymatic hydrolysis gives one or more sugar moieties along with sugar moiety Example: Senna, aloe, bitter almond, and digitalis.

Sr.No.	Test	Observation	Inference
1.	Borntrager's test: 2ml filtrate hydrosate +3ml ethyle acetate +	Pink colour present or indicate.	Aloe is present.

	10% ammonia solution is added		
2.	Legal's test: 20mg extract is dissolve in pyridine + sodium nitroprusside solution is added.	Pink colour present or indicate.	Aloe is present.

Table 4 :- Detection test of aloe vera

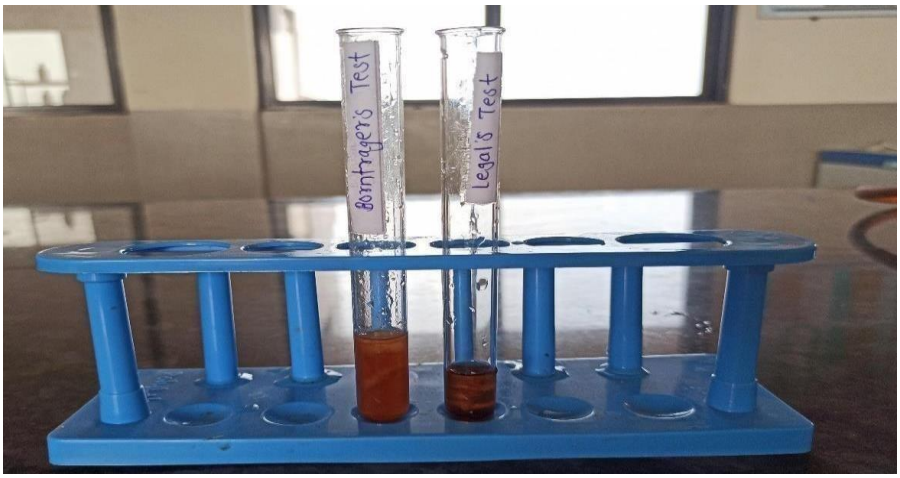


Fig 3.2 Detection test of aloe vera

Turmeric:

Organoleptic Properties:

Colour: Yellowish brown to chocolate brown.

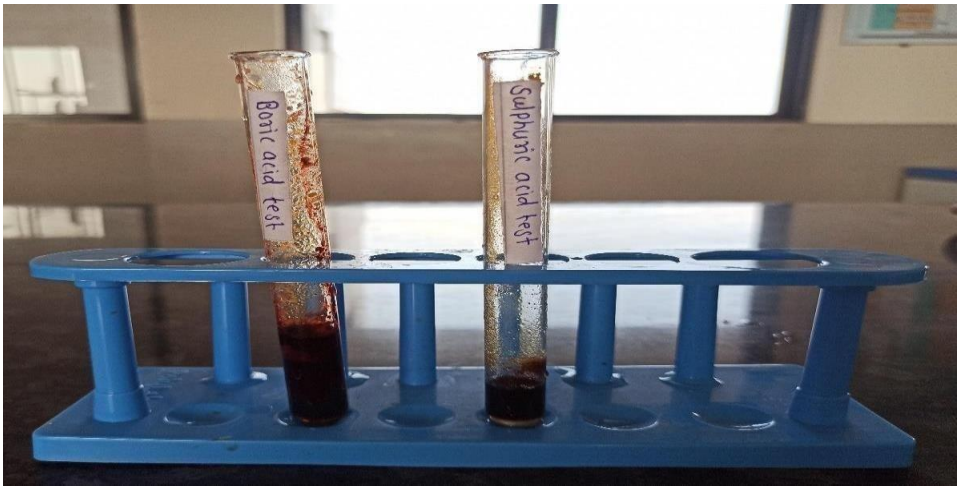
Odour: Strong odour resembles with iodoform.

Taste: Bitter.

Chemical constituent: Anthracene , glycoside, and resins.

Sr.No.	Test	Observation	Inference
1.	Sulphuric acid test: Powdered drug + sulphuric acid.	Crimson colour present or indicate.	Turmeric is present.
2.	Boric acid test: Aqueous solution of given drug + boric acid.	Raddish brown colour present or indicate.	Turmeric is present.

Table 5 :- Detection test of turmeric



Sandalwood:-
Colour: brown or creamish yellow.
Odour: Characteristic and pleasant.
Taste:
Slightly pungent and astringent
Chemical constituents: Satelol.

Multani mitti:
Colour : Cream to more of yellow
Odour: Fresh muddy odour **Taste:**
Not earthy but smoky and sticky.

Almond Powder:
Colour: Yellowish Brown.
Odour: None.
Taste: Mildly sweet.

Preparation Methods:

The face pack is prepared according to the following quantity mixed thoroughly in plastic bag show in table No 6

Sr. No	Ingredients	A Qty in gm	B Qty in gm	C Qty in gm
1	Gram flour	5	7	6
2	Neem powder	3	2	3
3	Almond powder	3	4	4
4	Aloe vera powder	3	2	2
5	Turmeric powder	2	2	3
6	Sandal wood powder	5	5	3
7	Fuller's earth powder	4	3	4

Table 6 :- Formulation table

Method of preparation:

The powdered dried natural herbal ingredients were passed through sieve using # 100 mesh.

Weighed accurately powdered ingredients and mixed geometrically for uniform formulation in mentioned above table No. 1

The prepared face pack was stored in polythene bag or air tight contained for evaluation of various parameter.

Procedure of application of face pack:

- The face pack should be applied wet face
- For applied oily skin and with cural tomato juice, potato juice, lemon juice
- For dry skin add row milk, rose water normal water forming a paste with optimum thickness.
- It should be applied evently on the face with the help of brush.
- It should be left for15 – 25 min. for complete drying.
- Then it should be removed with the help of a wet sponge or wash your face with warm water.

Fig.4.1:- Formulation

PROCEDURE FOR APPLICATION OF FACE PACK:

1. The face pack should be applied wet face
2. For applied oily skin and with cural tomato juice, potato juice, lemon juice
3. For dry skin add row milk, rose water normal water forming a paste with optimum thickness.
4. It should be applied evently on the face with the help of brush.
5. It should be left for15 – 25 min. for complete drying. 6. Then it should be removed with the help of a wet sponge or wash your face with warm water.

Evaluation of face pack:

Morphological Evaluation:

It refers to the evaluation of the herbal face pack by its color, odor, appearance, texture etc. The external characters of the formulation were examined based on the method described by Siddiqui et al.

Physicochemical evaluation:
Physicochemical parameters were determined, including the determination of extractive value, ash value, pH and moisture content.

Physical evaluation:
The particle size was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by performing Angle of Repose by funnel method, bulk density and tapped density by Tapping Method.

Phytochemical evaluation: The aqueous extract of the herbal face pack was evaluated for the presence of different phytoconstituents as per the standard procedures.

Irritancy test:
Mark an area (1sq.cm) on the left-hand dorsal surface. Definite quantities of prepared face packs were applied to the specified area and time was noted. Irritancy, erythematic, edema, was checked if any for regular intervals up to 24 hrs and reported.

Stability test:
Stability testing of prepared formulation was conducted by storing at different temperature conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions like, room temperature and 400C and were evaluated for physical parameters like color, odour, pH, consistency and fee.

Result & Discussion:
The results of evaluation are displayed in Table For organoleptic and physico-chemical and general powder evaluation. The study of nature, color, odour, taste, texture, ash values, moisture content and pH of dried powders of combined form under investigation provided the important feature of organoleptic and physicochemical evaluation. The moisture content values observation clearly indicated that the powder of combined form was hygroscopic in nature. The acidic or alkaline nature of the dried powder of combined form was determined by preparing 1% dispersion of powder form in distilled water and measuring the pH with pH meter. The pH of 1% dispersion of powder was obtained as 6.5 which indicated that the powder of combined form were slightly alkaline in nature. Dried powder of combined form was evaluated for particle size, angle of repose, bulk density and tapped density before being formulated. Values of particle size, angle of repose, bulk density and tapped density obtained for powder of combined form were found to 22-25µm, respectively, have good flow properties. The powder had passable flow property which is suitable for a face pack. And it's easily washable with water.

Morphological Evaluation: Herbal fack pack was evaluated for morphological parameters showed in the Table 7. The colour of formulation was pale yellow. The odour of prepared formulations was pleasant and good acceptable which is desirable to cosmetic formulations. Texture and smoothness was acceptable as per requirement of cosmetic formulations.

Sr. No.	Parameter	A	B	C
1	Colour	Pale yellow	Pale yellow	Canary
2	Odour	Pleasant	Pleasant	Pleasant
3	Apperance	Smooth Fine	Smooth Fine	Smooth Fine
4	Texture	Fine	Fine	Fine

5	Smoothness	Smooth	Smooth	Smooth

Table 7:- Morphological Evaluation

Physicochemical Evaluation:

Herbal face pack was evaluated for physicochemical parameters showed in the Table 8. The pH of formulation was found close to neutral. The ash content and moisture content was within limit. The particle size of formulations was found in the range of 24.3±2.5µm.

Sr. No	Parameter	A	B	C
1	pH	6	6	6
2	Loss on Drying	2.8	2.7	3
3	Ash Contant	87	88.34	89.65
4	Partical size	25.3	24.8	24.9

Table 8:- Physicochemical Evaluation

Phytochemical Evaluation:

Herbal face pack was evaluated for phytochemical parameters showed in the Table 9. It was found to be a presence of phytoconstituents such as carbohydrates, alkaloids, glycosides, tannins and volatile oil which act as good nourisher for the skin.

Sr. No	Phytoconstituents	A	B	C
1	Carbohydrates	Yes	Yes	Yes
2	Alkaloids	Yes	Yes	Yes
3	Glycosides	Yes	Yes	Yes
4	Tannins	Yes	Yes	Yes
5	Volatile Oil	Yes	Yes	Yes

Table 9:-Phytochemical Evaluation

Physical Evaluation (powder property):

Herbal face pack was evaluated for physical parameters (powder property) showed in the Table 10. Rheological findings justified the flow (powder) properties of the herbal face pack. It was found to be a freeflowing and non-sticky in nature.

Sr.No	Parameter	A	B	C
1	Tapped density	0.60	0.59	0.57
2	Bulk density	0.43	0.41	0.39
3	Angle of repose	34	32.15	35.87
4	Hausner's ratio	1.52	1.23	1.41
5	Carr's index	31.30	18.24	29.09

Table 10: Evaluation of flow properties

Irritancy Test:

The results of irritancy test were shown in Table 11. The formulation showed absence of irritation, redness and swelling during irritancy studies. This formulation have safe to use on skin.

Sr. No.	Parameter	A	B	C
1	Irritation	No	No	No
2	Redness	No	No	No
3	Swelling	No	No	No

Table 11: Irritancy Test

Stability Studies:

The results of stability were shown in Table 12. No change in colour odour, texture and smoothness was observed at mentioned conditions of stability except pH.

Sr No	Parameters	A	B	C
1	Colour	No change	No change	No change
2	Odour	No change	No change	No change
3	pH	6	6	6
4	Texture	Fine	Fine	Fine
5	Smoothness	Smooth	Smooth	Smooth

Table 12 :- Stability Test Room Temperature

Conclusion:

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have growing demand in the world market. Herbal face packs are used to stimulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores. It is a our good attempt to formulate the herbal face pack containing natural herbal ingredients such as Lemon peel powder, Neem powder, Green Tea powder, Aloe vera powder, Turmeric powder, Sandalwood powder, mulatani mitti. After evaluation, we found good properties for the face packs, free from skin irritation and maintained its consistency even after stability storage conditions. It has been revealed that herbal face pack having enough potential to give efficient glowing effect on skin. The overall study is useful to substantiate product claime due its useful benefits on the human beings.

Fig 7.1 Product

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