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Formulation and Evaluation of Herbal Multifunctional Cream

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Abstract: ***The present exploration work is an attempt to develop a cream grounded on the Indian gooseberry excerpt, Hibiscus excerpt, Neem excerpt. Named factory corridor were dried and uprooted using ethanol and farther evaporation system. Quality Evaluation of the product was assessed by using different evaluation system. No change of the product was observed the PH was in proper range. The expression showed good spread capability, no substantiation of phase separation and good thickness during the study period. Stability parameters like visual appearance, nature, and scent of the expression showed that was no significant variation during the study period. Combining the excerpt of the Indian gooseberry, Hibiscus, Neem in different rate to get antioxidant, anti-acne as well as multipurpose effect similar as decolorizing, glowing, effect on skin.***

I. INTRODUCTION

Indian gooseberry excerpt, Hibiscus excerpt, Neem excerpt. named factory corridor were dried and uprooted using ethanol and farther evaporation system. The products quality assesed by using different evaluation system. No change of the product was observed the PH was in proper range. The expression showed good spread capability, no substantiation of phase separation and good thickness during the study period. such stability criteria as look, nature, and scent of the expression showed that was no significant variation during the study period. Combining the excerpt of the Indian gooseberry, Hibiscus, Neem in different rate to get antioxidant, anti-acne as well as multipurpose effect similar as decolorizing, glowing, effect on skin.

cream is defined as glutinous composites which are oil painting oil in water(o/ w) or water in oil painting oil(w/ o) type and these glutinous composites are intended for external operation.[1]Cream is classified as oil painting oil in water and water in oil painting oil emulsion. It's applied on external part or superficial part of the skin and its main capability is to remain for a longer period of time at the point of operation. The function of a skin cream is to cover the skin against different environmental condition, downfall and gives soothing effect to the skin. There are different types of creams like sanctification, cold, foundation, sinking, night, massage, hand and body creams. The main end of our work Aims to create a herbal cream with multiple benefits such as being a moisturizer and reducing acne and skin vexation, reduce skin conditions like eczema, psoriasis, dry skin, wrinkles, rashes etc. and also adding radiance to the face. Neem is used as an antifungal and anti-seditious and itis also used to reduce scar, pigmentation, redness and itching of the skin [2,3]Indian gooseberry is used as Anti-ageing, treat acne, pigmentation, Hibiscus is good in anti-inflammatory action.

II. MATERIALS

A. Amla

Ayurveda, a traditional kind of medicine utilised in India, retains a treasured place for amla (Emblica officinalis)1. According to Indian mythology, the first tree to be created in the universe was Amla, a tree of to the Euphorbiaceae family also known as Phyllanthus emblica or Indian gooseberry [4]. Although it also grows in Pakistan, Uzbekistan, Sri Lanka, South East Asia, China, and Malaysia in tropical and subtropical temperatures, amla is a fruit that is native to India. The fruits of the amla tree are regularly used in ayurvedic medicine and are permitted to enhance the body's defences against disease. Amla is native to India and also grows in Pakistan, Uzbekistan, Sri Lanka, South East Asia, China, and Malaysia in tropical and subtropical climates.[5] amla has gained a following throughout the world as a" superfruit." it's no surprise- a 100- gram serving of fresh amla berries contains as important vitamin c as 20 oranges. amla, also known as indian gooseberries, grows on a unfolding tree of the same name.

1) Chemial Constituents

The Fruit contain high quantum of ascorbic acid(vitamin C),(5) and have a bitter taste that may decide from a high viscosity of ellagitannis(6%) Puniglоconin(12%), Embicanin(B)(33%), Peduculagin(14%) Amala also includes kaempferol, ellagic acid, gallic acid, punicafolin, and phyllanemblinin A, other polyphenols that are comparable to flavonoids.[6]

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2) Uses

Amla's Value in Cosmetics, Most likely, you're interested in learning how gooseberry can help your skin. To receive the benefits, apply it to your skin right away or consume it with honey. Consider producing juice out of this tart fruit if you find it difficult to consume. This will be good for your skin. Here are some benefits of gooseberries for the health of your skin.[7]

a) Good skin tone
b) Treat Skin Pigmentation
c) Anti-Aging properties
d) Health Benefits
e) Promotes immune function
f) Amla used for healthy hairs



Figure 1(Emblica officinalis)

B. Azadirachta Indica (Neem)

The neem tree grows quickly and rarely reaches heights of 35–40 m (115–131 ft) or 15-20 m (49–66 ft). It is evergreen and loses a lot of leaves in the arid winter. The branches reach out and are broad. The roundish, moderately dense crown can grow to a diameter of 20–25 m (66–82 ft). The chinaberry (Melia azedarach), a relative of the neem tree resembles the latter in appearance.[8,9]

Neem is a typical tropical to subtropical tree that thrives in temperatures between 70 and90 degrees Fahrenheit (21 to 32 °C). It can withstand temperatures up to very high levels but cannot endure temperatures below 5 °C (41 °F). Neem is one of the few shade-giving trees that can grow in locations that are prone to drought, such as the dry coastal regions of southern India.

1) Chemical Constituent

Numerous phytochemicals can be found in neem fruit, seeds, leaves, stems, and bark; some of these compounds were initially found in azadirachta seed extracts, such as azadirachtin, which was first used as an insecticide and antifeedant in the 1960s.[10,11] It is well known that the polyphenolic flavonoid quercetin has antimicrobial and antifungal effects. This could possibly explain why leaves have healing powers for wounds and scabies. limonoids like nimocinolide and isonimocinolide have an impact on the fertility of house flies (Musca domestica).Fresh, ripe leaves produce a pungent, viscous essential oil that has antifungal properties against fungi (Trichophyton mentagrophytes) in the environment.

2) Uses

Neem has antibacterial and anti-inflammatory properties that may soothe irritated skin. With the advantage of getting a cooling effect on the skin, neem is beneficial for treating skin sensitivity.

a) Benefits of Neem for skin
b) Treat acne
c) Tackles Blackheads and Whiteheads
d) Promotes collagen production
e) Prevents skin infection
f) Purifies the blood
g) Neem for dry skin
h) Neem for dark spots

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i) Useful in Detoxification
j) Reduces Dandruff
k) Treats Wounds



Figure 2: Azadirachta Indica (NEEM)

C. Hibiscus

Hibiscus is a genus of flowering plants in the mallow family that is native to warm temperate, subtropical, and tropical regions of the world. The genus is fairly vast and has several hundred species. The member species, often known as "hibiscus" or, less frequently, "rose mallow," are renowned for having enormous, spectacular flowers. Other names for the plant include tropical hibiscus, rose of Sharon, and hardy hibiscus. [12,13] Several species, most notably Hibiscus Syriacs and Hibiscus rosa-sinensis, are commonly grown as decorative plants.[19]Worldwide, hibiscus flower tea is referred to by a variety of names and is offered both hot and cold.

The red colour, acidic flavour, and vitamin C content of the beverage are well-known. Hibiscus rosa-sinensis is a bushy, evergreen shrub or mall tree that grows to heights of 2.5–5 m (8–16 ft) and widths of 1.5–3 m (5–10 ft). The taproot of the plant is branching. It features a green, cylindric, aerial, upright, branching stem.

1) Chemical Components

The chemical composition of hibiscus rosa sinensis includes tannins, anthraquinones, alkaloids, proteins, saponins, cardiac glycoside, glucose, reducing sugars, essential oils, and steroids. The organic chemical components of Hs calyces that had been described before to 2003 were listed in a global compendium of medicinal plants. Protocatechuic acid [PCA] and eugenol are two simple phenolic compounds. Flavonoid-type polyphenol compounds (3-glucoside anthocyanins, anthocyanidins, and flavonol quercetin) are a group of simple phenolic compounds.

2) Uses

Hibiscus, one of the most potent anti-aging plant actives, is renowned for giving a spectacular natural youth-boost by boosting skin suppleness.

a) Prevent breakdown of elastin.
b) Exfoliating the skin.
c) Cleanses pores.
d) Supports Skin Enrichment.



Figure: 2 Hibiscus Rosa-Sinensis

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III. METHOD

1) Preparation of Extract of neem (Azadirachta indica)

Preparation of extract of the Neem is done by, fresh leaves of neem are collected, washed, air dried and mashed to produce crude powder. Furthermore, the crude powder was macerated with ethanol for 7 days. Then filtrate was evaporated by using a Heating mantle at 600 to produce viscous extract.

2) Preparation of Extract of Hibiscus (Hibiscus Rosa Sinensis)

Preparation of extract of the hibiscus is done by, fresh flowers of neem are collected, washed, air dried and mashed to produce crude powder. Furthermore, the crude powder was macerated with ethanol for 7 days. Then filtrate was evaporated by using a Heating mantle at 60^0 to produce viscous extract.

3) Preparation of Extract of Amla (Phyllanthus emblica)

Preparation of extract of the Amla is done by, fresh fruits are collected, washed, air dried and mashed to produce crude powder. Furthermore, the crude powder was macerated with ethanol for 7 days. Then filtrate was evaporated by using a Heating mantle at 60^0 to produce viscous extract.



Figure 3: Extracts in ethanol

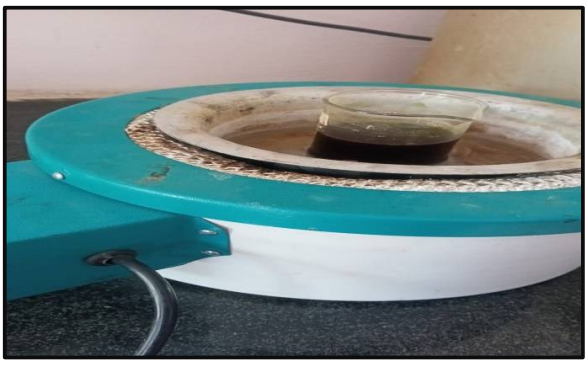


Figure 4: Heating with Heating Mantle

4) Preparation Of Cream

Salicylic acid and beeswax were added to the first beaker. Then, for even mixing, heat on a water bath. A little while later, an oil phase developed. The second beaker contained neem and amla extracts, hibiscus extract, distilled water, white soft paraffin and glycerine, zinc oxide, and sodium benzoate. The aqueous phase was created by boiling all the components together on a water bath. The aqueous phase was given oil phase. Continuous stirring after mixing produced a homogeneous, semisolid cream.

5) Table of Ingredients

SR.NO	INGREDIENTS	QUANTITY		ROLE
		Formula 1	Formula 2	
1	Amla (Phyllanthus emblica)	1 ml	1.5 ml	Antioxidant
2	Neem (azadirachta indica)	1.5 ml	1 ml	Antibacterial, Antifungal
3	Hibiscus (hibiscus rosa-sinensis)	1 ml	0.5 ml	Antiseptic, anti-inflammatory
4	Bees wax	3.2 gm	2 gm	Provide solidity.
5	White Paraffin	6ml	8 ml	Lubricant.
6	Methyl paraben	0.5 ml	0.5 ml	Preservative.
7	Distilled water	Q. S	Q. S	Vehicle.
8	Glycerine	3 ml	2 ml	Occlusive, Humectant.
9	Salicylic acid	0.5 gm	1 gm	Prevent acne.
10	Zinc Oxide	0.7 gm	0.7 gm	To treat various skin problems.
11	Sodium benzoate	0.5 gm	0.5 gm	Preservative.

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IV. EVALUATION OF CREAM

Physical Assessment The following physical characteristics of the formulated herbal creams were also evaluated: colour, smell, consistency, and status of the formulation.[15]

1) *Colour:* A visual inspection allowed for the determination of the cream's colour. The colour is a light brownish tone.
2) *Odour:* Cream's scent was discovered to have distinctive qualities.
3) *State:* A visual examination of the cream's state revealed that it was prepared in a semisolid state.
4) *Consistency:* The cream's consistency was tested by manually rubbing it on the hand. The cream is silky in texture.
5) *pH:* A digital pH metre was used to measure the pH of the prepared herbal cream. A 100 ml beaker was used to precisely weigh the cream. The pH of 45 ml of distillate was measured three times for the solution, and the average value was computed. At 27° C, the pH of the suspension was assessed using the pH metre.
6) *Washability:* After applying the formulation to the skin, the ease of washing with water was evaluat
7) *Non-irritancy Test:* The non-irritancy test was conducted on a herbal cream formulation. preparation lacked irritability and redness.
8) *Phase Separation:* A appropriate wide mouth container was used to transfer the manufactured cream.
9) *After Feel:* The amount of residue left behind and emoliency were both judged to be satisfactory after the prescribed amount of cream was applied..
10) *Spreadability:* The ability of a cream formulation to spread between two slides was evaluated, and the sample was then compressed to a uniform thickness by applying a specific weight for a specific amount of time. Spredability was calculated as the required amount of time to separate the two slides. Better Spredability was demonstrated by the results of separating two slides in less time. The formula below was used to determine spredability.[16]
11) *Viscosity:* Cream's viscosity was measured using a Brooke Field viscometer at a temperature of 25 degrees Celsius and spindle number 63.8.

V. RESULT

The evaluation's findings are shown in the formulation, which has a light greenish to brown hue and is marketed as F2. It was discovered to have a semisolid consistency, average spredability, and good viscosity. For cream, all formulations apply to skin physiology slightly better.

Result of formulation

SR.NO	PARAMETER	RESULTS	
		Formulation 1	Formulation 2
1	COLOUR	Light brown	Light green to Brown
2	ODOUR	Characteristics	Characteristics
3	STATE	Semisolid	Semisolid
4	CONSISTENCY	Smooth	Smooth
5	pH	6.5	6.7
6	WASHABILITY	easy washable	easy washable
7	NON-IRRITANCY TEST	slightly-Irritant	Non-Irritant
8	PHASE SEPARATION	No phase separation	No phase separation
9	AFTER FEEL	Emollient	Emollient
10	SPREADABILITY	6.6 g/cm	7 g/cm
11	VISCOSITY	39022 Pa	39018 Pa

VI. CONCLUSION

In this study, Phyllatus emblica, Azadirachta indica, and Hibiscus (Hibiscus Rosa-sinensis) were combined to create an F1 and F2 herbal cream formulation. We had compared ourselves in both formulations. As a result, F2 formulation was superior to F1 in this regard. The produced cream and the commercial product were also compared. In order to improve skin health and treat a variety of skin issues, the formulation is generally used. The most popular uses for neem (Azardirachta indica) include face cleanser, moisturiser, and treatment for skin infections and acne.

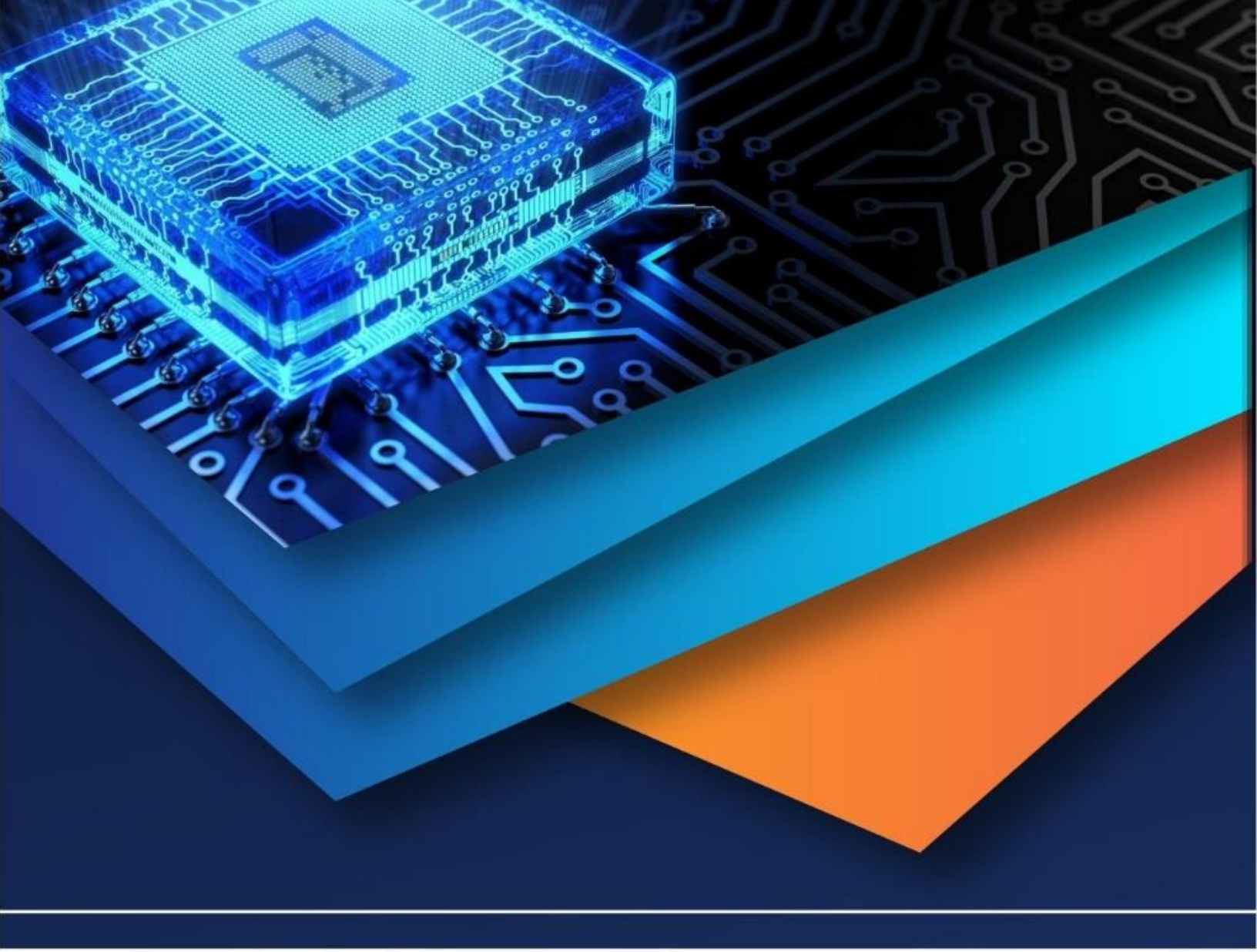
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There are individual Amla and hibiscus creams on the market. As a result, we made a cream combination and assessed it. Phyllatus emblica, Azadirachta indica, and Hibiscus (Hibiscus Rosa-sinensis) were combined to create a multipurpose cream that we blend and produce.

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