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FORMULATION AND EVALUATION OF HERBAL COLD CREAM USING HIBISCUS ROSA SINESIS AND ALOE VERA

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Abstract :

Formulations used in cosmetics are intended to enhance human beauty. This study set out to create and assess plant extracts using Aloe Vera that were made using the water-in-oil method to moisturize and nourish the skin. Aloe Vera extract, hibiscus Rose sinesis flower extract, and rose oil combined in a cold cream. Several methods of evaluation were used to assess the quality of the prepared items. There was no discernible alteration in the composition of the cream formulations. Throughout the testing period, the created cream had good pH, consistency, and spreading ability, with no signs of phase separation. Throughout the trial time, there was no discernible change in the created cream's stability parameters, such as its appearance, qualities, viscosity, and scent. Herbal extract-infused cold creams

Keyword :- cold cream, Emulsion, Aloe vera, Hibiscus Rosa sinesis, rose oil.

Introduction :-

The word "cosmetics" comes from the Greek word kosmtikos which denotes strength, organization, and aptitude in appearance.

The definition of cosmetics is given.

According to the Indian Act on Drugs and Cosmetics :-

Cosmetics are any items meant to be applied to the human body or any other portion of it for cleansing purposes, whether by rubbing, pouring, sprinkling, spreading, or in any other way. Enhancing and advancing. Attractiveness appearances and consist of intended use as a cosmetic component.[1]

Cream is characterized as a sort of semisolid emulsion that is meant to be applied externally. It can be either water in oil (w/o) or oil in water (o/w). Cream is divided into two categories: water in oil emulsion and oil in water. Its primary function is to stay longer at the application site when applied to the outer or superficial layers of the skin. A skin cream's purpose is to protect the skin from various environmental factors and weather conditions while also providing calming effects. There are various kinds of creams, including massage, night, vanishing, cleansing, cold, and hand and body creams. Our primary goal is to create a herbal cream that has multiple uses.We have used two herbal ingredients in our preparation which are Hibiscus Rosa sinesis, and Aloe-vera Gel .Hibiscus Rosa sinesis is used as Improve Skin Tone, Hyper pigmentation ,discolouration, Ant aging , antioxidant and Aloe Vera gel is applied as a moisturizer, helps heal burn injuries, and minimizes acne and zits. Since then, products used to enhance appearances or beautify the skin have been referred to as cosmetics. People have been butting their skin with poly herbal or herbal cosmetics since ancient times. [2]

HUMAN SKIN :-

The skin is the biggest organ in the body. It completely envelops the body. It acts as a barrier to keep out heat, light, damage, and infection. In addition, the skin:

1. Controls body temperature;
2. Retains water and fat; and
3. Functions as a sensory organ.
4. Stops the loss of water.
5. Stops bacteria from entering.
6. Serves as a barrier between the organism and its surroundings.
7. When exposed to sunlight, aids in the production of vitamin D

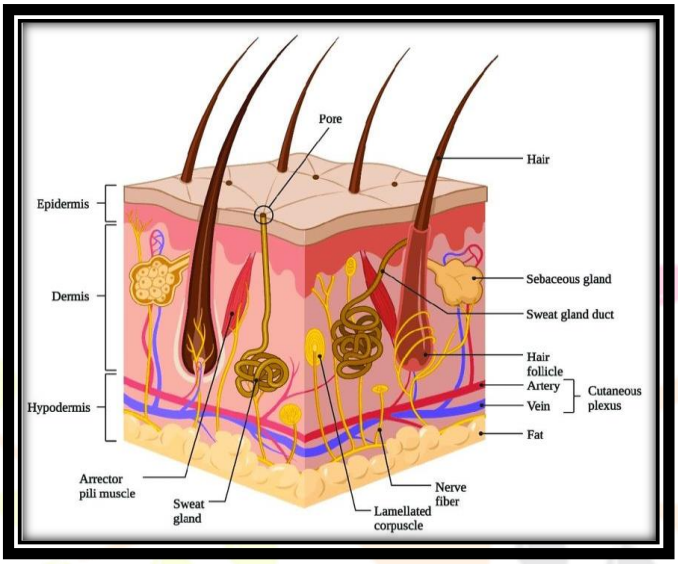


figure 1 human skin

The largest organ in the body, the skin is composed of water, protein, fats, and minerals. Your skin controls body temperature and shields your body from pathogens. Sensations of heat and cold are sensed by nerves in the skin. According to human anatomy, the integument, or covering, that covers the surface of the body serves as both a sensory organ for the outside world and a means of protection. Three layers of tissue make up the skin: the stratum, the main protective structure, is found in the outermost layer, the epidermis. The sub cutis, a subcutaneous layer of fat beneath the dermis that provides nutrients to the other two layers and cushions and insulates the body, and the come , the dermis, a fibrous layer that supports and strengthens the epidermis. Even more than that, Haman skin[3]

There are layers of skin on the body.

- **The Epidermis :-**The epidermis is the skin's outermost layer, and it is roughly 0.2 mm thick. This layer is devoid of capillaries and veins. The body's location determines the thickness of the epidermis. The two primary cell types that make up the epidermis are dendritic and keratinocyte cells. It has additional cell numbers as well.[1, 4]

There are five sublayers that make up the outermost layer:

1. Stratum corneum
2. Lucidium stratum
3. Granulosum stratum
4. The stratum spinosum
5. stratum basal

1. **The stratum corneum :-**Stratum corneum refers to the outermost layer of the epidermis. It is also known as the horny cell layer and ranges in thickness from 8 to 15 µm. The layer is useful in protecting skin from severe dehydration and has a hexagonal shape. Ceramide, the primary ingredient, plays a significant role in water retention.
2. **Stratum lucidum:-**A thin, transparent layer of dead skin cells makes up the stratum Lucidium. It only appears on the palms of the hands and the soles of the feet where there is thick skin.
3. **Stratum Granulosum:-**This 3µm-thick layer is also known as the granular cell layer. There are two to four layers of granular cell in it. The keratin fibres are getting more and more packed into the cells, giving them a flatter shape.
4. **Stratum spinosum:-**Also referred to as the prickle cell layer, its thickness varies between 50 and 150 µm. It is made up of a large number of cells with varying shapes and structures.
5. **Stratum basal: -** The lowest sub layer of the epidermis, stratum basal is made up of a single layer. Keratinocytes are generated in the stratum basal and exhibit upward migration to the outer surface. Turnover is the term for the movement of keratinocytes. Days are needed for one cycle of this process, during which keratinocytes alter both their structure and functions. This layer, also known as the basal

- **The Dermis:-**

1. The dermis, or at least the skin, is where most of the magic occurs. Fibroblasts and collagen and elastin make up the majority of the dermis. This layer serves a number of purposes.
2. Toxins and waste products are removed from the skin by lymphatic and blood vessels located in the dermis.
3. The dermis contains sweat glands. They induce perspiration through your pores, which cools your body and eliminates impurities.
4. The dermis also contains the hair follicles, which are where your hair attaches, and the sebaceous glands, which secrete the oils that smooth and soften skin. Occasionally, these glands act too zealously, causing rashes and oily skin. All layer, retains 8% of the water in the epidermis. [5, 6]

- **The Subcutaneous layer:-**

1. The layer of fat that runs from your bones to your muscles and other tissues is the deepest layer of skin. It penetrates deeper than your skincare products' active ingredients could ever hope to.
2. The dermal layer functions similarly to a thermostat. In an emergency, it can be used as a source of energy while simultaneously protecting the body.
3. Fat also serves as a filter, preventing harm to your bones, muscles, and organs.
4. Lastly, more blood vessels, nerve endings, hair follicular roots, and the deepest sebaceous glands that secrete oil are found in the subcutaneous layer.[6]

SKIN CARE PRODUCT:-

1. Face wash
2. Moisturising cream
3. Vanishing cream
4. Cold cream

Herbal Cold Cream advantages:-

1. keeps skin from drying out and aging.
2. Cold creams protect skin from harsh environments because they contain an adequate amount of water and oil.
3. They also maintain skin safety and hydration.
4. Cold creams are meant to smooth the skin and remove makeup.
5. The primary application of medicated cold cream is as a topical pharmaceutical dosage form for skin care.
6. To assist in maintaining the skin's moisture balance and prevent the use of cold cream on rough skin (non-medicated).

7. As a preparatory cleaning step to eliminate
8. To give the skin an oily protective layer and emollient effect.
9. Offer a chemical barrier as well, similar to what sunblock ingredients do.[1,7,8]

Herbal cold cream disadvantages:-

1. Potential for an allergic response.
2. It works best with medications whose actions depend on extremely low plasma -concentrations.
3. Drugs with bigger particle sizes are more difficult to absorb through skin pores.
4. The likelihood that any drug irritation will result in contact dermatitis or skin irritation.[9]

The Perfect Herbal Cold Cream Properties:-

1. Normally, it shouldn't be diluted.
2. The cold cream's ideal pH range is between 4.6 and 6.0.
3. Its consistency needs to be at its best to make it easy to apply and remove from the container.
4. After external application, the skin should experience a cooling effect.
5. To stop water from evaporating off the skin's surface, it must create a thin, waxy protective layer.
6. Should have a quicker emollient effect, allowing extremely dry skin to plump up and soften quickly.
7. Spreads easily over the skin and is less greasy than ointment.
8. During its whole shelf life, it should maintain its chemical and physical stability. [10, 11]

Need for study :-

Aim :-

Formulation and Evaluation of Herbal Cold cream by Hibiscus Rosa sinesis and Aleo vera gel

Objectives :-

1. To use the emulsification method to prepare the cream.
2. To improve the quality, safety, and effectiveness of herbal cold cream.
3. When applied to the skin, they cause no irritation.
4. To investigate the various facets of the abundant herbal medicine of traditional India.
5. To impart knowledge acquired throughout the course for assessing the efficacy of herbal remedies.
6. To create and assess a herbal cold cream using natural herbal products for radiant skin.
7. To create a cold cream that works for every type of skin.
8. To outline the practical advantages of cold cream for use as a cosmetic by people.

Material and Method :-

Material :-

Plant profile :- Collection of plant material Hibiscus Rosa sinesis and Aloe vera from the local botanical Garden.

1) Hibiscus Rosa sinesis:-

The Hibiscus plant, also known as the Roselle, is a member of the Malvaceous family. Among the more than 300 species of flowering hibiscus plants, Hibiscus sabdariffa Linn is one. It is regarded as a multipurpose plant with potential health advantages. Grown all year round, hibiscus is a perennial flowering plant. Originating in Africa, the shrub is now grown all over the world in tropical and subtropical climates, including those in China, India, Sudan, Malaysia,

Taiwan, and many other places.[12, 13]

Hibiscus is grown for its roots, flowers, leaves, stems, and seeds. Medicinal, cosmetic, and food formulations frequently use hibiscus flowers and seed oils. Ayurveda and Chinese medicine have both mentioned the medicinal benefits of hibiscus. In Hindi, it is commonly referred to as Lalambari or Gudhal,

figure 2 hibiscus rosa sinesis

and in Marathi, as Jaswandh.[12, 14]

Scientific classification of Hibiscus Rosa sinesis :-

- Kingdom: Planate-Plants
- Subkingdom: Tracheobionta-Vascular plants
- Super division: Spermatophyta-Seed plants
- Division: Magnoliophyta-Flowering plants
- Class: Magnoliopsida-Dicotyledons
- Subclass: Dilleniidae
- Order: Malvales
- Family: ***Malvaceae-Mallow family***
- Genus: Hibiscus L.-Rose mallow
- Species: Hibiscus Rosa sinesis L.-Shoeblack plant[15]

Table :1 Description of Hibiscus Rosa sinesis[16]

1	Biological source	It is obtained from flowers and leaves of Hibiscus Rosa sinesis Linn.
2	Family	Malvaceae
3	Common name	Chembarathi(Malayalam),Semparutti(Tamil), Rudrapuspa(Sanskrit), Gudhal(Hindi), Shoe flower plant ,Chinese hibiscus(English)
4	Soil condition	Preferably sandy and loamy clay and well-drained soil.
5	Propagation	Cutting, layering or grafting in springs.
6	Origin and distribution	Native to tropical Asia, China and Philippines. This is the national flower of Malaysia.
7	Leaves	Simple ovate or ovate lanceolate in shape and are rich in mucilage.
8	Flowers	Corolla consists of five petals. They are pedicellate, actinomorphic and complete in nature.

Possible Applications of Hibiscus for Skin Health :-

Mucilage's are complex polysaccharides that are abundant in hibiscus plants. The leaves of the plant were traditionally used to treat skin conditions and burning feelings. It might have a calming and hydrating effect

on the skin. Glycerine, which is present in hibiscus mucilage extract, may have the greatest moisturizing effect on skin.[17]

Further research is required to confirm hibiscus' beneficial effects on skin-related issues. It is not advisable to self-medicate with hibiscus without first seeing a physician.[18]

Aloe vera :-

One species of aloe that is especially well-known for its therapeutic qualities is aloe vera. The Arabic word "Alloeh," which means shining bitter substance, is the source of the name Aloe vera. The Latin word "Vera" means true. Greek scientists believed aloe vera to be the all-purpose cure 2,000 years ago. Aloe was referred to as "the plant of immortality" by the Egyptians. The Aloe vera plant is used in Dermatology 1 for a number of purposes nowadays.[19]

Globally, more than 550 different species of aloe are cultivated. Currently, only two species are cultivated commercially: the most common ones are Aloe barbadensis Miller and Aloe arborescence Miller. Mexico, the nations around the Pacific Rim, India, South and Central America, the Caribbean, Australia, and Africa are among the places where aloe grows.[20]

figure 3 aloe vera

Taxonomical Position of Aloe vera :-

- Kingdom : Planate
- Order : Asparagales
- Division : Spermatophyta
- Subdivision : Angiosperm
- Class : Monocotyledonous
- Family : ***Liliaceae***
- Genus : Aloe
- Species : barbadensis Mill [21]

Aloe vera properties for beauty products :-

Aloin and its gel are used as a skin tonic to prevent breakouts. Aloe vera is also used to moisturize the skin and soothe it in order to prevent dry, harsh weather-related skin and scalp flaking. For oily skin, aloe vera can also be used as a moisturizer. According to studies, aloe vera helps the skin retain moisture better, helps get rid of dead skin cells, and has a powerful penetration power that makes it easier for beneficial substances to enter the skin.[22]

Aloe vera is a perfect ingredient for cosmetic and dermatological products because of all these benefits. Aloe vera is actually one of the most significant ingredients in the cosmetics industry today, as it is used in more than 95% of dermatologically valuable extracts that are produced globally. Additionally, aloe sugars are utilized in moisturizing formulas. When combined with specific essential oils, it creates a wonderful moisturizer that smoothes the skin, a sunscreen lotion, and a variety of other beauty products. For a variety of

skin conditions, Maharishi Ayurveda suggests Aloe vera because of its cooling and soothing properties. [23, 24]

Rose oil :-

Rosa alba L. possesses a wide range of biological characteristics, including Cytotoxic, genotoxic, antimicrobial, antifungal, anti fertility, teratogenic, and memory-enhancing effects. Rosa alba Lessential oil contains a variety of chemical constituents, including citronellal, geraniol, nerol, linalool, citral, caracole, and eugenol, and it exhibits strong antimicrobial activity.[25]

Plant description and taxonomy:-

- Kingdom: Planate
- Division: Magnoliophyta
- Class: Magnoliopsida
- Order: Rosales
- Family: Rosaceae
- Genus: Rosa
- Species: Rosa alba L. [25]

figure 4 rose oil

Chemical constituents :-

Because of their numerous chemical components, Rosa plants are not only highly valuable as ornamental and commercial plants, but they also exhibit good nutrition and biological activity. Thus far, flavonoids, triterpenes, tannins, phenolic acids, polysaccharides, fatty acids, organic acids, carotenoids, and vitamins have been identified as the primary chemical components extracted from twelve medicinal plants belonging to the Rosa genus.

Uses of rose oil :-

All of the plant's fragrance products are utilized in cosmetics, aromatherapy, and phototherapy. [25]

Rose oil is also utilized as a fragrance or perfuming agent in a variety of skin creams and ointments. [26]

Borax

Common Name: sodium borate, sodium tetra borate, or disodium lernbente

Botanical Name: Sodium tetraborate-decahydrate

Chemical Formula: $NaB_4O_7.H_2O$

figure 5 borax

Lotions, gels, and creams are just a few of the cosmetic products that contain borax and wax. It is well known for being a component of hand soaps that help remove grease or oil from hands. Because of its alkaline properties, borax is an ideal ingredient for toners and cleaners. Borax is occasionally used as an emulsifier, buffering agent, or preservative in cosmetic products. These products include lotions, creams, shampoos, gels, bath bombs, scrubs, and bath salts. Borax is also a component of almost every skincare product, from creams and body lotions to shampoos, bath gels, and even the trendy bath bombs. It is also mixed with glue and water to create "slime," a gooey substance that many kids like playing with. Borax is also frequently used as a necessary component in natural cosmetic products due to its gentle and antiseptic qualities.[27]

Beeswax: -

Common Name: Cera Alba

Botanical Name: ApisMellifica

Family: Apidea

figure 6 beeswax

Capacity to Guard Against Irritants: When applied topically, beeswax can serve as a barrier against environmental aggressors. It can shield skin from harsh weather conditions and environmental irritants. Encouragement of Hair Growth: Beeswax can prevent moisture from evaporating from hair in addition to soothing and moisturizing it. Beeswax has the ability to coat the skin in protection. In addition, it draws water because it is a humectant. These two attributes have the potential to keep the skin hydrated. Another excellent natural exfoliate for removing dead skin cells is beeswax. Beeswax is an antibacterial and skin-healing substance. It can assist you in overcoming ailments like stretch marks, eczema, dry skin, and acne. You can make your own customized lotions and moisturizers for your skin using our raw beeswax.[28, 29]

Methyl paraben :-

Other Name: Methyl 4-hydroxybenzoate

Molecular formula: $C_8H_8O_3$

Molecular Weight: 152.12

figure 7 methyl paraben

Here, methyl paraben serves as a preservative to prevent the growth of potentially harmful bacteria. microbes, One type of paraben is methyl paraben. Paraben are substances that are commonly used as preservatives to increase an item's shelf life. To prevent the development of mould and other hazardous bacteria, which are added to conanatics or found. One or two additional parabens are present in the ingredients of many products that contain methyl paraben. Foods, drugs, and a variety of cosmetic Paraben are present in all products. Parabens can be found in many different types of cosmetics, moisturizers, hair products, and shaving creams. [30]

Liquid paraffin :-

Common Name: Petrolatum

Molecular Formula: $C_{15}H_{11}ClO_7$

Molecular Weight (g/mol) 338.696

figure 8 liquid paraffin

Mineral oil called liquid paraffin is necessary for skin care because it keeps the skin hydrated. It protects the skin from moisture loss by acting as a barrier. The cosmetics industry also uses liquid paraffin. It is an ingredient in many cosmetics, oils, detergent creams, moistened creams, and cold creams, among other beauty products. It can be used as an emollient lotion to soothe dry skin. In order to facilitate the skin's moisture retention, liquid Paraffin is widely utilized in skin care cream formulations. The skin contains an internal barrier that prevents moisture loss and maintains skin health. Using liquid paraffin may help reduce the symptoms of skin diseases.[30]

Table 2 :- Role of ingredients:-

Sr. No	Ingredients	Role of ingredients
01	Hibiscus	Improve Skin tone, Hyper pigmentation, discolouration, dark spots
02	Aloe vera gel	Anti-ageing, Anti Inflammatory, moisturizer, reduce acne and pimples
03	Rose oil	Fragrance
04	Borax	With emulsifying agent to form soap.
05	Beeswax	It gives thickness to the cream.
06	Methyl p-hydroxy benzoate	Preservative
07	Liquid paraffin	Lubricating agent, alkaline agent

Methods :-

Bee's wax, liquid paraffin, borax, distilled water, rose oil, aloe vera, and powdered hibiscus flower extract were used to make the cream base[31]. The cream was made by geometrically and uniformly combining all of the excipients and the aloe extracts using the slab technique/extemporaneous method12. We have created three batches of our herbal cream—F1, F2, and F3—using the slab technique. A variety of parameters, including appearance, PH, viscosity, and phase separation, were assessed for each of the three batches [32]

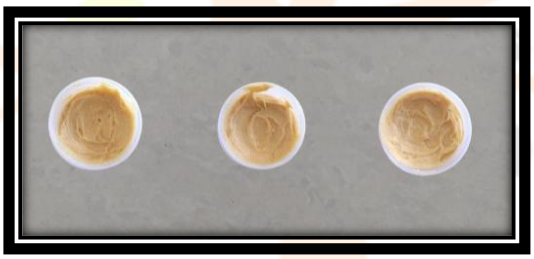
Making of Poly herbal Cold Cream Formulation:-

In a borosilicate glass beaker, heat the liquid paraffin and beeswax to 75°C and keep it there. Phase of oil. Borax and methyl paraben should be dissolved in distilled water in a different beaker, and the mixture should be heated to 75°C to produce a transparent solution. (Phase of water). Next, gradually incorporate this aqueous phase into the heated oil phase [33]A smooth cream will then form after adding a measured amount of Aloe vera gel and mixing. After adding a few drops of rose oil for fragrance, gradually add the powdered hibiscus extract and stir thoroughly. Transfer this cream to a plate, stir it geometrically in order to ensure that all the ingredients are well combined and the cream has a smooth texture, and add a few drops of distilled water if needed [34]

Table 3: - Formulation of Herbal cold cream: -

Sr. no.	Ingredients	Formula F1	Formula F2	Formula F3
1.	Hibiscus flowers Extract powder	0.15 gm	0.10 gm	0.15 gm
2.	Aloe vera gel	0.50 gm	1 gm	1.50 gm
3.	Rose oil	Q.S.	Q. S.	Q. S.
4.	Borax	0.20 gm	0.30 gm	0.50 gm
5.	Beeswax	4 gm	7 gm	5 gm
6.	Methyl p-hydroxy benzoate	0.02 gm	0.02 gm	0.02 gm
7.	Liquid paraffin	8 gm	5 gm	7 gm
8.	Water	7ml	7 ml	6 ml

figure 9 formulation of cold cream f1. f2. f3.



Evaluation of cold cream: -

Morphological Evaluation: -

Physical properties: The cream was observed for the colour, odour state and appearance.

Physicochemical Evaluation: -

1) **Test for Heat Stability: -**Using a spatula, the prepared cream was inserted into the glass bottle and taped to settle to the bottom. filled the bottle to two thirds of the way, put the plug in, and tightened the cap. For 48 hours, the specimen was maintained upright within the incubator at 4 ˚ ± 1°. If there is no evidence of oil separation or any other phase separation after the sample is taken out of the incubator, the test was successful.[35]

2) **Test for microbiological growth in cream formulations: -**
Using the streak plate method, the prepared creams were inoculated onto agar media plates, and a control was created by leaving out the cream. The plates were put in the incubator and left there for a full day at 37 0C. Plates were removed from the incubation period and the microbial growth was assessed by comparing it to the control [36]

3) **Spread-ability: -**
The spread ability was measured in terms of the number of seconds it took for two slides separated by a certain load to separate from the cream that was positioned in between the slides. The better the spread ability, the shorter the time required to separate the two slides. Standard-sized glass slides were taken in two sets. One of the slides had the formulation for the herbal cream placed over it. The cream was sandwiched between the two slides after the other slide was positioned on top of the formulation. The cream between the two slides was uniformly pressed to form a thin layer by applying weight to the upper slides. The excess formulation sticking to the slides was scraped off after the weight was removed. The force of the weight attached to the upper slide allowed it to slip off without restriction. It was noted how long the top slide took.

Spread ability= m ×l /t

M = weight tied to the upper slide (30g) l =length of glass slide (5cm) t =time taken in sec [37]

4) **Test of Irritation:-**

On the dorsal surface of the left hand, mark a square centimetre. The designated area was covered with the cream, and the time was recorded. The presence of erythematic, oedema, and irritability was monitored for up to 24 hours at regular intervals and reported.[38]

5) **Wash ability:-**
Apply a small amount of cream to your hands and wash them under running water.[38]

6) **Viscosity :-**

The viscosity of the formulated cream was measured using spindle No. 7 on a book field viscometer operating at 100 rpm.[38]

7) **PH of the cream :-**

A digital pH meter was used to measure the pH of different formulations. After being weighednd dissolved in 100 millilitres of distilled water, about 1 gram of the cream was kept for twohours. Each formulation's pH was measured three times, and the average values wheredetermined.[39]

8) **Phase separation :-**

The created cream was maintained undamaged at 25 to 300 C in a closed container awayrom light. For 30 days, phase separation was meticulously monitored every 24 hours. Pha-se separation was examined for any changes.[39]

9) **Studies on moisture absorption :-**

A watch glass containing about 50 mg of cream was consumed. A beaker was filled to thebrim with water, placed in an adsorbent-free desiccator, and left to become saturated. Acream-filled watch glass was added to the desiccator. It was abandoned for twenty-four [39]

Result :-

In our work we are prepared Three(F1-F3) different cream formulations. Among these formulations to choose final selection, the all formulations are tested for further final selection purpose.

Table 4 :- Absorption of Drug (UV)

Concentration (ug/ml)	Absorbance (nm)	Formula	R^2 Value
10	0.337		
20	0.485	Y = 0.0122x + 0.2294	R^2 =0.9965
30	0.605		
40	0.713		
50	0.831		

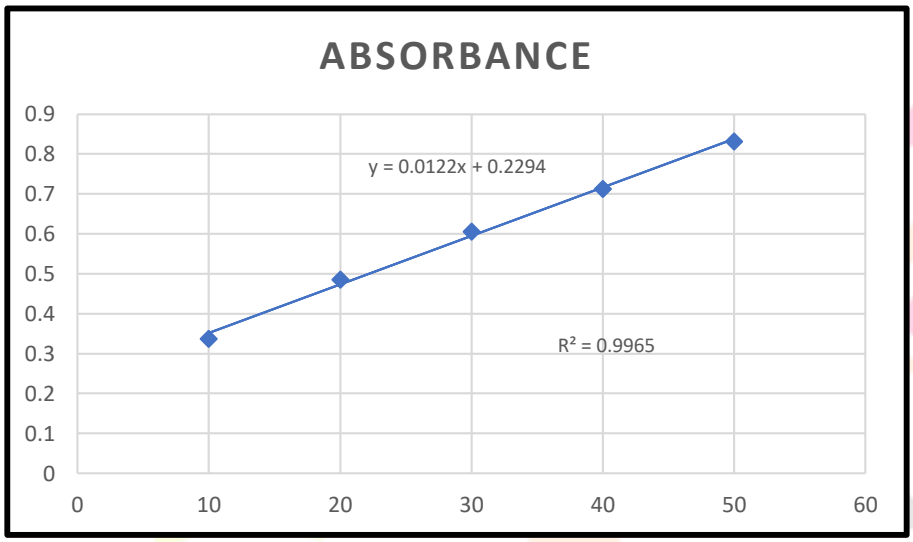


Table 5 :- Physical properties of cream

Properties	Formulation F1	Formulation F2	Formulation F3
Colour	Creamish	Creamish	Dark Creamish
Odour	Characteristic	Characteristics	Characteristic
Texture	Smooth	Smooth	Hard
State	Semi solid	Semi solid	Solid

Table 6 :- Test for thermal stability

Test	F1	F2	F3
Thermal Stability (atRH65%and 30±40oC	Stable, no phase separation	Not Stable, phase separation	Not Stable, phase separation

Table 7 :- Spread ability of cream

Sr No	Formulation	Time (sec)	Spread ability
1	F1	15	8.2
2	F2	16	7.1
3	F3	14	6.7

Table 8 :- wash ability of cream

Sr. No	Formulation	Wash ability
1	F1	Easily washable
2	F2	Easily washable
3	F3	Not Easily washable

Table 9 :- viscosity of cream

Sr. No	Formulation	Viscosity
1	F1	49090
2	F2	48950
3	F3	48710

Table 10 :- PH of cream

Sr. No	Formulation	PH
1	F1	6.1
2	F2	6.5
3	F3	6.8

Table 11 :- Phase separation

Sr. No	Formulation	Phase separation
1	F1	No phase separation
2	F2	No phase separation
3	F3	Phase separation occurs

Table 12 :- moisture absorption studies of cream

Sr. No	Formulation	Moisture absorption
1	F1	Moisture not absorbed
2	F2	Moisture absorbed
3	F3	Moisture absorbed

Conclusion :-

The using of hibiscus flowers and aloe vera gel the cold cream have multipurpose effect likesmooth skin , moisturize the skin and Ant aging property . The present work mainly focused onpotential of extract for cosmetic purposes. The formulations F1, were stable at room temperature and can be applied to skin without risk, constant PH , not greasy and easily washableaccording to the findings Results and discussion. But in every way, formula 1 produced the best

outcomes.

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