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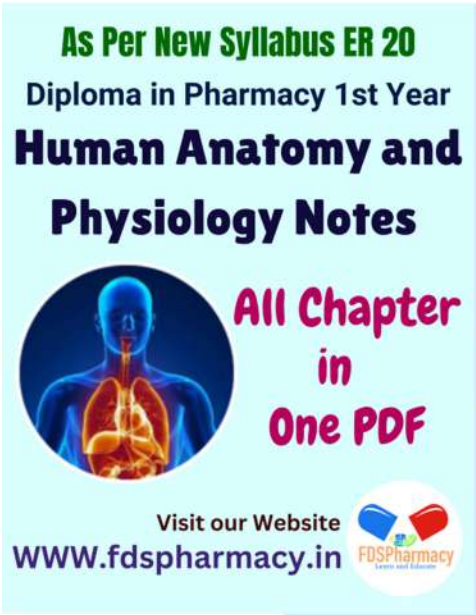
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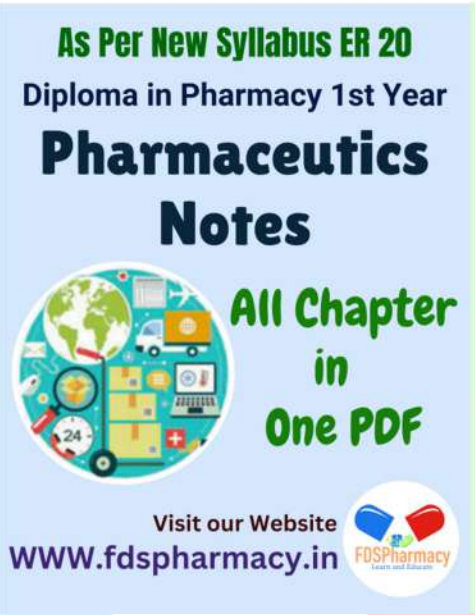
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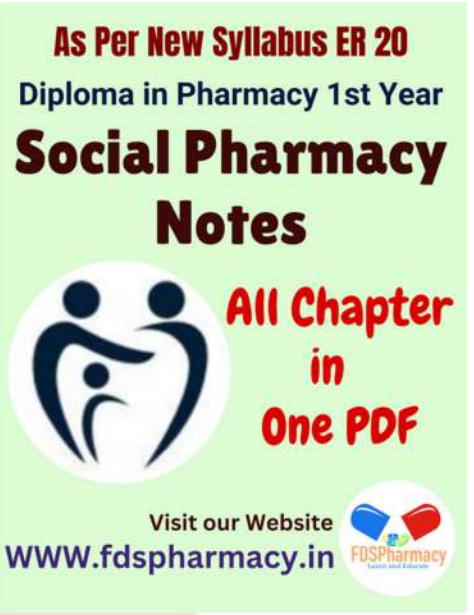
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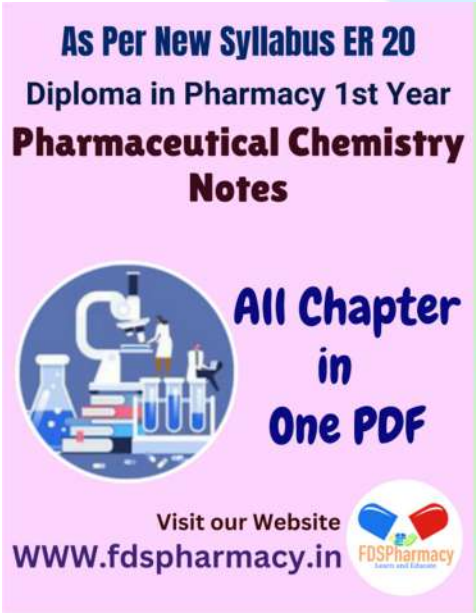
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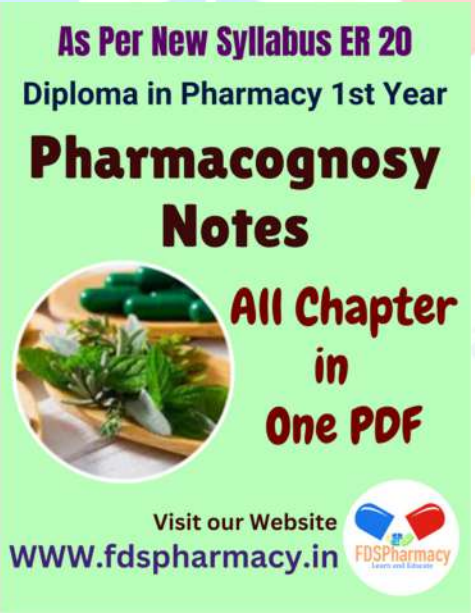
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Chapter 10

Herbal Cosmetics

→ Herbal cosmetics are products formulated using various permissible cosmetic ingredients to form a base in which one or more herbal ingredients are added to provide the defined cosmetic benefits.

→ Herbs do not produce instant cures.

→ They offer a way to put the body in proper tune with nature.

→ A huge number of cosmetic and toiletry formulations have been designed and developed based upon the Indian herbs.

Alovera Gel

→ Aloe vera gel is obtained from the leaves of aloe plants.

→ It has been used to heal and soften the skin.

Sources

- Aloe is the dried juice obtained by incision from the bases of leaves of various species of Aloe, i.e., Aloe perryi Baker, Aloe vera Linn., or Aloe barbadensis Mil., and Aloe ferox Miller.

Family

➢ Liliaceae

Chemical Constituents

▪ The most Important constituents of Aloes are the three isomers of aloins, Barbaloin, β-Barbaloin, and sobarbaloin

Commercial Preparation

❖ After transport to the factory, the plants are washed and disinfected. There are two basic methods of processing. First, processing of the entire leaf including the shell containing aloin (whole leaf method); and second, separating the leaf from the gel before processing (separation method).

❖ In the separation method, bottom of the leaf is cut off and the leaves are left to bleed. This leads to the aloin (known for its bitter taste and laxative effect) leaking out of the leaves. For a quality product, it is important that the aloin is kept out of the final gel.

❖ After removing the gel from plants, it is filtered and finally homogenised, pasteurised and stabilised. The last step is then to concentrate the gel. The process from cutting the leaves and the final aloe extract is completed in maximum of 2 days.

❖ Now the concentrated aloe vera gel is sold to the end consumers or to the industries who produce herbal products with aloe vera gel.

Marketed Products

- Diabecon, Evecare (Himalaya Drug Company), Kumari Asava Pharma (Baidyanath).

Therapeutic and Cosmetic Uses

✓ It also helps in treating dry skin.

✓ It helps in activating new hair growth as it increases blood circulation to the scalp

✓ It is one of the natural ways to get rid of dandruff as it helps in healing dry skin, fungal infections, and excessively oily skin (causes of dandruff).

✓ It helps to condition the hair and soften it.

Almond Oil

→ Almond oil contains large amount of nutrients and useful properties, thus making it a powerful cosmetic ingredient.
→ There are two types of almond oils, each with their own uses:
→ 1) Bitter almond oil has a strong smell and is sometimes used in soaps, aromatherapy, and massage therapy; but has toxic properties when ingested.
→ 2) Sweet almond oil is extracted from sweet almonds, and is commonly used as an ingredient in skin and hair products. It is safe to ingest internally.

Source

- Sweet almond oil is best suited for skin as it is obtained from an almond tree (Prunus amygdalus var. Dulcis) Whose seeds do not contain poisonous Chemicals.
- Bitter almond oil can be toxic and dervied from a different kind of almond tree (Prunus amygdalus var. Amara). lt is only used for medicinal purposes.

Chemical Constituents

- Both varities of almond contain fixed oil (40-55%), protein(20%), Mucilage, emulsion. Bitter almond contain the colourless, crystalline, cyanogenelic glycoside, amygdalin(2.5-4.0%)

Commercial Preparations

Sample Preparation

- The collected seeds are manually dehulled and sorted to remove the mesocarp.
- Then, the seeds are sun-dried for 2 days, oven-dried for 2 hours at 105°C temperature, and finely grounded into flour using a blending machine.
- Almond Oil Extraction Method from the Seed Flour A total 100gm of the prepared sample flour is transferred to Soxhlet thimble which was fixed on a 500ml round bottom flask. 300ml hexane is added in the flask and heated on a thermostatically controlled heating mantle up to the boiling point. Refluxing is continued for 4 hours until the oil is fully extracted.

Almond Oil Production

- Almond oil can be extracted from the bitter almond as well as the sweet almond. Oil is generally obtained through a cold-pressing process; however, sweet almonds can be pressed warmly. First, the almonds are cleaned of impurities and loosed from their shells.
- The pre-cleaned seeds are lightly warmed to the press temperature and fed into a screw press. The resulting almond oil and almond press cakes undergo immediate further processing.

- ❖ The press cakes are crushed and cooled before sent for more processing or into storage. The oil is turned into pure oil, after undergoing several stages of purification (rough filtration, fine filtration, and safety filtration).
- ❖ Alternatively, after being pressed, the oil is left undisturbed for a few days to allow the mucilaginous components to settle and then removed with the help of filter press. After being cold-pressed, the oil can be used to refined or untreated.

Marketed Products

- ♦ Baidyanath lal tail (Baidyanath Company),
- ♦ Himcolin gel Mentat,
- ♦ Tentex Royal (Himalaya Drug Company), and
- ♦ Sage badam roghan (Sage Herbals).

Therapeutic and Cosmetic Uses

- ✓ Almond oil is used as an anti-inflammatory, immunity booster, anti-hepatotoxicity, and in irritable bowel syndrome.
- ✓ It is helpful in preventing colon cancer.
- ✓ It is helpful in preventing cardiovascular disease by elevating the level of HDL and reducing the level of LDL.
- ✓ Adding almond oil to diet may help in keeping the blood sugar stable.
- ✓ Diets rich in monounsaturated and polyunsaturated fats decrease body fat and promote weight loss.
- ✓ It gets quickly soaked in the skin, which makes it a powerful and effective moisturizer.

Lavender Oil

- → Lavender oil is an essential oil obtained by distillation of the flower spikes of certain species of lavender.
- → Two forms are distinguished, lavender flower oil, colorless oil, insoluble in water, having a density of 0.885 gm/ml; and lavender spike oil, a distillate from the herb Lavandula latifolia, having density 0.905 gm/ml.

Sources

- Lavender oil is obtained by steam distillation of freshly cut flowering tops and stalks of Lavandula Officinalis. Lavender plant is native to the Mediterranean countries.

Family

- ➢ Lamiaceae

Chemical constituents

- ▪ The main constituents of lavender are linalool, linalyl acetate, 1,8-cineole, β-ocimene, terpinen-4-ol, and camphor.

Commercial preapration

Lavender Oil Extraction

- Lavender essential oil is extracted by steam distillation of the fresh or partly dried leaves. This generates a greater amount of oil compared to other techniques due to the reduction of polar compound loss. Harvest of lavender blooms is typically around June month. Lavender flowers are compacted into a still. A boiler is then used to steam the bottom of the still filled with lavender flower at low pressure. The lavender flower pockets containing oil are broken from this heating procedure and a pipe of cold water is run through the centre of the still.
- The hot lavender oil vapour condenses on the cold pipe with the cold water and is then collected into a holding tank where it is allowed to settle. Due to the polarity and the densities of the oil and water, these two will divide in the holding tank whereupon the water is piped out, leaving just lavender essential oil.

Lavender Oil Distillation

- Essential lavender oil is produced using steam distillation. Lavender is harvested for the distillation process in the morning once the dew has evaporated. The harvest of lavender for oil distillation is generally in September when the plant is in full bloom and has begun to wither. Two 100 gallons food-grade, stainless steel pots are used for the distillation of lavender oil. A plant that means stems and flowers are loaded into the pots, sealed and low-pressure steam begins to flow through the tank.
- Temperature is monitored throughout this procedure to ensure that the highest grade of oil and hydrosol is obtained. During this procedure the steam causes the plants oil glands to erupt, and the oil evaporates into the steam. At this point, the steam is routed through copper tubing on its way to the condenser where cold water running during the coils cools the steam, which condenses it back to a high-grade liquid of oil and hydrosol.
- Passing steam through copper tubing helps to get sweet, higher quality oils. At this point the lavender water and lavender oil are separated into their respective containers. The essential oil, being lighter than water, rises to the surface of the condensate, and is collected in a beaker attached to the separator.

Therapeutic and Cosmetic Uses

- ✓ Lavender oil can help ease sore or tense muscles, Joint pain, and rheumatism, sprains, backache, and lumbago.
- ✓ It is a natural anti-inflammatory, so helps reduce itching, swelling and redness.
- ✓ It helps lower elevated blood pressure levels and could be used for hypertension.
- ✓ It contains antiseptic components that can heal the skin quicker and prevent possible infections.
- ✓ It enhances collagen production and encourages regeneration of skin tissues.
- ✓ It even conditions the hair and keeps it lustrous and manageable.

Olive Oil

→ Olive oil is a multi-purpose ingredient, which is used across lifestyle spectrums for benefits, ranging from nutrition and health to skin and hair.
→ Its unique composition and properties make it ideal for skincare.

Sources

- Olive oil is a fixed oil obtained by expressing the ripe fruits of Olea europoea Linn. or O. ferruginea (Indian olive)

Family

➢ Oleaceae

Chemical Constituent

▪ The main chemical composition of olive oil is composed of fatty acid glycerides and non-glycerides.

Commercial Preparation

Collecting and Grading the Olives

- After collecting the ripe olives, they are divided according to their plumpness, state of ripeness, and quality.
- Then, they are taken to the press and stored for a few hours to several days to allow the olives to get warm so that they release their oil easily.)

Washing and Milling the Olives

- Then the olives are rinsed in cold water and passed along a conveyer belt between rollers or continuous hammers. This machinery breaks down the cells and de stones the olives.

Creating an Olive Paste through Malaxation

- The milled olives travel from the mill into vats in whichslowly turning blades mash the olives into homogenised paste,

Cold-Pressing the Olive Paste to Extract the Oil

- The oil is extracted by loading the olive paste into a hydraulic press. The paste is evenly spread over hemp pressing bags or disks covered with synthetic fibers. Around 25 to 50 bags or disks are stacked onto a press plate. Plate guides are inserted at intervals of 5-6 bags to maintain balance of the stack and distribute the pressure evenly.

Separating the Oil from the Vegetable Water

- Separation is achieved by pumping the mixture into a centrifuge, comprising of a rotating drum and an auger spinning on the same axis at great speed.

Storing and Packaging the Oil

- The oil is stored in underground vats until it is ready to be shipped. Then, the oil is canned or bottled on an assembly line. Cans or dark-tinted bottles keep the deep-green colour of the olive oil intact.

Marketed Products

- ♦ Figaro oil.

Therapeutic and Cosmetic Uses

- ✓ Olive oil is used in the manufacture of pharmaceutical preparations, soaps, textile lubricants, sulphonated oils, liniments, cosmetics, plasters.
- ✓ It is a good solvent for parenteral preparations.
- ✓ It is internally used as a nutrient, demulcent, emollient, cholagogue, and a mild laxative.
- ✓ It is used as a vehicle for oily suspensionsfor injection.
- ✓ It reduces the signs of aging.
- ✓ It also keeps scalp healthy by inhibiting the overgrowth of microbes.

Rosemary Oil

→ Rosemary receives its name from the Latin term Dew of the Sea, as it is native to the sea cliffs of the Mediterranean region.

→ Its essential oil is best known for its stimulating, soothing, and pain relieving properties.

Sources

- Rosemary oil is obtained by distillation of the flowering tops of leafy twigs of Rosmarinus oficinalis.

Family

- ➢ Lamiaceae

Commercial Preparations

Preparation of the Plant Material

- The flowering stems are chosen for distillation, removing the excessively woody parts.
- The size of the branches can be reduced if too long, also to facilitate loading into the boiler.
- It is useful to keep the stems and leaves intact for homogeneous passage of steam and avoid the harmful "cork effect" due to packing the leaves too tightly through distillation.
- Rosemary oil is extracted from the fresh Rosemary flowering tops by steam distillation.

Marketed Products

- Anti-dandruff hair oil,
- Anti-dandruff shampoo,
- Protein shampoo for oily/greasyhair, and
- Erina Plus (Himalaya Drug Company).

Therapeutics and Cosmetic Uses

- ✓ Rosemary oil has anti-spasmodic and anti inflammatory properties which help in relieving joint pains and soreness of muscles.
- ✓ It can help boost the immune system and combat diseases associated with chronic health problems
- ✓ It deeply hydrates skin and can be used as a moisturiser.
- ✓ It aids in controlling sebum production
- ✓ It helps reduce the appearance of blemishes and can be used to lighten stretch marks.
- ✓ It stimulates the skin and gives a radiant glow.
- ✓ It revives dull skin and gives it a refreshed feel.,
- ✓ It stimulates hair growth.
- ✓ It fights dandruff-related problems

Sandal Wood oil

→ Sandalwood oil, distilled from the heart wood and roots of the sandalwood tree is a valuable essential oil.

→ extensiveiy used in beauty, health and in rituals.

→ It possesses a distinct mi earthy aroma and plays a vital role in healing varioss kin conditions.

Sources

- Sandalwood oil is obtained by distillation of sandalwood, Santalum albium Lann

Family

- ➢ Santalaceae

Chemical Constituents

- ▪ The main compound of the oil was the oxygenated terpene santalol (52.83%). The other main compounds of the essential oil were α-bergamotol (10.18%), nuciferol (7.07%), γ-elemene (3.64%), cis-lanceol (2.74%) and α-cedrol (2.65%).

Commercial Preparation

- Commercial Preparations For producing commercially valuable sandalwood oil with high levels of fragrance requires minimum 15 years old Santalum trees. The sandalwood tree's valuable sandalwood oil is within the tree's heartwood. Older the tree, higher will be the proportion of heartwood. Because the oil is held tightly within the wood, a distillation process is required, in which the wood is first grounded to powder.

Steam Distillation

- ❖ In steam distillation process, steam heated at extremely high temperatures (140- 212 F) is passed through the powdered wood. As a result, the sandalwood essential oil, locked within the cellular structure of the wood, is released.
- ❖ The steam and oil mixture flows through a condenser and cools to yield a layer of oil and a layer of water. The sandalwood essential oil separates from the hydrosol (floral water), rises to the top, and then collected.

Marketed Products

- ♦ Abana,
- ♦ Evecare,
- ♦ Lukol,
- ♦ Antiwrinkle cream (Himalaya Drug Company) and
- ♦ Mahamarichadi tail,
- ♦ Brahma rasayan (Dabur).

Therapeutic and Cosmetic Uses

- ✓ Sandalwood oil is a great antiseptic agent that is safe and effective both externally and internally
- ✓ It functions to lower hypertension even when applied externally
- ✓ Its antioxidant property is used for promoting skin health.
- ✓ It effectively scavenges free radicals from the skin and diminishes oxidative damage.
- ✓ It also flushes out the toxins from the internal layers of skin, promotes overall skin health and treats various skin infections like acne, pimples, rashes, boils etc.