JHARKHAND
Rai University
UGC RECOGNISED UNIVERSITY
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PRACTICAL LAB MANUAL

PHARMACEUTICS

D.Pharm Ist year

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SYLLABUS

1. Handling and referring the official references: Pharmacopoeias, Formularies, etc. for retrieving formulas, procedures, etc.

2. Formulation of the following dosage forms as per monograph standards and dispensing with appropriate packaging and labelling.

- ✓ Liquid Oral: Simple syrup, Piperazine citrate elixir, Aqueous Iodine solution.
- ✓ Emulsion: Castor oil emulsion, Cod liver oil emulsion.
- ✓ Suspension: Calamine lotion, Magnesium hydroxide mixture.
- ✓ Ointment: Simple ointment base, Sulphur ointment.
- ✓ Cream: Cetrimide cream.
- ✓ Gel: Sodium alginate gel.
- ✓ Liniment: Turpentine liniment, White liniment BPC.
- ✓ Dry powder: Effervescent powder granules, dusting powder.
- ✓ Sterile Injection: Normal Saline, Calcium Gluconate Injection.
- ✓ Hard Gelatin Capsule: Tetracycline capsules.
- ✓ Tablet: Paracetamol tablets.

3. Formulation of at least five commonly used cosmetic preparations – e. g. cold cream, shampoo, lotion, tooth paste etc.

4. Demonstration on various stages of tablet manufacturing processes.

5. Appropriate methods of usage and storage of all dosage forms including special dosage such as different types of inhalers, spacers, insulin pens.

6. Demonstration of quality control tests and evaluation of common dosage forms viz. tablets, capsules, emulsion, and sterile injections as per the monographs.

Exp. No. 1 Date:

Aim: To prepare and submit 30 ml of Simple Syrup IP.

Reference:

1. Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 155 – 156.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, stirrer etc.

Chemical Required:

Sucrose and purified water.

Principle:

Syrups are sweetened, viscous, concentrated solutions of sucrose or other sugars in water or anyother suitable aqueous vehicles. These are further classified into 2 classes.

1. Simple flavored syrups
2. Medicated syrups

Simple flavor syrups:

Do not contain any medicament or drug. These syrups are used as a vehicle for other Liquid preparation to mask the disagreeable taste of drug.

Medicated syrups:

These contain some medicinal substance along with their other additives. Sucrose concentration in simple syrup is a 66.7 %w/w.

Formula:

Sl. No.	Ingredients	Official formula	Requiredquantities
1	Sucrose	667gm	
2	Purified water, quantity sufficient to produce (q. s)	1000ml	30ml

Calculations:

Procedure:

Add water to sucrose in a beaker and heat on water bath until sucrose dissolves add sufficient boiling water to produce the final volume. Filter hot syrup through cotton wool. cool the syrup and preservatives may be added for stability. Add more purified water to make up the required volume. Filter and transfer in a suitable container.

Category:

Sweetening agent, vehicle

Use:

Simple Syrups are used as vehicles for drugs such as antibiotics, Antihistaminic, antitussives and vitamins.

Storage:

Stored in a well closed container at a temperature not exceeding 25^0C.

Label:

SIMPLE SYRUP IP 30ml	
Composition: Sucrose Purified water	**BATCH NO.** **MFG. DATE:**
Category: Sweetening agent, vehicle	**MFG. LIC. NO.:** **EXPIRY DATE:**
FOR INTERNAL USE ONLY.	
Use: Simple Syrups are used as vehicles for drugs such as antibiotics, Antihistaminic, antitussives and vitamins. **Storage:** Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C	
MFG. BY: ABCD Batch: Roll No.:	

Report:

Exp. No. 2 Date:

Aim: To prepare and submit 20ml of Piperazine citrate elixir.

Reference:

Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 158 - 160

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker etc.

Chemical Required:

Piperazine citrate, chloroform spirit, glycerin, orange oil, syrup, purified water.

Principle:

Piperazine Citrate Elixir is mainly an anthelmintic. This kind of drug works to paralyze parasites that may invade the host body and cause diseases. It therefore helps to remove the parasites andthus inhibit the spread of disease in the body. The medicine is used totreat ascariasis, enterobiasis, also called common pinworms. The drug immobilizes the parasitic worms first, which are later passed out of the body through stool. This drug can only be obtained with a proper prescription by your doctor and is not available over the counter. The medicine is available in the form a tablet or as syrup.

Formula:

Sl. No.	Ingredients	Official Formula	Required quantities
1	Piperazine citrate	180gm	
2	Chloroform spirit	0.5ml	
3	Glycerine	100ml	
4	Orange oil	0.25ml	
5	Syrup	500ml	
6	Purified water	1000ml	20ml

Calculation:

Procedure:

Dissolve piperazine citrate in part of water. Then mix with agitation orange oil, glycerin, syrup in chloroform spirit and pour in watery solution of piperazine citrate. Adjust the volume with sufficient purified water. Filter and transfer in a suitable container.

Storage:

Stored in a well closed container at a temperature not exceeding 25^0C.

Use:

It is used as anthelmintic which is used in the treatment of worm infections.

Label:

PIPERAZINE CITRATE ELIXIR **20ml**	
Composition: Piperazine citrate Chloroform spirit Glycerin Orange oil Syrup Purified water	**BATCH NO.** **MFG. DATE:** **MFG. LIC. NO.:** **EXPIRY DATE:**
Category: Anthelmintic	
FOR INTERNAL USE ONLY.	
Use: It is used as an anti-helminthics are used in the treatment of worm infections. **Storage:** Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report

Exp. No. 3 Date:

Aim: To prepare and submit 30ml of aqueous iodine solution.

Reference:

Gupta A.K., Jain V.K., Pharmaceutics-I Practical Note Book, CBS Publishers & Distributors Pvt.Ltd.2020; 15

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Iodine, potassium iodide and purified water

Principle:

In pharmaceutical practice solution are defined as liquid preparation containing one or morechemical substances usually dissolved in water. Aqueous iodine solution is also known as Lugol's Solution and contain 5%w/v of iodine and 10% w/v of potassium iodide.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Iodine	50gm		
2	Potassium iodide	100gm		
3	Purified water	1000ml		30ml

Calculation:

Procedure:

Dissolve potassium iodide and iodine in a purified water. Shake well till it dissolve. Then add sufficient purified water to make up the required volume. Filter and transfer in a suitable container.

Use: Antiseptic

Storage: Well closed container made up of iodine resistant material.

Dose: 0.3 to 2ml.

Label:

<table>
<tr><td colspan="2">AQUEOUS IODINE SOLUTION
30ml</td></tr>
<tr><td>Composition:
Iodine
Potassium iodide
Purified water</td><td rowspan="2">BATCH NO.: MFG. DATE:

MFG. LIC NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Antiseptic</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY</td></tr>
<tr><td colspan="2">Use: It is used as an antiseptic
Storage: Stored in a well closed container at a temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-4 Date:

Aim: To prepare and submit 30ml of Castor oil emulsion.

Reference:

1. Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi,2017;217

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required: Castor oil and Cinnamon water q. s.

Principle:

An emulsion is a mixture of two or more liquids that are normally immiscible (unmixable or unblendable) owing to liquid-liquid phase separation. Depending upon the nature of the dispersed phase, the emulsions are classified as (i) Water-in-oil emulsion (W/O) (ii) oil in water emulsion (O/W) Liquid paraffin is primarily used as a pediatric laxative in medicine and is a populartreatment for constipation and encopresis. Castor oil emulsion is used as a laxative, to empty the GI tract, while the patients is prepared for thecolon X –ray, proctoscopy and endoscopic examination.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Castor oil	20ml		
2	Cinnamon water q. s.	50ml		25ml

Calculation:

Procedure:

- ✓ Weigh calculated quantity of acacia is take in a mortar.
- ✓ Measured quantity of cinnamon water at once (calculated for primary emulsion formula) is added into the mortar.
- ✓ The content, in the mortar is triturated to form mucilage.
- ✓ Measured quantity of castor oil is added in small quantities, with constant, rapid and light trituration to produce a thick cream. Trituration is continued for three minutes to obtain a white stable emulsion. It is indicated by click sound.
- ✓ Some more quantity of cinnamon water is added gradually with continuous trituration.
- ✓ The contents are transferred into a measuring cylinder.
- ✓ The pestle and mortar are rinsed with cinnamon water and rinsing are transferred into the measuring cylinder.
- ✓ The quantity is adjusted to the required volume using cinnamon water and the contents are stirred well.
- ✓ The castor oil emulsion is then transferred into a wide mouthed light resistant container.
- ✓ The bottle is capped, labelled, polished and submitted.

Use: Castor oil emulsion is used as a laxative, to empty the GI tract, while the patients is preparedfor the colon X –ray, protoscopy and endoscopic examination.

Storage: It should be store in a tightly –closed container in a cool place.
Category: Laxative.
Dose: 4 -6 ml
Direction: Take on an empty stomach followed with one full glass of water.

Label:

<table>
<tr><td colspan="3">CASTOR OIL EMULSION
25ml</td></tr>
<tr><td colspan="2">Composition:
Castor oil
Cinnamon water q.s</td><td>BATCH NO. MFG. DATE:
MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td colspan="2">Category: Laxative</td><td></td></tr>
<tr><td colspan="3">FOR INTERNAL USE ONLY.</td></tr>
<tr><td colspan="3">Use: Castor oil emulsion is used as a laxative, to empty the GI tract, while the patients are prepared for the colon X –ray, protoscopy and endoscopic examination.

Storage: It should be store in a tightly –closed container in a cool place.</td></tr>
<tr><td>MFG BY: ABCD</td><td>Batch:</td><td>Roll No.:</td></tr>
</table>

Report:

Exp. No.-5 Date:

Aim: To prepare and submit 30ml of Cod Liver Oil emulsion.

Reference:

Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017;217

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required: Cod liver oil, Egg yolk, Purified water q.s

Principle:

An emulsion is a mixture of two or more liquids that are normally immiscible (unmixable or unblendable) owing to liquid-liquid phase separation. Depending upon the nature of the dispersed phase, the emulsions are classified as (i) Water-in-oil emulsion (W/O) (ii) oil in water emulsion (O/W). Cod liver oil is a rich sources of vitamin D and therefore used as an anti-rachitic agent.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Cod liver oil	30ml		
2	Egg yolk	4ml		
3	water q.s	60ml		30ml

Calculation:

Procedure:

- ✓ Egg yolk is separated from the broken egg and placed in a measure. Equal volume of wateris added and mixed thoroughly.
- ✓ The calculated volume of the above egg yolk is placed in a mortar.
- ✓ The calculated volume of cod liver oil is added to the mortar and mixed with constantstirring.
- ✓ Purified water (1/3rd the total quantity0 is gradually added with constant trituration.
- ✓ The mixture is strained through a muslin cloth.
- ✓ Mortar and pestle are rinsed with little volume of water and transferred through the muslincloth.
- ✓ The volume is adjusted to the required level with water in a measuring cylinder.
- ✓ The contents are mixed well and transferred into a narrow-mouthed container
- ✓ The container is capped, polished, labelled and dispensed.

Use: It is used as an Anti-rachitic agent (in deficiency of vitamin D).

Storage: It should be store in a tightly well closed container in a cool place.

Category: Anti-rachitic (in deficiency of vitamin D)

Dose: Not more than 10ml daily.

Label:

<table>
<tr><td colspan="2">COD LIVER OIL EMULSION
30ML</td></tr>
<tr><td>Composition:
Cod liver oil
Egg yolk
Purified water q. s</td><td rowspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Anti-rachitic (in deficiency of vitamin D)</td></tr>
<tr><td colspan="2">FOR INTERNAL USE ONLY</td></tr>
<tr><td colspan="2">Use: It is used as an Anti-rachitic agent (in deficiency of vitamin D)

Storage: It should be store in a tightly well closed container in a cool place.</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-6 Date:

Aim: To prepare and submit 30ml of Calamine lotion.

Reference:

Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 165 -166

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Calamine, Zinc oxide, Bentonite, Glycerin, sodium citrate, Liquefied phenol, rose water, Purified water.

Principle:

It is a suspension containing in-diffusible Solids for external use. Here we use bentonite as a suspending agent, dispersion of bentonite is observed if it is mixed intimately with insoluble medicament i.e. calamine. Zinc oxide used here acts as astringent & protective agent. Sodium citrate causes partial deflocculation of calamine and transfers bentonite from gel to solid form in its absence. Hence it is thicker & difficult to pour from bottle.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Calamine	150gm		
2	Zinc oxide	50gm		
3	Bentonite	15gm		
4	Glycerine	5ml		
5	Sodium citrate	5ml		
6	Liquefied phenol	50ml		
7	Rose water	1000ml		30ml

Calculation:

Procedure:

- ✓ Mix the weighed amounts of Calamine, ZnO, Bentonite in a mortar & pestle.
- ✓ Triturate with a solution of sodium citrate in 5 ml of water.
- ✓ Add required amounts of liquefied phenol & Glycerine.
- ✓ Mix well, to this add more of vehicle to produce required volume, mix thoroughly so as to get uniform preparation. Filter and transfer in a suitable container.

Directions:

Shake well before use. To be applied 2-3 times a day.

Uses:

- ✓ This is used as astringent.
- ✓ Used as smoothening agent and gives relief from itching and pain during skin diseases and infections.
- ✓ It is also used in ring worm infections.

Storage: Stored in a well closed container dark in a cool place at a temperature not exceeding25^0C.

Label:

<table>
<tr><td colspan="2">CALAMINE LOTION
30ml</td></tr>
<tr><td>Composition:
Calamine
Zinc oxide
Bentonite
Glycerine
Sodium citrate
Liquefied phenol
Rose water</td><td rowspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Astringent</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY</td></tr>
<tr><td colspan="2">Use: This is used as astringent
Storage: Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-7 Date:

Aim: To prepare and submit 20ml of Magnesium Hydroxide mixture.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 150-151.
- ✓ Subrahmanyam C.V.S., Thimmasetty J.J, Prabhushankar G.L., Laboratory manualof Pharmaceutics. Vallabh Publication, Delhi, 2019; 47-48.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Magnesium sulphate, sodium hydroxide, light magnesium oxide and purified water.

Principle:

It is aqueous of colloidal dispersion of magnesium hydroxide. It is prepared by precipitation method and hydration method or both. It is not excessively thick or thin but holds design viscosity, it has two actions in low dose (1 -4ml) it acts as an antacid, while in higher dose (8–10ml) it acts as a laxative.

Reaction:

$MgO + H_2O$ ------- $Mg(OH)_2$ $MgSO_4 + 2NaOH$ ----------$Mg(OH)_2 + Na_2SO4$

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Magnesium sulfate	47.5gm		
2	Sodium hydroxide	50.5gm		
3	Light magnesium oxide	15gm		
4	Purified water	1000ml		20ml

Calculation:

Procedure:

- ✓ Dissolve sodium hydroxide in sufficient purified water contained in a beaker.
- ✓ Triturate Magnesium oxide in a mortar with the solution of hydroxide to from a smoothcream.
- ✓ Dissolve magnesium sulphate in sufficient water in a separate beaker.
- ✓ Add cream to the solution of magnesium sulphate with constant stirring. This mixture is setaside for 48 hrs.
- ✓ After 48 hrs pour off the supernatant liquid.
- ✓ Add hot purified water to the precipitate of magnesium hydroxide to wash the sulphate

ionsfrom precipitate.

- ✓ Transfer the washed precipitate to the suitable container and label it.

Dose: 1 to 4ml as antacid, 8 to 10ml as laxative.

Storage: Stored in an air tight container in a cool place.

Direction: Shake well before use

Label:

<table>
<tr><td colspan="3">MAGNESIUM HYDROXIDE MIXTURE
20ml</td></tr>
<tr><td>Composition:
Magnesium sulfate
Sodium hydroxide
Light magnesium oxide
Purified water</td><td colspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Laxative.</td><td colspan="2"></td></tr>
<tr><td colspan="3">FOR INTERNAL USE ONLY</td></tr>
<tr><td colspan="3">Use: Laxative & Antacid
Storage: Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C</td></tr>
<tr><td>MFG BY: ABCD</td><td>Batch:</td><td>Roll No.:</td></tr>
</table>

Report:

Exp. No.-8 Date:

Aim: To prepare and submit 100gm of Simple ointment.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017;238
- ✓ Pharmacopoeia of India.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, ointments slab etc.

Chemical Required:

Wool fat, hard paraffin, white soft paraffin, cetostearyl alcohol.

Principle:

Ointments are semisolid preparation meant for external application to the skin or mucous membrane. They usually contain medicament or medicaments which are dissolved or dispensed or suspended or emulsified as an antiseptic, antifungal agent.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Wool fat	5gm		
2	Hard paraffin	5gm		
3	Cetostearyl alcohol	5gm		
4	White soft paraffin	85gm		

Calculations:

Procedure:

- ✓ Melt hard paraffin and Cetostearyl alcohol on water bath.
- ✓ To this incorporate wool fat and white soft paraffin.
- ✓ Stir until all ingredients are melted.
- ✓ Examine the contents for any foreign particles. Decant or strain if required.
- ✓ Stir the mixture thoroughly until cold.
- ✓ Pack it in an ointment jar, label, and dispense.

Direction: Apply as directed.

Use: This are used to treat seborrheic dermatitis and scabies.

Storage: Keep in well closed container and cool place.

Label:

<table>
<tr><td colspan="2">SIMPLE OINTMENT
100gm</td></tr>
<tr><td>Compositions:
Wool fat
Hard paraffin
Cetostearyl alcohol
White soft paraffin</td><td rowspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Acne</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: This are used to treat acne and also used to treat seborrheic dermatitis and scabies.

Storage: Stored in a well closed container dark and cool place and temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-9 Date:

Aim: To prepare and submit 100gm of Sulphur ointment I.P.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi,2017;238
- ✓ Pharmacopoeia of India.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, ointments slab etc.

Chemical Required:

Sublimed Sulphur, wool fat, hard paraffin, white soft paraffin, Cetostearyl alcohol.

Principle:

Ointments are semisolid preparation meant for external application to the skin or mucous membrane. They usually contain medicament or medicaments which are dissolved or dispensed or suspended or emulsified as an antiseptic, antifungal agents and Sulphur ointment used to treat different skin infections.

Formula:

Preparation of simple ointment base:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Wool fat	5gm		
2	Hard paraffin	5gm		
3	Cetostearyl alcohol	5gm		
4	White soft paraffin	85gm		100gm

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Sublimed Sulphur	10gm		
2	Simple ointment	90gm		100gm

Calculation:

Procedure:

Preparation of simple ointment:

- ✓ Required quantity of hard paraffin and Cetostearyl alcohol.
- ✓ Wool fat and white soft paraffin were incorporated and stirred until all ingredients weremelted.
- ✓ The mixture was stirred thoroughly until cooled.

Preparation of Sulphur ointment:

Sublimed Sulphur was triturated and finely shifted through sieve no.85. Required quantity of Sulphur was taken on ointment base and mix small amount of ointment of simple ointment was gradually added until homogeneous mass was obtained.

Direction: Apply as directed.

Use:

- ✓ This are used to treat acne Sulfur ointment.
- ✓ This are used to treat seborrheric dermatitis and scabies.

Storage: Keep in well closed container and cool place.

SULPHUR OINTMENT I.P **100gm**	
Compositions: Wool fat Hard paraffin Cetostearyl alcohol White soft paraffin	**BATCH NO.** **MFG. DATE:** **MFG. LIC. NO.:** **EXPIRY DATE:**
Category: Acne	
FOR EXTERNAL USE ONLY.	
Use: This are used to treat acne Sulphur ointment and also used to treat seborrheric dermatitis and scabies. **Storage:** Stored in a well closed container dark and cool place and temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Label:

Report:

Exp. No.-10 Date:

Aim: To prepare and submit 100gm of Cetrimide cream B.P.C.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi,2017; 247

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, water bath, beaker, measuring cylinder etc.

Chemical Required:

Cetrimide, Cetostearyl alcohol, liquid paraffin and purified water.

Principle:

Creams are the semisolid product used for protection of skin. They are also used for medicinal or beautification as a foundation for other cosmetics and for cleaning action. Thus, creams are for external use only. The term vanishing is used for those cream and lotions which spread easily and disappear rapidly when rubbed on the skin.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Cetrimide	0.5gm		
2	Cetostearyl alcohol	5gm		
3	Liquid paraffin	50gm		
4	Purified water	44.5gm		100gm

Calculation:

Procedure:

- ✓ Melt the Cetostearyl alcohol on a water bath.
- ✓ Add the liquid paraffin and heat to 60^0C.
- ✓ Dissolve the Cetrimide in freshly boiled and cooled purified water and warm to 60^0C.
- ✓ Add the aqueous solution to the oily mixture and stir until cold.
- ✓ Transfer the cream into a suitable container, label and dispense.

Storage: Store in a well closed wide mouth containers or in collapsible tubes.

Use: As foundation to other cosmetics and for beautification

Direction: To be applied on dry skin three times a day.

Label:

<table>
<tr><td colspan="2">CETRIMIDE CREAM B.P.C
100gm</td></tr>
<tr><td>Composition:
Cetrimide

Cetostearyl alcohol

Liquid paraffin

Purified water.</td><td rowspan="2">BATCH NO.: MFG. DATE:

MFG. LIC NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Cosmetics</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: As foundation to other cosmetics and for beautification

Storage: Stored in a well closed container at a temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-11 Date:

Aim: To prepare and submit 30gm of Sodium alginate gel.

Reference:

- ✓ Pharmacopoeia of India

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker etc.

Chemical Required:

Sodium alginate, Calcium chloride, Coloring agent, purified water

Principle:

A gel is a semi-solid that can have properties ranging from soft and weak to hard and tough. Gels are defined as a substantially dilute cross-linked system, which exhibits no flow when in the steady-state. A gel has been defined phenomenologically as a soft, solid or solid-like material consisting of two or more components, one of which is a liquid, present in substantial quantity.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1.	Sodium alginate	2%w/v		
2.	Calcium chloride	5%w/v		
3.	Coloring agent	q. s		
4.	Purified water	100ml		30gm

Calculation:

Procedure:

Step 1: Mix the dry, powdered sodium alginate with distilled water.

For a great gel, use 100 ml of distilled water and 1 teaspoon of sodium alginate (this is a 2% sodium alginate solution).

Step 2: In another container, mix the calcium chloride with distilled water.

Use a heaping teaspoon of calcium chloride in 100 ml of distilled water (this is a 5% calciumchloride solution)

Step 3: Make a gel by adding dissolved alginate to the calcium solution.

Using a spoon or a dropper, add (i.e., drop or squirt) a little of the sodium alginate solution into the calcium chloride solution. In an instant, the calcium reacts with the sugar units in the alginate to pull the long flexible chains of alginate into a gel.

Use: Alginate is used as an emulsifier or stabilizer.

Storage:
It should be tightly closed and stored out of contact with water.

Label:

<table>
<tr><td colspan="2">SODIUM ALGINATE GEL
30gm</td></tr>
<tr><td>Compositions:
Sodium alginate
Calcium chloride
Colouring agent
Purified water</td><td rowspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Stabilizing</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: used as an emulsifying, stabilizing, suspending, thickening in
Storage: Stored in a well closed container at a temperature not exceeding 25^0C
It should be tightly closed and stored out of contact with water</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-12 Date:

Aim: To prepare and submit 30ml of Turpentine Liniment.

Reference:

Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017;164 -165

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Soft soap, camphor, turpentine oil, purified water.

Principle:

Liniments are solution or suspensions or emulsion intended for external application. They are generally applied with massage. Liniment of turpentine is used externally in a patient suffering from arthalgia, myalgia, fibrositis, and sprain.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Soft soap	9gm		
2	Camphor	5gm		
3	Turpentine oil	69gm		
4	Purified water	1000ml		30ml

Calculation:

Procedure:

- ✓ Take the required quantity of soft soap in the mortar and add water in thrice the quantity assoft soap.
- ✓ Triturate to make a soapy solution.
- ✓ Take the required quantity of oil of turpentine in a dry measure glass and dissolve camphorin it.
- ✓ Add this solution drop by drop in the mortar and triturate continuously and rapidly till theprimary emulsion is formed.
- ✓ Add a small quantity of water and transfer it to the previously calibrated round verticallyribbed and blue and amber colored bottle.
- ✓ Adjust to the required volume by adding water, attach the cork and label it.

Use:

Liniment of turpentine is used externally in a patient suffering from arthalgia, myalgia, fibrositis,and sprain.

Storage:

It should be store in a well closed container dark in a cool place.

Label:

<table>
<tr><td colspan="2">TURPENTINE LINIMENT
30ml</td></tr>
<tr><td>Composition:
Soft soap
Camphor
Turpentine oil
Purified water</td><td rowspan="2">BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Arthalgia</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: Liniment of turpentine is used externally in a patient suffering from arthalgia, myalgia, fibrositis, and sprain.
Storage: Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.</td></tr>
</table>

Report:

Exp. No.-13 Date:

Aim: To prepare and submit 30ml of White Liniment BPC.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi,2017;164 -165
- ✓ Indian Pharmacopoeia.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Ammonium chloride, Dil. Ammonia Solution, Oleic acid, turpentine oil, purified water

Principle:

Liniments are solution or suspensions or emulsion intended for external application. They are generally applied with massage. Liniment of turpentine is used externally in a patients suffering from arthalgia, myalgia, fibrositis and sprain.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Ammoniumchloride	12.5 gm		
2	Dil. AmmoniaSolution	45 ml		
3	Oleic acid	83.3 ml		
4	Turpentine oil	250 ml		
5	Purified water	625ml		30ml

Calculation:

Procedure:

- ✓ Mix turpentine oil and oleic acid in a bottle.
- ✓ Add an equal volume of warm water (50 ºC) to a dilute ammonia solution. Then add thisdilute solution (in small amount to the oily liquid, shake vigorously after each addition.
- ✓ Dissolve the ammonium chloride in the rest of the water and add it to the bottle (in smallamount) and shake vigorously after each addition.

Use: White Liniment is a rubefacient, which is a substance that warms the skin. It is used for relief from sciatica. Sprains, lumbago and rheumatoid pains,

Storage: It should be store in a well closed container dark in a cool place.

Label:

<table>
<tr><td colspan="2">WHITE LINIMENT BPC
30ml</td></tr>
<tr><td>Composition:
Ammonium Chloride
Dil. Ammonia Solution
Oleic Acid
Turpentine oil
Purified water</td><td>BATCH NO. MFG. DATE:
MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Arthalgia</td><td></td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: White liniment is used for the relief of sciatica, sprains, lumbago and rheumatic pains.

Storage: Stored in a well closed container dark in a cool place and temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.</td></tr>
</table>

Report:

Exp. No.-14 Date:

Aim: To prepare and submit 10gm of Effervescent granules.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 127
- ✓ Subrahmanyam C.V.S., Thimmasetty. J, Prabhushankar G.L., Laboratory manual of Pharmaceutics. Vallabh Publication, Delhi, 2019; 88

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance sieve shaker, China dish etc.

Chemical Required:

Sodium phosphate, sodium bicarbonate, tartaric acid.

Principle:

Effervescent preparation provides effervescence of CO_2 gas when added to water by a chemical reaction between alkali metal carbonates or bicarbonates with tartaric acid or citric acid. This preparation is intended to be dissolved in water before it is being taken orally. The CO_2 gas is released as a result of acid-base reaction. The preparation is advised to be taken while effervescence.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Sodium phosphate	0.9gm		
2	Sodium bicarbonate	2.1gm		
3	Tartaric acid	1.1gm		
4	Citric acid	0.7gm		10gm

Calculation:

Procedure:

- ✓ Citric acid is mixed with sodium phosphate and tartaric acid.
- ✓ Add sodium bicarbonate to the above mixture and mix it gently.
- ✓ The final powdered mixture is placed in a China dish previously heated on water bath.
- ✓ Stir the mixture with the help of a spatula constantly still it becomes damp mass.
- ✓ Pass damp mass through sieve number 8.
- ✓ Dry granules at a room temperature not exceeding 54^0C.
- ✓ Pass dry granules through appropriate sieve.
- ✓ Pack dry uniform sized granules in a wide mouthed bottle.

Dose: Each 5g contains sodium phosphate 1g.

Storage: Stored in air tight container in a cool place,

Use: Saline purgative and mild diuretic.

Label:

<table>
<tr><td colspan="2">EFFERVESCENT GRANULES
10gm</td></tr>
<tr><td>Composition:
Sodium phosphate
Sodium bicarbonate
Tartaric acid
Citric acid</td><td>BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Saline purgative and Mild diuretic</td><td></td></tr>
<tr><td colspan="2">FOR INTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: Saline purgative and Mild diuretic
Storage: Stored in a well closed air tight container in a cool place and temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-15 Date:

Aim: To prepare and submit 30gm of Dusting powder.

Reference:

- ✓ Mehta R.M., Dispensing Pharmacy, Vallabh Prakashan, New Delhi, 2017; 115

Requirements:

Apparatus Required: Mortar & pestle, weigh balance, sieve shaker etc.

Chemical Required: Purified talc, starch, zinc oxide

Principle:

Dusting powders are usually mixtures of two or more substances in fine powder intended for external use. Starch possess binding as well as good flow property which helps the powder to flow easily, spread uniformly and cling to the skin on application. Talc is natural mineral substance zinc oxide is protectant.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Purified talc	1gm		
2	Starch	0.5gm		
3	Zinc oxide	0.5gm		30gm

Calculation:

Procedure:

- ✓ Weigh the required quantity of purified talc and zinc oxide.
- ✓ Mix zinc oxide with starch and incorporate purified talc.
- ✓ Mix thoroughly and pass the mixed powder through a sieve no.120 to remove gritty particles.
- ✓ After sieving whole of the powder must be again slightly mixed.
- ✓ Pack the powder to protect it from air, moisture and contamination.

Storage: Store in a well closed container and should be kept in a cool place.

Category: Antiseptic dusting powder.

Caution: Do not apply on raw (or) weeping surface.

Direction: For external use only.

Use: Antiseptic.

Label:

<table>
<tr><td colspan="2">DUSTING POWDER
30gm</td></tr>
<tr><td>Composition:
Purified talc
Starch
Zinc oxide</td><td>BATCH NO. MFG. DATE:

MFG. LIC. NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Antiseptic</td><td></td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: Antiseptic
Storage: Store in a well closed container and should be kept in a cool place.</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-16 Date:

Aim: To prepare and submit 10 ml sodium chloride injection I.P

Reference:

- ✓ Gupta A.K., Jain V.K., Pharmaceutics-I Practical Note Book, CBS Publishers & Distributors Pvt.Ltd.2020; 85
- ✓ Dr. Kastur P.V., Gokhale S.B., Parakh S.R., Hasan S.A. Practical Pharmaceutics- 1, Nirali Prakashan, August 2019,26th Edition.Mumbai;10.9

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Sodium chloride and sterile water for injection I.P

Principle:

Sodium Chloride Injection 0.9% is used to replace lost body fluids and salts. Other medicines which are given by injection or by a drip may be diluted with Sodium Chloride Injection 0.9%. Sodium Chloride Injection 0.9% can also be used as a sterile irrigation solution.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Sodium chloride	0.9% w/v		
2	Sterile water for injection I. P	q. s		10ml

Calculation:

Procedure:

Accurately weighed quantity of pure sodium chloride is dissolve in freshly distilled pyrogen free sterile water. The solution is then filtered and filled in ampoules taking precautions to minimize bacterial contamination. Alternatively, the solution may be filled in clean dry infusion bottles and rubber bung is used to close the infusion bottle. Bottles are then placed in an autoclave at $121^0$0 and 15 psi pressure for 30 minutes.

Dose: No specific dose since it is used as a solvent.

Uses: It is used as an absorbent and transport nutrients. It maintains blood pressure and the right balance of fluid.

Storage: It should be stored in glass ampoules.

Label:

SODIUM CHLORIDE INJECTION I.P **10ml**	
Composition: Sodium chloride Sterile water for injection I. P	**BATCH NO.:** **MFG. DATE:**
Category: Isotonic vehicle	**MFG. LIC NO.:** **EXPIRY DATE:**
FOR INTERNAL USE ONLY.	
Use: It is used as a absorb and transport nutrients **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-17 Date:

Aim: To prepare and submit 10 ml Calcium gluconate injection I.P

Reference:

- ✓ Gupta A.K., Jain V.K., Pharmaceutics-I Practical Note Book, CBS Publishers & Distributors Pvt.Ltd.2020; 85
- ✓ Dr. Kastur P.V., Gokhale S.B., Parakh S.R., Hasan S.A. Practical Pharmaceutics- 1, Nirali Prakashan, August 2019, 26th Edition.Mumbai;10.9
- ✓ Indian Pharmacopoeia.

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.

Chemical Required:

Calcium Gluconate, Calcium D Saccharate, Water for Injection

Principle: Calcium Gluconate injection is a sterile solution of calcium gluconate in water for injection. Not more than 5% of calcium gluconate may be replaced with a suitable calcium salt as a stabilizing agent.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Calcium Gluconate	9.65gm		
2	Calcium D saccharate	0.35gm		
3	Sterile water for injection I. P	100ml		10ml

Calculation:

Procedure:

Weigh the desired amount of calcium gluconate and calcium D saccharate. At first mix the calcium gluconate and water for injection in presence of heat. Then calcium D saccharate is dissolved in above solution. Then cool it and filter it.

Dose: 1 to 2 gm

Uses: Treat conditions arising from calcium deficiencies such as hypocalcemic tetany, hypocalcaemia related to hyperparathyroidism, and hypocalcaemia due to rapid growth or pregnancy.

Storage: It should be store in glass ampoules.

Label:

CALCIUM GLUCONATE INJECTION I.P **10ml**	
Composition: Calcium Gluconate Calcium D saccharate Sterile water for injection I. P	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Calcium replenisher	
FOR INTERNAL USE ONLY	
Use: Treat conditions arising from calcium deficiencies **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-18 Date:

Aim: To prepare and submit 10 Tetracycline Capsule I.P

Reference:

- ✓ Dr. Kastur P.V., Gokhale S.B., Parakh S.R., Hasan S.A. Practical Pharmaceutics.
- ✓ Nirali Prakashan, August 2019, 26th Edition.Mumbai;8.3-8.4
- ✓ Indian Pharmacopoeia.

Requirements:

Apparatus Required: Mortar & pestle, weigh balance and spatula.

Chemical Required: Tetracycline, Starch,Talc.

Principle:

Capsule may contain one or more medicaments with or without excipients. The content of the capsule may be solid, liquid or paste. If quantity of the drug or drug is insufficient to fill the capsulethen diluents is used to increase the bulk. After mixing the drug with diluents appropriate size of a capsule is selected for filling.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Tetracycline	250mg		
2	Starch	25mg		
3	Talc	25mg		For 10 tabs

Calculation:

Procedure:

- ✓ Weigh the required quantity of drug and other excipients.
- ✓ Moisture content should be less than 1.5%.
- ✓ Starch should be dried and sieved through 100*, moisture less than 1.5%.
- ✓ Talcum should be dried and sieved through 100S, moisture less than 1%.
- ✓ Mix all the ingredients uniformly using mortar and pestle.
- ✓ Empty capsule shells of number "0" is selected and for filling the content in capsule shell.
- ✓ Store capsules in air tight container.

Use: Antibacterial

Storage: Capsule should be stored in cool place with controlled humidity.

Dose: Tetracycline is taken by mouth as a capsule or liquid, typically two to four times a day for seven to 14 days.

Label:

TETRACYCLINE CAPSULE I.P	
Composition: Tetracycline Starch Talc	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Antibacterial	
FOR INTERNAL USE ONLY.	
Use: Antibacterial **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-19 Date:

Aim: To prepare and submit 10 Paracetamol Tablet.

Reference:

- ✓ Dr. Kastur P.V., Gokhale S.B., Parakh S.R., HASAN S.A. Practical Pharmaceutics- 1, Nirali Prakashan, August 2019,26th Edition.Mumbai;9.11
- ✓ Indian Pharmacopoeia.

Requirements:

Apparatus Required:

Mortar and pestle, beaker, sieve No 10, tablet punching machine, hot air oven

Chemical Required:

Paracetamol, lactose, dry starch, magnesium stearate, talc.

Principle:

Paracetamol has analgesic and antipyretic properties but it has no useful anti- inflammatory properties. Paracetamol is readily absorbed from the gastrointestinal tract. Paracetamol is categorized under BCS classification ii tablets are solid dosage forms containing one or more drugs with or without excipients, prepared by compression. It provides greatest dose precision and least content variability. Inert materials employed in addition to active ingredients are collectively called tablet additives.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Paracetamol	125mg		
2	lactose	375mg		
3	Starch	48mg		
4	Talc	40mg		
5	Magnesium Stearate	12mg		
6	5% starch	Q.s.		

Calculation:

Procedure:

The tablets were granulated using wet granulation method as follows.

Paracetamol, lactose and half the quantity of starch were weighed and mixed thoroughly. It was granulated using 5% starch mucilage as binding agent and passed through no.10 mesh screen. The obtained the granules were dried at 55°c for 1 hr. After drying, dry screening was done using no.22 mesh screen. The rest of the starch powder along with talc and magnesium stearate were added and mixed. These granules were compressed into tablets on a 16station cad mach rotary tablet machine (12mm).

Use: Analgesic, antipyretic, anti- rheumatic.

Dose: 650mg to 1000 mg every 4 hour not exceeding 4000mg per day.

Label:

PARACETAMOL TABLET IP	
Composition: Paracetamol Lactose Starch Talc Magnesium Stearate	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Antipyretic	
FOR INTERNAL USE ONLY.	
Use: Analgesic, antipyretic, anti- rheumatic **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-20 Date:

Aim: To prepare and submit 20ml of shampoo.

Reference:
Dr. Kastur P.V., Gokhale S.B., Parakh S.R., Hasan S.A. Practical Pharmaceutics-1,NiraliPrakashan, August 2019,26th Edition.Mumbai;7.6

Requirements:

Apparatus Required:
Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker etc.

Chemical Required:
Coconut oil, Castor oil, Potassium hydroxide, Glycerol, Perfume, Borax, Purified water

Principle:
The function of shampoo is to clean hairs and to remove dirt, dust and sebum from the surface. It also leaves hair in soft, lustrous and manageable condition. If soap is used for cleaning the hair afterdrying gives electrostatic fly while combing. Shampoo removes this drawback and leaves the conditioning effect.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Coconut oil	18% v/v		
2	Castor oil	4%v/v		
3	Potassium hydroxide	5.3%w/v		
4	Glycerol	4%v/v		
5	Perfume	0.2%v/v		
6	Borax	0.5%w/v		
7	Purified water	68%v/v		20ml

Calculation:

Procedure:

In a beaker heat coconut oil, castor oil with potassium hydroxide and little quantity of water-on- water bath. In the remaining water add glycerol. Borax and perfume mix together. Mix both the liquid to form clear solution.

Use: The function of shampoo is to clean hairs and to remove dirt, dust and sebum from thesurface
Storage: Stored in well closed air tight container.

Label:

<table>
<tr><td colspan="2">SHAMPOO

20ml</td></tr>
<tr><td>Composition:
Coconut oil
Castor oil
Potassium hydroxide
Glycerol
Perfume
Borax
Purified water</td><td rowspan="2">BATCH NO.: MFG. DATE:

MFG. LIC NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Cleaning hair</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: It is used as a clean the hairs and to remove dirt, dust and sebum from the surface

Storage: Stored in a well closed container at a temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-21 Date:

Aim: To prepare and submit 30gm of cold cream.

Reference:

- ✓ Gupta A.K., Jain V.K., Pharmaceutics-I Practical Note Book, CBS Publishers & Distributors Pvt.Ltd.2020; 65
- ✓ Dr. KASTUR P.V., GOKHLE S.B., PARAKH S.R., HASAN S.A. Practical Pharmaceutics-1, Nirali Prakashan, August 2019, 26th Edition.Mumbai;6.3

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance sieve shaker, China dish, water bath.

Chemical Required:

White bees wax, liquid paraffin, borax, perfume, purified water

Principle:

Cream are the semisolid product used for protection of skin. for medicinal or beautification as a foundation for other cosmetics and for cleaning action. Thus, creams are for external use only the cold cream is used as protected to skin. Formula contains borax and bee wax. Borax soap is obtained by free in type bee wax and borax.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	White bees wax	20gm		
2	Liquid paraffin	60gm		
3	Borax	1gm		
4	Perfume	adequate		
5	Purified water	19ml		30gm

Calculation:

Procedure:

Bee wax and liquid paraffin are heated up to 70^0C on water bath to obtain molten mass. Dissolve borax in water and raise the temperature to that of waxy phase. Then gradually add the solution with constant storing to obtain the cream. Stirring should be vigorous initially but then be slowed down to avoid air entrapping. Perfume it suitably and then pours in suitable container.

Storage:

Stored in well closed air tight container to avoid dehydration. Collapsible tubes may also be used.

Use: It is used as emollient and protect to the skin.

Label:

COLD CREAM 30gm	
Composition: White bees wax Liquid paraffin Borax Perfume Purified water	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Emollient & Protective	
FOR EXTERNAL USE ONLY.	
Use: It is used as emollient and protect to the skin. **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-22 Date:

Aim: To prepare and submit 20gm lipsticks.

Reference:

- ✓ Dr. KASTUR P.V., GOKHLE S.B., PARAKH S.R., HASAN S.A. Practical Pharmaceutics-1, Nirali Prakashan, August 2019,26th Edition.Mumbai;7.4

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker etc.

Chemical Required:

Carnauba wax, Bee wax, lanolin, Cetyl alcohol, carmine, perfume, Castor oil

Principle:

Lipsticks are normally prepared with oil and wax base, stiff enough to form a stick with red staining dye or pigment. Perfume is incorporated with oil for suitably flavors the sticks. These are prepared by moulding and finally kept in the lipsticks case.

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Carnauba wax	10% w/v		
2	Bee wax	15%w/v		
3	Lanolin	5%w/v		
4	Cetyl alcohol	5%w/v		
5	Carmine	adequate		
6	Perfume	adequate		
7	Castor oil	65%w/v		20gm

Formula:

Calculation:

Procedure:

Mix carmine in castor oil. Melt all the waxes on the water bath at about 70^0C. Heat castor oil to the same degree of temperature and mix it with the melted waxes. Lubricate the mould using lubricating fluid. Pour the molten mass in the mould. Allow it to solidify and then cut the surface using sharp knife. Remove the sticks from the mould and fit it in the lipstick case.

Use: Apply with light pressure to the pre-moistened lips.

Storage: Stored in well closed air tight container.

Label:

<table>
<tr><td colspan="2">LIPSTICKS
20gm</td></tr>
<tr><td>Composition:
Carnauba wax
Bee wax
Lanolin
Cetyl alcohol
Carmine
Perfume
Castor oil</td><td>BATCH NO.: MFG. DATE:

MFG. LIC NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Pre-moistened lips</td><td></td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: Apply with light pressure to the pre-moistened lips.
Storage: Stored in a well closed container at a temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-23 Date:

Aim: To prepare and submit 30gm of vanishing cream.

Reference:

- ✓ Gupta A.K., Jain V.K., Pharmaceutics-I Practical Note Book, CBS Publishers & Distributors Pvt.Ltd.2020; 55
- ✓ Dr. KASTUR P.V., GOKHLE S.B., PARAKH S.R., HASAN S.A. Practical Pharmaceutics-1, Nirali Prakashan, August 2019,26th Edition.Mumbai;6.3

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, water bath, beaker, measuring cylinder etc.

Chemical Required:

Stearic acid, potassium hydroxide, Glycerine, perfume, purified water

Principle:

Creams are the semisolid product used for protection of skin. For medicinal or beautification as a foundation for other cosmetics and for cleaning action. Thus, creams are for external use only. The term vanishing is used for those cream and lotions which spread easily and disappear rapidly when rubbed on the skin.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Stearic acid	15% w/v		
2	Potassium hydroxide,	0.7% w/v		
3	Glycerine,	8%w/v		
4	Perfume,	adequate		
5	Purified water	100%		30gm

Calculation:

Procedure:

- ✓ Dissolve potassium hydroxide in little quantity of water.
- ✓ Add Stearic acid to it and heat until it is melted.
- ✓ Mix Glycerine with the remaining quantity of water and raise the temperature of the mixtureequal to the other phase.
- ✓ With slow but continuous trituration mix both the phases to form a smooth cream.
- ✓ Perfume it suitably.

Storage: Store in a well closed wide mouth containers or in collapsible tubes may also use.

Use: As foundation to other cosmetics and for beautification.

Label:

VANISHING CREAM 30gm	
Composition: Stearic acid Potassium hydroxide,Glycerine, Perfume, Purified water	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Cosmetics	
FOR EXTERNAL USE ONLY.	
Use: As foundation to other cosmetics and for beautification **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Report:

Exp. No.-24 Date:

Aim: To prepare and submit 20gm of face powder.

Reference:

- ✓ Dr. KASTUR P.V., GOKHLE S.B., PARAKH S.R., HASAN S.A. Practical Pharmaceutics-1,Nirali Prakashan, August 2019, 26th Edition. Mumbai; 7.1

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, sieve shaker etc.

Chemical Required:

Talc, kaolin, Chalk precipitated, Zinc stearate, Zinc oxide, Perfume and colour

Principle:

It is a skin cosmetic. In order to impart natural, fresh look to the facial skin, face powder is used. Itis applied with powder puff. The preparation has ability to complement skin colour by imparting avelvet like finish, it also masks the excessive shine of the skin due to secretion of sebaceous and sweat glands.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Talc	75%w/v		
2	Kaolin	5%w/v		
3	Chalk precipitated	5%w/v		
4	Zinc stearate	5%w/v		
5	Zinc oxide	10%w/v		
6	Perfume and colour	q. s		20gm

Calculation:

Procedure:

All the solid ingredients are finely powdered and sieve to remove any greety particles. Perfume is mix with precipitated chalk and macerated. Then all the ingredients are mixed as per ascending order of their weight. Ribbon mixer is used for large scale production. The powder is then transferin the plastic or tin container with sealed perforated mouth, closed with air tight lid.

Uses: As a cosmetic for facial skin

Storage: Stored in well closed air tight container.

Label:

<table>
<tr><td colspan="2">FACE POWDER
20gm</td></tr>
<tr><td>Composition:
Talc
Kaolin
Chalk precipitated
Zinc stearate
Zinc oxide
Perfume and colour</td><td rowspan="2">BATCH NO.: MFG. DATE:

MFG. LIC NO.: EXPIRY DATE:</td></tr>
<tr><td>Category: Cosmetic</td></tr>
<tr><td colspan="2">FOR EXTERNAL USE ONLY.</td></tr>
<tr><td colspan="2">Use: As a cosmetic for facial skin
Storage. Stored in a well closed container at a temperature not exceeding 25^0C</td></tr>
<tr><td colspan="2">MFG BY: ABCD Batch: Roll No.:</td></tr>
</table>

Report:

Exp. No.-25 Date:

Aim: To prepare and submit 20gm of Toothpaste.

Reference:

1. Mithal BM, Saha RN, A Handbook of cosmetics, 1st Edn, Vallabh Prakashan, 2000

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, Beaker, Pipette etc.

Chemical Required:

Di calcium Phosphate, Sodium Lauryl Sulphate, PEG, Glycerine. Sodium saccharine, Gumtragacanth, Peppermint oil, water

Principle:

Dentifrices such as toothpastes, tooth powders and tooth gels are meant for the cleaning the surfaceof the teeth by removing the food debris and plaque adhered to surface of the teeth which is the main cause for tooth problems.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1	Di calcium Phosphate	45gm		
2	Sodium Lauryl Sulphate	1.2gm		
3	PEG	5.9gm		
4	Glycerine	30gm		
5	Sodium saccharine	0.5gm		
6	Gum tragacanth	2gm		
7	Peppermint oil	q. s		
8	Water	q. s up to 100gm		20gm

Calculation:

Procedure:

Mix gum tragacanth and humectants with water. Add di calcium phosphate with above mixture. Flavor and SLS were gently added with stirring. Now toothpaste is ready and ready to go for labeling**.**

Uses: Cleaning the surface of the teeth

Storage: Stored in well closed air tight container.

TOOTHPASTE 20gm	
Composition: Di calcium Phosphate, Sodium Lauryl Sulphate, PEG, Glycerine. Sodium saccharine, Gum tragacanth, Peppermint oil, water	**BATCH NO.:** **MFG. DATE:** **MFG. LIC NO.:** **EXPIRY DATE:**
Category: Dentifrices	
FOR INTERNAL USE ONLY.	
Use: Cleaning the surface of the teeth **Storage:** Stored in a well closed container at a temperature not exceeding 25^0C	
MFG BY: ABCD Batch: Roll No.:	

Label:

Report: