AmbujaNeotia

THE NEOTIA UNIVERSITY

ज्ञानम् आत्म प्रदीपाय

I SEMESTER (1st year B.Pharm)

PHARMACEUTICS-I

PRACTICAL LAB MANUAL

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Pharmaceutics-I Practical

EXPERIMENT NO- 1.
Preparation of Simple syrup I.P
Requirements-
Apparatus- Beaker, Funnel, Glass rod, Measuring cylinder, Mortar & Pestle, Water bath, Weight box.
Chemicals- Sucrose, Purified water.
Formula,

Sucrose	66.7 gm
Purified water, sufficient to produce	100 gm

Procedure-

I. Weigh accurately required quantity of sucrose & transfer to the beaker.
II. Add small weighed quantity of water to dissolve the sucrose & stirred with glass rod.
III. Heat the beaker to dissolve sucrose in water.
IV. Transfer the content to measuring cylinder.
V. Add the remaining quantity of water to make the final weight.
VI. Filter through muslin cloth if needed to remove insoluble impurities.
VII. Transfer the preparation to a suitable container, labelled it & submit.

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EXPERIMENT NO- 2.

Preparation of 15 mL of Compound Ferrous Phosphate Syrup B.P.C.-1968

Requirements-

Apparatus- Beaker, Capacious flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Percolator, Water bath, Weight box.

Chemicals- Calcium carbonates, Cochineal, Iron turnings, Orange flower water, Phosphoric acid, Potassium bicarbonate, Sodium phosphate, Sucrose, Purified water.

Formula,

Iron wire	4.3 gm
Phosphoric acid	48 mL
Calcium carbonates1	3.6 gm
Potassium bicarbonate	1 gm
Sodium phosphate	1 gm
Cochineal	3.5 gm
Sucrose	700 gm
Orange flower water	50 mL
Purified water q.s	1000 mL

Procedure-

I. **Preparation of solution of ferrous acid phosphate (Solution I)**
- Weigh accurately required amount of iron turnings & transfer in small capacious flask.
- Add half of the required volume of phosphoric acid & small amount of purified water to flask.
- Heat mixture in capacious flask on water bath until the iron dissolves.

II. **Preparation of solution of acid phosphate of calcium potassium & sodium (Solution II)**
- Triturate the required amount of calcium carbonate, potassium bicarbonate & sodium phosphate.
- Transfer them in small capacious flask, remaining required volume of phosphoric acid & small amount of purified water to capacious flask.
- Mixed the solution I & solution II & filter.

III. **Preparation of coloured syrup**
- Boil the cochineal in water for 15 minutes & add sucrose by continuous heat for next 15 minutes.
- Cool, strain & wash the strainer with purified water to produce 25 mL.

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IV. Preparation of compound ferrous phosphate syrup B.P.C

- Combination solution of ferrous acid phosphate, solution containing acid phosphates of calcium, potassium and sodium, cochineal syrup & orange flower water. Make up the final volume with purified water. Allow to stand for 48 hours & filter if necessary.
- Transfer the preparation to suitable containers, labelled it & submit.

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EXPERIMENT NO- 3.

Preparation of 15 mL of Paediatric Paracetamol Elixir B.P.C

Requirements-

Apparatus- Beaker, Volumetric flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Percolator, Water bath, Weight box.

Chemicals-

Paracetamol, Ethanol (90%), Propylene glycol, Raspberry juice, Chloroform spirit, Invert sugar, Amaranth solution, Glycerine.

Formula,

Paracetamol	24 gm
Ethanol (90%)	100 mL
Propylene glycol	100 mL
Raspberry juice	25 mL
Chloroform spirit	20mL
Invert syrup	275 mL
Amaranth solution	2 mL
Purified water q.s	1000 mL

Procedure-

I. Mix chloroform spirit, ethanol (90%) & propylene glycol.
II. Add paracetamol to this mixture & shake it.
III. Dilute raspberry juice with invert syrup & add in paracetamol mixture.
IV. Add the amaranth solution in required amount & shake well.
V. Add glycerine to make the final volume in measuring cylinder.
VI. Filter the preparation from muslin cloth if needed.
VII. Transfer the preparation to suitable containers, labelled it & submit.

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EXPERIMENT NO- 4.

Preparation of 15 mL of Piperazine Citrate Elixir I.P

Requirements-

Apparatus- Beaker, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Weight box.

Chemicals-

Piperazine citrate, Chloroform spirit, Simple syrup, Orange oil, Glycerine

Formula,

Piperazine citrate	180 gm
Chloroform spirit	5 mL
Glycerine	100 mL
Simple syrup	500 mL
Orange oil	0.2 mL
Compound tartrazine solution	15mL
Purified water q.s	1000 mL

Procedure-

I. Dissolve piperazine citrate in sufficient amount of purified water.
II. Mix orange oil, glycerine, simple syrup, chloroform spirit & alcohol together & add to piperazine solution.
III. Filter it through muslin cloth & transfer to measuring cylinder.
IV. Make up the volume with purified water.
V. Transfer the preparation to suitable containers, labelled it & submit.

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EXPERIMENT NO- 5.

Preparation of 15 mL of Terpene Hydrate Linctus I.P.-1966

Requirements-

Apparatus- Beaker, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Weight box.

Chemicals-

Terpene hydrate, Methanol, Simple syrup, Ethanol (90%), Purified water

Formula,

Terpene Hydrate	50 gm
Glycerine	400 mL
Simple syrup I.P	100mL
Ethanol (90%)	300 mL
Orange oil	0.2 mL
Purified water q.s	1000mL

Procedure-

I. Dissolve terpene hydrate & orange oil in ethanol & mixed with glycerine.
II. Mixed simple syrup with above mixture.
III. Filter the preparation from muslin cloth if needed.
IV. Make up the final volume with purified water.
V. Transfer the preparation to suitable containers, labelled it & submit.

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EXPERIMENT NO- 6.

Prepare & Submit 15 mL of Iodine Throat Paint B.P.C-1968

Requirements-

Apparatus- Beaker, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle (glass), Weight box

Chemicals-

Iodine, Potassium iodide, Ethanol (90%), Peppermint oil, Glycerine, Purified water

Formula,

Iodine	25 gm
Potassium iodide	12.5 gm
Ethanol (90%)	40mL
Peppermint oil	4mL
Purified water	25mL
Glycerine q.s	1000mL

Procedure-

I. Transfer required amount of iodine & potassium iodide in glass mortar & triturate with pestle.
II. Transfer iodine solution to measuring cylinder & small amount of glycerine.
III. Dissolve Peppermint oil in ethanol (90%) & transfer to measuring cylinder.
IV. Make up the final volume with glycerine.
V. Filter if necessary from muslin cloth.
VI. Transfer the preparation to suitable containers, labelled it & submit.

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EXPERIMENT NO- 7.

Preparation of 15 mL of Aqueous Iodine Solution I.P.-1966

Requirements-

Apparatus- Beaker, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle (glass), Weight box

Chemicals-

Iodine, Potassium iodide, Purified water

Formula,

Iodine	50 gm
Potassium iodide	100 gm
Purified water q.s	1000 mL

Procedure-

I. Dissolve potassium iodide in water in glass mortar.
II. Add iodine in potassium iodide solution & triturate with glass pestle.
III. Make up the final volume with purified water.
IV. Transfer the preparation to suitable container, labelled it & submit.

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EXPERIMENT NO- 8.

Preparation of 15 mL of Magnesium Hydroxide Suspension B.P.-1993

Requirements-

Apparatus- Beakers, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Weight box, stand

Chemicals-Magnesium sulphate, Light magnesium oxide, Sodium hydroxide, Chloroform, Purified water

Formula,

Magnesium sulphate	47.5 gm
Magnesium oxide Light	52.5 gm
Sodium Hydroxide	15 gm
Chloroform	25 mL
Purified water q.s	1000 mL

Procedure-

I. Weighed accurately sodium hydroxide & magnesium sulphate dissolve separately in water.
II. Add magnesium oxide light in small amount of water for hydration in other beaker.
III. Triturate magnesium oxide in water to form a smooth cream.
IV. Add hydrated magnesium oxide slowly to above mixture with stirring.
V. Dilute the dispersion with water & mixed the dispersion properly.
VI. Keep the dispersion aside. Allow to clear the liquid & decant the clear supernatant.
VII. Wash the magnesium hydroxide precipitate to make it free sulphate & sodium ions.
VIII. Sulphate containing washing produce white precipitate with barium chloride solution, which disappears by addition of hydrochloric acid.
IX. Disperse the sulphate free precipitate in water & added chloroform to it.
X. Make the final volume with water.
XI. Transfer the preparation to suitable container, labelled it & submit.

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EXPERIMENT NO- 9.

Preparation of 15 mL Calamine Lotion I.P.-1966

Requirements-

Apparatus- Beakers, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Weight box, stand

Chemicals- calamine, zinc oxide, bentonite, sodium citrate, liquefied phenol, glycerine, rose water

Formula,

Calamine	150 gm
Zinc oxide	50 gm
Bentonite	30 gm
Sodium citrate	5 gm
Liquefied phenol	1.5 mL
Glycerine	50 mL
Rose water q.s	1000 mL

Procedure-

I. Dissolve sodium citrate in rose water.
II. Triturate calamine, zinc oxide & bentonite with sodium citrate solution to form smooth mixture.
III. Transfer the mixture to measuring cylinder & mixed liquefied phenol.
IV. Add glycerine with stirring & make the final volume with rose water.
V. Transfer the preparation to suitable container, labelled it & submit.

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EXPERIMENT NO- 10.

Preparation of 30 mL of Castor Oil Emulsion

Requirements-

Apparatus- Beakers, Conical flask, Funnel, Graduated pipette, Measuring cylinder, Mortar & Pestle, Weight box, stand

Chemicals- castor oil, purified water, gum acacia powder.

Formula,

Castor oil	8 mL
Purified water q.s	30 mL

Procedure-

It is produced by wet gum method. It is prepared by two step.

Preparation of primary emulsion

Castor oil is a fixed oil. The proportion of oil: water: gum for primary emulsion is 4:2:1.

I. Add calculate quantity of gum acacia powder in a mortar.
II. Measure the required quantity of water & triturate to form mucilage.
III. Add required quantity of castor oil in a small proportion to the mucilage & triturate rapidly in a uniform direction till a 'clicking' sound is produced & the product become 'milky white/nearly white'.

Preparation of final emulsion

I. Added remaining quantity of water to produce final volume.
II. Mixed it properly
III. Transfer the preparation to suitable container, labelled it & submit.

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EXPERIMENT NO- 11.

Preparation of 10 gm of Sodium Phosphate Effervescent Granules U.S.P

Apparatus- Graduated pipette, Mortar, Pestle, Sieve set, Tray, Beakers, Weight box

Chemicals- Sodium phosphate anhydrous, Citric acid, Sodium bicarbonate, Alcohol, Colour

Formula,

Sodium phosphate anhydrous	333.34 gm
Sodium bicarbonate	333.34 gm
Tartaric acid	160 gm
Citric acid	140 gm
Colour	q.s
Ethanol (90%)	q.s

Procedure-

I. Weighed the required quantity of all ingredients after calculation.
II. Mix the weighed powders in an ascending order of their weights starting with the small quantity.
III. Add colouring solution, taking great care to distribute it evenly.
IV. Moisten the powder mixture with ethanol which acts as a binder to form a cohesive mass.
V. Add extra ethanol if needed & mix continuously until the mass will retain its shape when moulded into a ball.
VI. Pass the cohesive mass through a sieve of suitable size (2 mm).
VII. Dry the moist granules at the temperature not exceeding 60° C for 45 minutes.
VIII. Submit the dried granules in suitably labelled pack.

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EXPERIMENT NO- 12.

Preparation of 5 Glycero-gelatine Suppositories

Apparatus- Beaker, China dish, Glass rod, Suppository mould, Mortar, Pestle, Sieve no. 120, Water bath, Weight box.

Chemicals- Gelatine, Glycerine, Liquid paraffin or Arachis oil, Purified water.

Formula,

Gelatine	20 gm
Glycerine	70 gm
Purified water q.s	100 gm

Procedure-

I. Clean the mould properly. Invert & cool the mould.
II. Heat the glycerine in china dish by keeping in hot water bath at 100°C.
III. Add the gelatine in water by stirring & transfer hot glycerine into gelatine solution in china dish.
IV. Heat gelatine solution & glycerine on boiling water bath until clear solution is obtain.
V. Adjust the final weight by evaporating water.
VI. Remove the skin formed on surface the base before pouring.
VII. Stir well & pour into a chilled mould carefully so that no air bubbles remain in suppository.
VIII. Remove the suppositories from mould after solidification cautiously.
IX. Wrap the individual suppositories in metal foil or wax paper. Pack in well closed jar, labelled it & submit it.

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