Oral Liquid Formulations

Experiment 5 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

1. Paracetamol Syrup

Aim

To prepare and evaluate paracetamol syrup using the assigned master formula.

Principle

Solvent composition and concentration must keep the prescribed paracetamol uniformly incorporated throughout storage.

Requirements

- Paracetamol and the assigned solvent/sweetener system
- Prescribed flavour/preservative where applicable
- Purified water and compatible oral container
- Balance, suitable mixing equipment, measuring glassware and compatible packaging.

Procedure

1. Read and calculate the assigned formula

Confirm the prescribed monograph or college master formula, ingredient grades, concentration basis and final batch size. Calculate a scale factor and record each ingredient quantity.

2. Prepare the ingredients

Dissolve the ingredient in the solvent portion stated in the authorised master formula.

3. Combine in the stated sequence

Combine gradually with the sweetened vehicle; avoid conditions that cause precipitation.

4. Complete the preparation

Cool where required and make up the final volume; inspect again after the assigned standing period.

5. Evaluate and package

Assess clarity or intended dispersion state; absence of delayed crystallisation; concentration and final volume. Record the actual yield. Use the compatible container, route label and storage conditions assigned for the preparation.

Observations and Record

Ingredient / check	Quantity or observation	Recorded value
Paracetamol and the assigned solvent/sweetener system	As assigned / observed	_____
Prescribed flavour/preservative where applicable	As assigned / observed	_____
Purified water and compatible oral container	As assigned / observed	_____
Final yield / appearance	oral liquid; clarity or intended dispersion state	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Scale factor = required batch size ÷ master-formula batch size.
- Example only: scaling a 100 mL formula to 25 mL gives a factor of 0.25. An ingredient stated as 4 g becomes 1 g. This is a scaling example, not the official composition.

Result

Preparation: ____. Batch basis: ____. Actual yield: ____. Quality observations: ____. Packaging and label: ____.

Precautions

- Use the assigned formulation and prescribed concentration basis; similar product names can represent different strengths.
- Evaluate the preparation after the specified equilibration or cooling stage.
- A teaching preparation is not released for patient use. Apply the assigned route, storage and use-period label.

Viva Questions and Answers

1. Why use a master formula?

It fixes the composition, processing sequence, tests and final quantity basis.

2. Why measure the yield?

Transfer loss or final adjustment can change the amount and concentration delivered.

3. How is the preparation evaluated?

clarity or intended dispersion state, absence of delayed crystallisation, concentration and final volume.

2. Aluminium Hydroxide Gel Antacid Suspension

Aim

To prepare and evaluate aluminium hydroxide gel antacid suspension using the assigned master formula.

Principle

A structured dispersion must redisperse consistently to support a uniform measured dose.

Requirements

- Assigned aluminium hydroxide gel
- Prescribed suspending/wetting components
- Oral vehicle and container
- Balance, suitable mixing equipment, measuring glassware and compatible packaging.

Procedure

1. Read and calculate the assigned formula

Confirm the prescribed monograph or college master formula, ingredient grades, concentration basis and final batch size. Calculate a scale factor and record each ingredient quantity.

2. Prepare the ingredients

Disperse the specified gel and any vehicle components separately as required.

3. Combine in the stated sequence

Blend the gel uniformly into the vehicle without persistent lumps.

4. Complete the preparation

Complete the volume, mix and assess settling and redispersion.

5. Evaluate and package

Assess homogeneity; redispersibility; assigned acid-neutralising performance. Record the actual yield. Use the compatible container, route label and storage conditions assigned for the preparation.

Observations and Record

Ingredient / check	Quantity or observation	Recorded value
Assigned aluminium hydroxide gel	As assigned / observed	_____
Prescribed suspending/wetting components	As assigned / observed	_____
Oral vehicle and container	As assigned / observed	_____
Final yield / appearance	oral suspension; homogeneity	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Scale factor = required batch size ÷ master-formula batch size.
- Example only: scaling a 100 mL formula to 25 mL gives a factor of 0.25. An ingredient stated as 4 g becomes 1 g. This is a scaling example, not the official composition.

Result

Preparation: ____. Batch basis: ____. Actual yield: ____. Quality observations: ____. Packaging and label: ____.

Precautions

- Use the assigned formulation and prescribed concentration basis; similar product names can represent different strengths.
- Evaluate the preparation after the specified equilibration or cooling stage.
- A teaching preparation is not released for patient use. Apply the assigned route, storage and use-period label.

Viva Questions and Answers

1. Why use a master formula?

It fixes the composition, processing sequence, tests and final quantity basis.

2. Why measure the yield?

Transfer loss or final adjustment can change the amount and concentration delivered.

3. How is the preparation evaluated?

homogeneity, redispersibility, assigned acid-neutralising performance.

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