SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai
Approved by Pharmacy Council of India, New Delhi.
Coimbatore -641035

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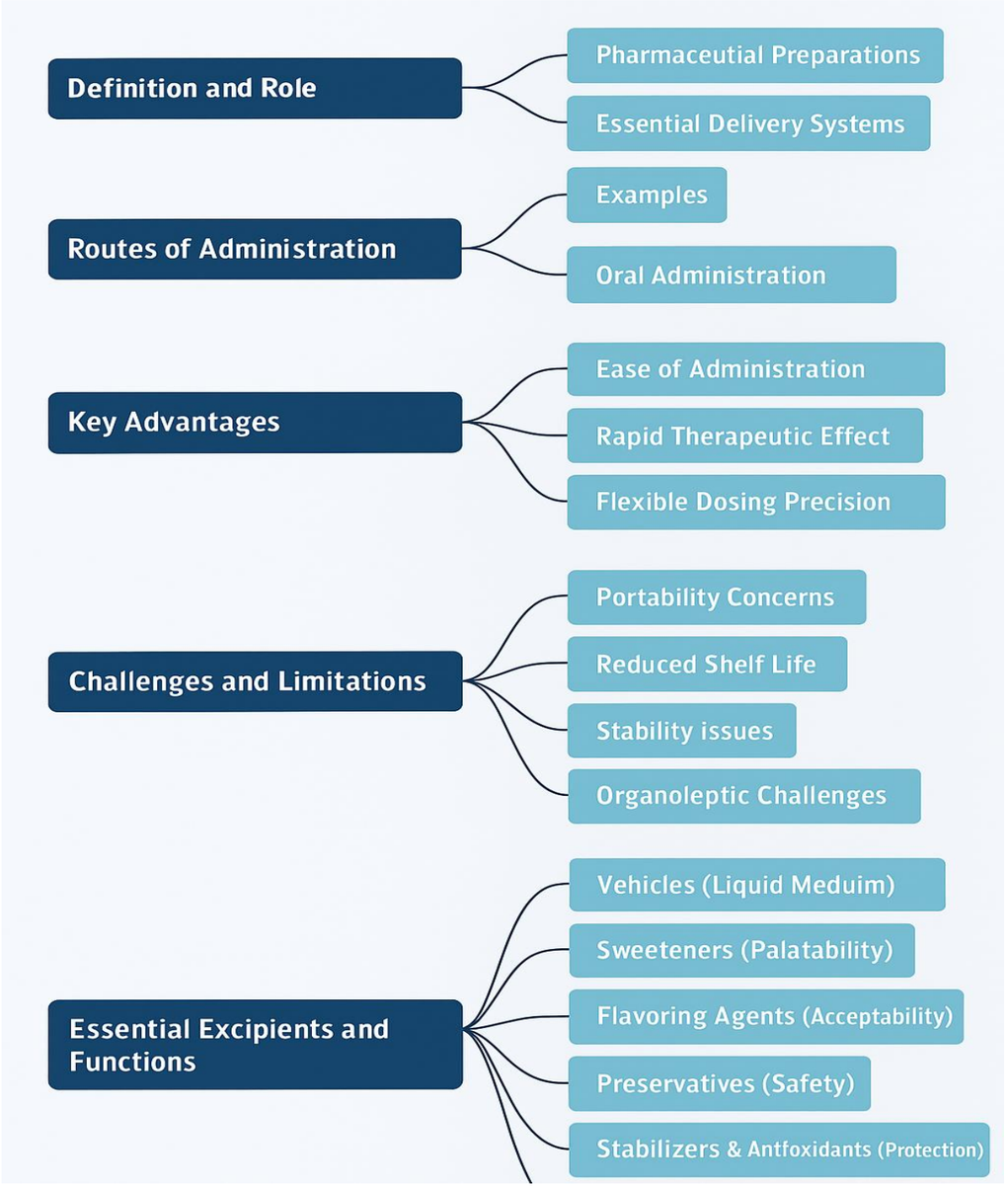
COURSE NAME: PHARMACEUTICS I

(BP 103 T) I YEAR / I SEM

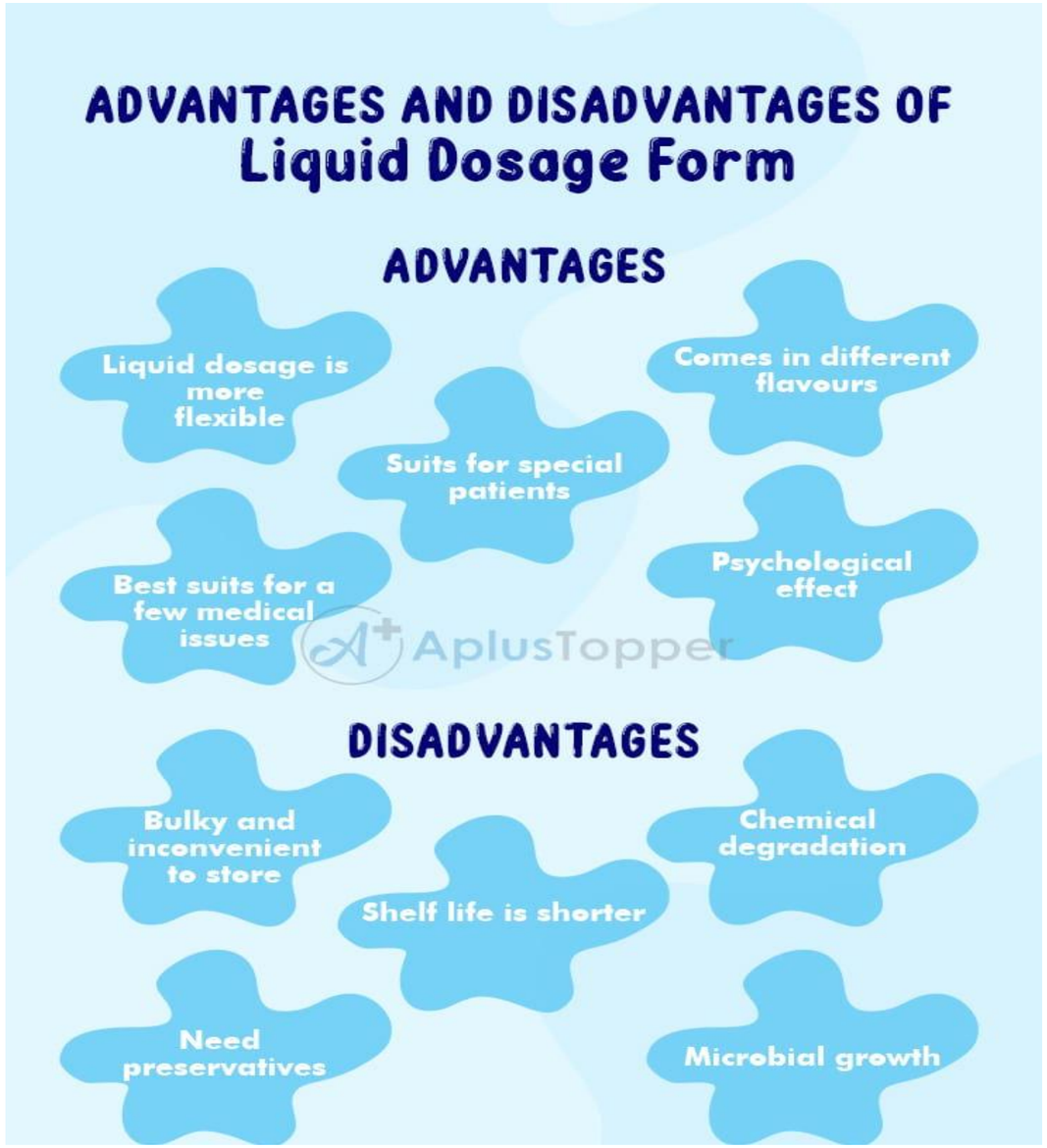
TOPIC: LIQUID DOSAGE FORMS

MIND MAP


Definition and Role
Pharmaceutial Preparations
Essential Delivery Systems
Routes of Administration
Examples
Oral Administration
Key Advantages
Ease of Administration
Rapid Therapeutic Effect
Flexible Dosing Precision
Challenges and Limitations
Portability Concerns
Reduced Shelf Life
Stability issues
Organoleptic Challenges
Essential Excipients and Functions
Vehicles (Liquid Meduim)
Sweeteners (Palatability)
Flavoring Agents (Acceptability)
Preservatives (Safety)
Stabilizers & Antfoxidants (Protection)

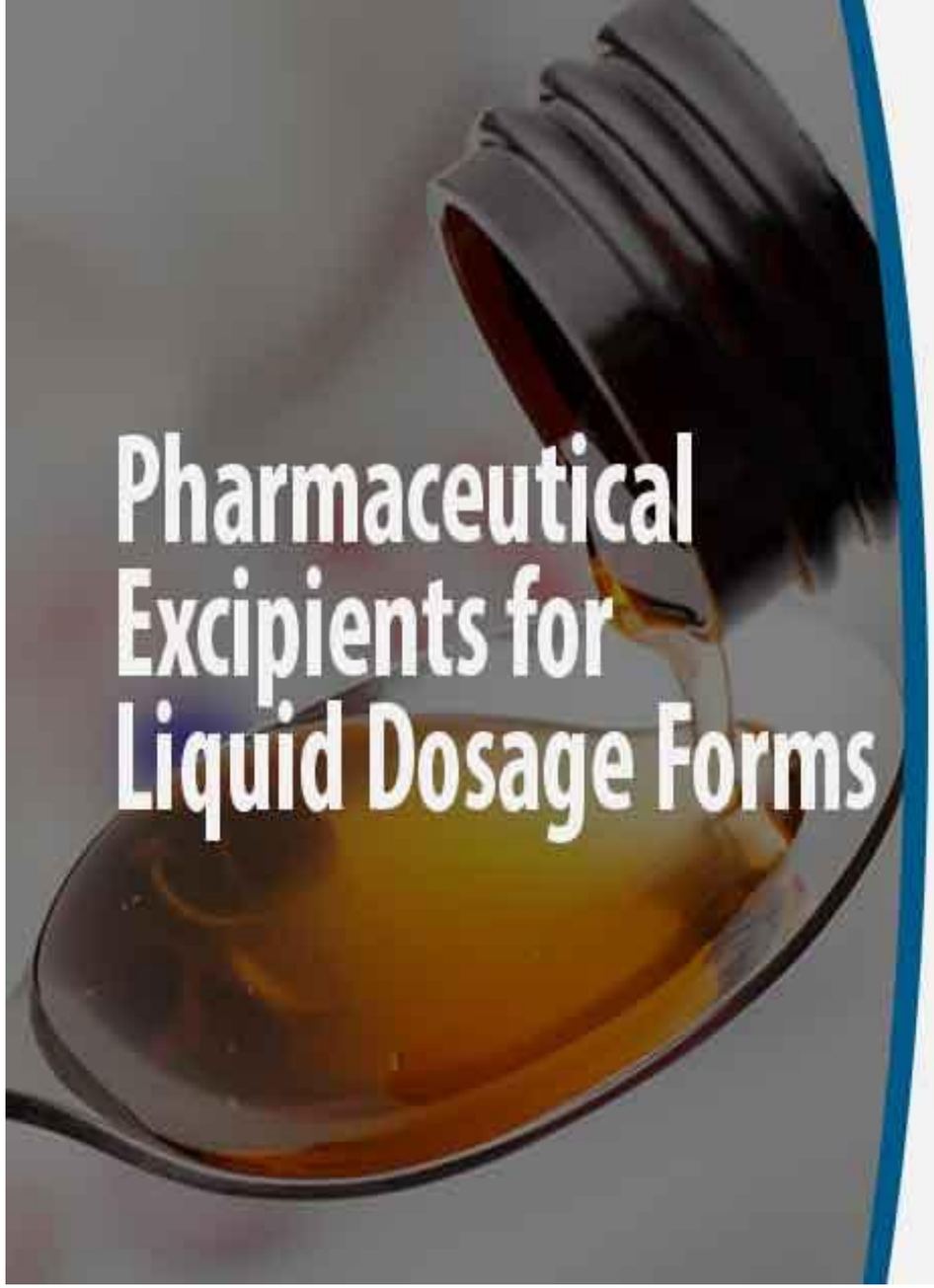
- LIQUID DOSAGE FORMS
  - MONOPHASIC LIQUID DOSAGE FORMS
    - INTERNAL
      - Syrups, Elixirs
    - EXTERNAL
      - Gargles, Enemas
  - BIPHASIC LIQUID DOSAGE FORMS
    - Suspension, Emulsion

KEY ADVANTAGES OF LIQUID FORMULATIONS



Excipients

Liquid Dosage Forms



Pharmaceutical Excipients for Liquid Dosage Forms

- Vehicles
- Co-solvents
- Surfactants
- Preservatives
- Viscosity modifiers
- Buffers
- Antioxidants
- Chelating agents
- Sweeteners
- Flavouring agents
- Colourants
- Antifoaming agents
- Humectants
- Emulsifying agents
- Flocculating agents

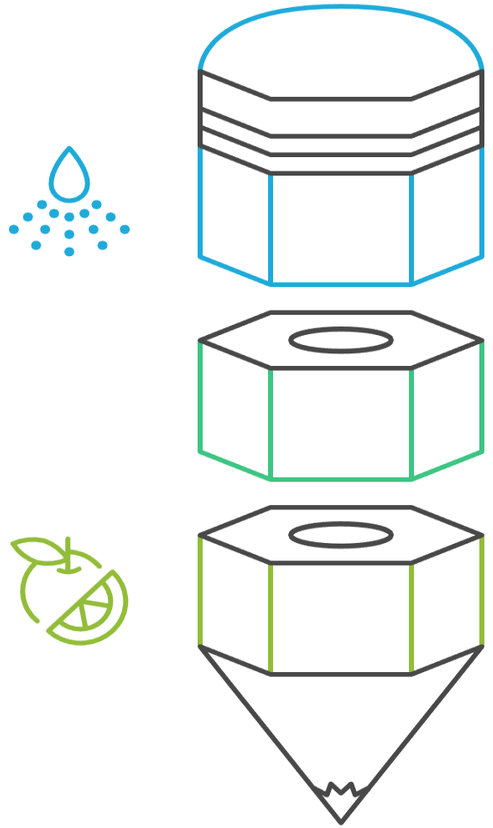
Key Components of Pharmaceutical Formulations

Vehicles

Provide medium for drug dissolution

Flavors

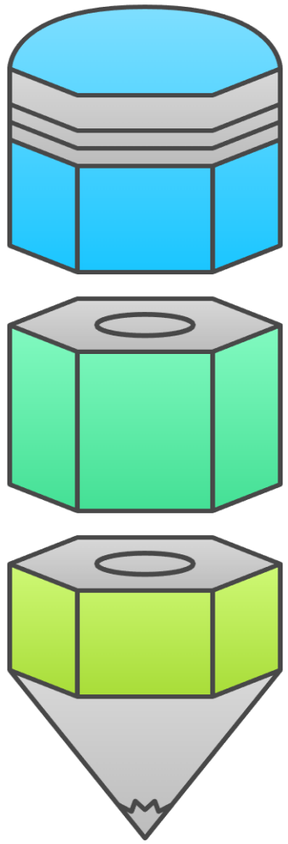
Mask unpleasant taste/odor, enhance acceptability



Sweeteners

Improve palatability and patient compliance

Essential Pharmaceutical Components



Preservatives

Prevent microbial growth and extend shelf life

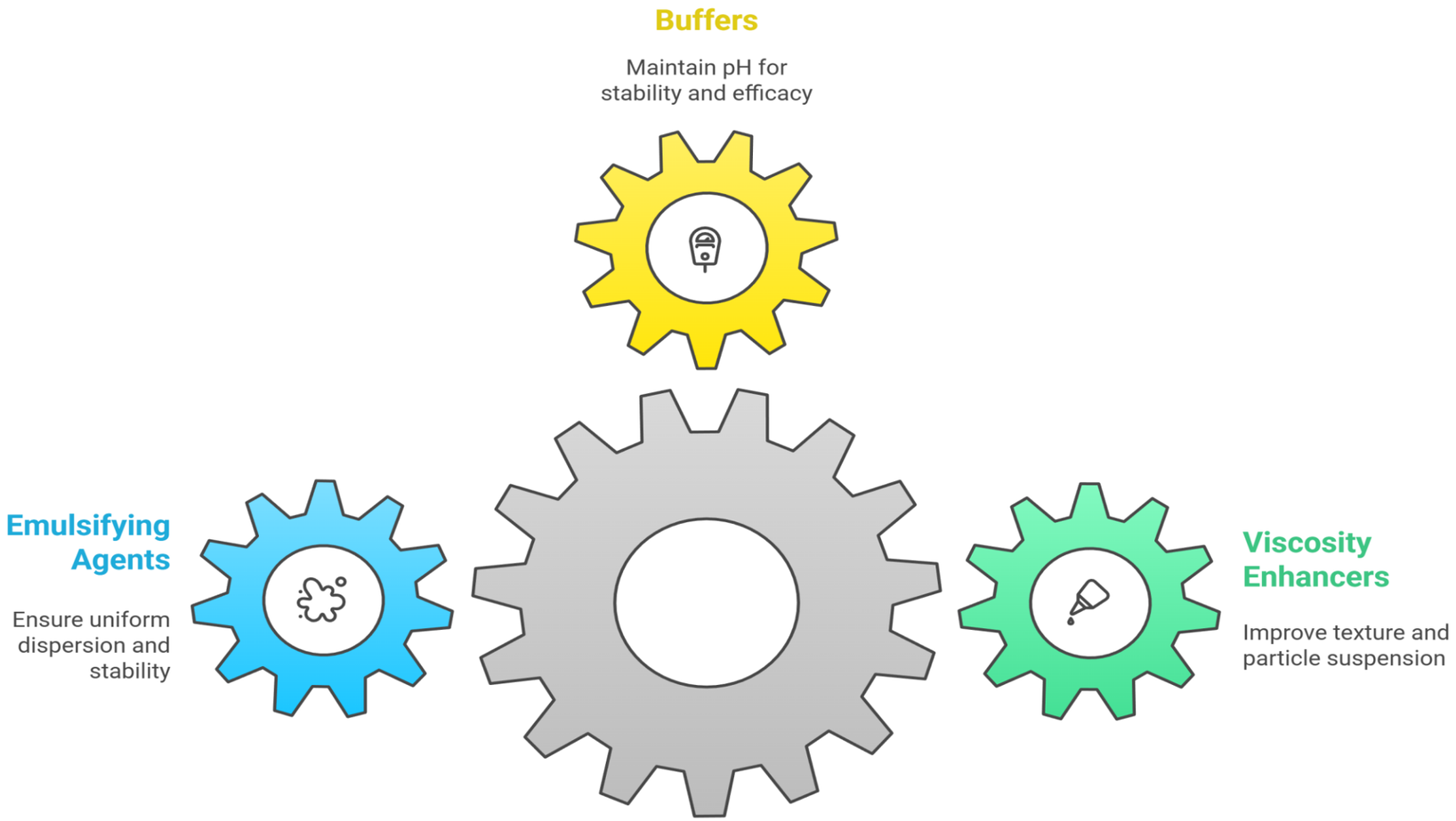
Antioxidants

Prevent oxidation and maintain drug integrity

Stabilizers

Protect drugs from degradation and maintain potency

Pharmaceutical Excipient Functions



ARTIFICIAL SWEETENER liquid

at a glance

* Water + SWEETENER+ Preservatives*

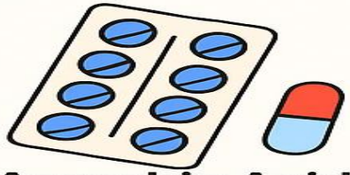
See additional ingredients below

Liquid Flavoring Agents or Flavor Oil

Flavoring Agents Solid Powde

Stabilizers, Viscosity Modifiers & Functional Agents

Stabilizers / Antioxidants



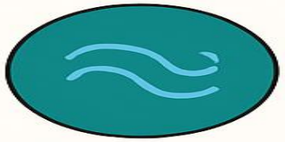
Ascorbic Acid (Vitamin C)

Powerful water-soluble antioxidant that prevents oxidation of active compounds. Effective against phenolic compounds.

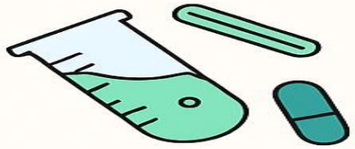
Tween 80

(Hgl valu/e: 1.15%)

HLB value: 15. Typical concentration: 0.1-5%.



Viscosity Enhancers



Hydroxypropyl Methylcellullose

Strong-synthetic polymer that controls viscoscity and act as suspending agents.

Tween 80 (Polysorbate 80)

HLB value: 15.

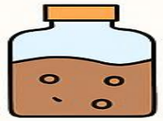
Typical concentration: 0.1-5%.

Maintains pH in range of 3.5--5 for optimal drug stability and solubility.

Emulsifying & Suspending Agents

Acacia & Tragacanth

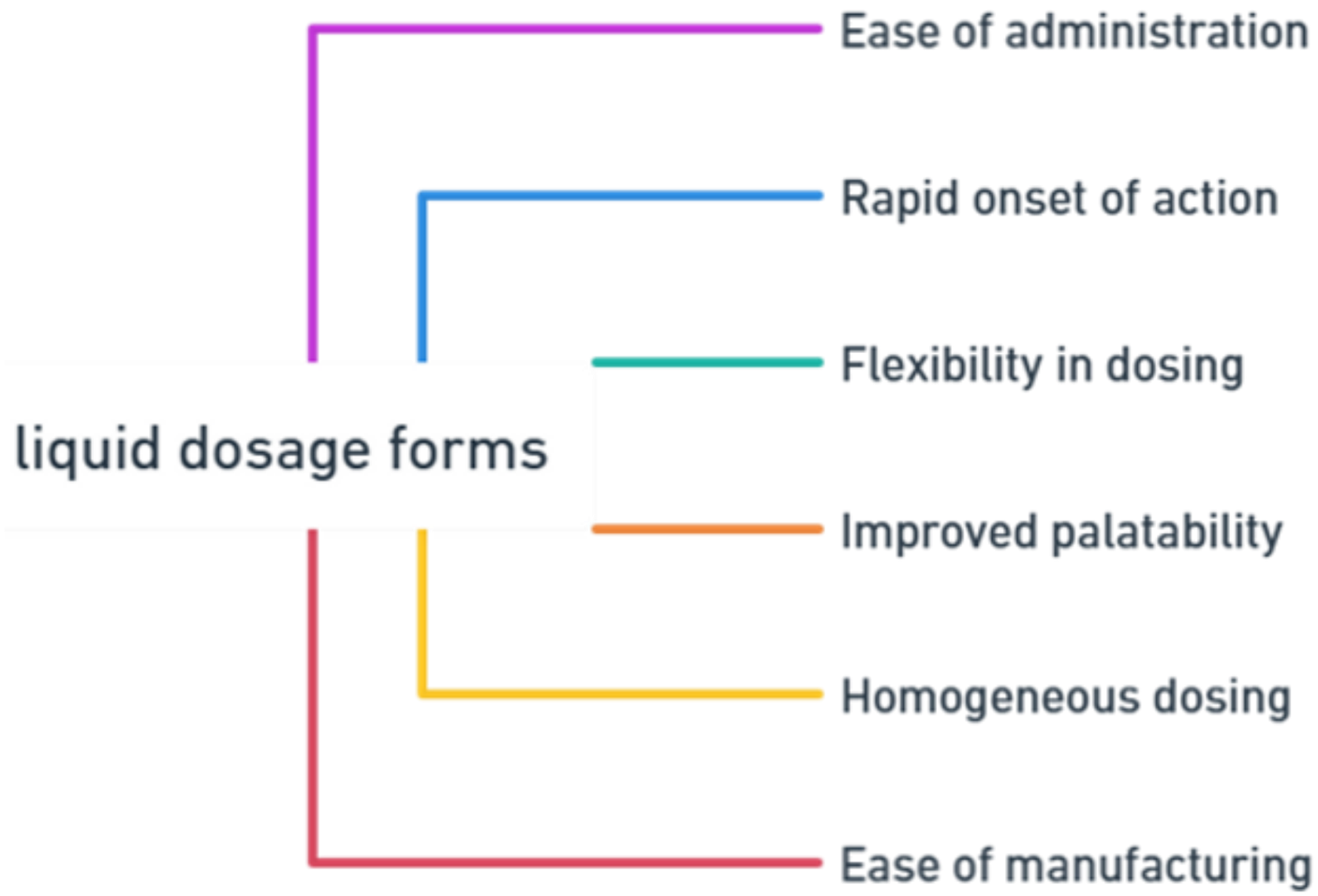
Natural plant gum that increase viscosity and act as suspending agents. Acacia has a mucoadhesive effect and Tragacant.



Bentonite

Natural clay mineral with excellent suspend-ing properties. Swel-lls in water to form thixotropic gel-like

Key Takeaways: liquid dosage forms



ASSESSMENT: LIQUID DOSAGE FORMS

1. Which of the following is an advantage of liquid do

A. Poor stability compared to solid dosage forms

B. Easy dose adjustment and faster onset of action

C. Unpleasant taste masking is easy

D. Difficult to swallow for pediatric patients

ASSESSMENT: LIQUID DOSAGE FORMS

2. List any **two disadvantages** of liquid dosage forms compared to solid dosage forms.

ASSESSMENT: LIQUID DOSAGE FORMS

3. Which of the following excipients is primarily u
preservative in liquid dosage forms?

A. Sorbitol

B. Methyl paraben

C. Glycerin

D. Sucrose

ASSESSMENT: LIQUID DOSAGE FORMS

4. Name any **two excipients** used as **solubilizing agents** in liquid formulations and explain

ASSESSMENT: LIQUID DOSAGE FORMS

5. Explain any **two solubility enhancement technique** used in the formulation of liquid dosage forms.

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THANK YOU