JRG College of Pharmacy

JRG COLLEGE OF PHARMACY

UNIVERSITY SOLVED QUESTION

WITH ANSWER

Year : 2022-2023

Subject : Pharmaceutics

Subject Code : BP-103T

Subject In-Charge : Monali Padhi & Adyasha Senapati

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Course: B.Pharm
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1st Semester Regular/Back Examination: 2022-23
SUBJECT: Pharmaceutics
BRANCH(S): B.Pharm
Time : 3 Hour
Max Marks : 75
Q.Code :L715

Answer Question No.1 (Part-1) which is compulsory, any seven from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions :** **(2 x 10)**

a) Why emulsion becomes milky white after trituration?
b) How you can calculate child dose according to young's formula?
c) What are the errors in prescription?
d) Give two examples of preservative mostly used in suspension.
e) Convert 30% alcoholic preparation to proof spirit.
f) What are the English meaning of b.i.d and q.s?
g) Define the term 'synergism'.
h) Why generally no preservatives are added to Simple Syrup?
i) What are Enemas?
j) Write the compositions of compound tragacanth.

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**

a) Explain the handling of prescriptions.
b) Suppositories.
c) Write a note on suspending agents.
d) Explain in detail about Indian pharmacopoeia.
e) Differentiate between cream and paste.
f) Factors affecting posology.
g) Write a note on powders for external usage.
h) Syrup
i) Write a note on gargles and mouthwashes.

Part-III

Long Answer Type Questions (Answer Any Two)

Q3 How suspension is different from emulsion? Discuss in detail about emulsion. **(10)**

Q4 What do you mean by Incompatibility? Classify it. Describe about therapeutical incompatibility with its remedy. **(10)**

Q5 Define semisolid dosage form. Write in detail about ointments. **(10)**

Q6 Define prescription with the help of an ideal example; describe the importance of all the parts of a prescription. **(10)**

2mark

1a) Why emulsion becomes milky white after trituration.

Ans trituration can increase the dispersion of the emulsion components leading to smaller droplets that scatter light more effective give the emulsion is milky appearance.

b) How you can calculate child dose according to young's formula?

Ans This formula is used for children having age below 12 year.

$$\text{Dose for child} = \frac{\text{Age in year}}{\text{Age} + 12} \times \text{Adult dose}$$

Ex Age of child = 8yr
Adult dose - 500mg calculate dose for child using young's formula

Ans

$$\text{Dose for child} = \frac{\text{Age in year}}{\text{Age} + 12} \times \text{Adult dose}$$

$$= \frac{8}{8+12} \times 500$$

$$= \frac{8}{20} \times \overset{25}{\cancel{500}} = 200\text{mg}$$

c) What are the errors in prescription?

Ans 1) Abbreviation

Abbreviation present a problem in understanding of the prescription order.

Ex asprin and ascorbic acid.

2) Name of the drugs

→ These are certain drugs whose name look or sound like those of other drug.

Eg digitoxin and digoxin

3) Dose

→ usually high or low doses should be discussed with the prescriber. pediatric dosage may present so, Pharmacist should consult pediatric posology to avoid an error.

4) Instruction for the patient

→ the Instruction for the patient which are given in the prescription are incomplete.

→ To minimize misunderstanding, the prescription must clearly indicate the amount of medicine to be taken; the frequency and timing of administration and the mode of administration.

5) Incompatibilities

→ It is critical to ensure that a given preparation has pharmacological or the therapeutic incompatibilities and that multiple medications recommended for the same patient do not interact in such a way that the patient is harmed.

→ certain antibiotic should not given with meal since it significantly decreases the absorption of the drugs.

d) Give two examples of preservative mostly used in suspension.

① methyl paraben-

It is used in suspensions help to prevent microbial contamination during storage and usage uses.

② Sodium benzoate

→ It is particularly effective in acidic environment and helps to inhibit the growth of bacteria, yeast and fungi.

e) convert 30 % alcoholic preparation to proof spirit

Ans proof strength = % strength of alcohol × 1.753 - 100

$= 30\% \times 1.753 - 100$

$= 52.59 - 100$

$= 47.41$

$= 47.41^{\circ}$ P.

f) what are the English meaning of b.i.d and q.s ?

Ans B.I.d - twice daily

q.s - quantity sufficient.

g) Define the term synergism ?

Ans when the effect of drug is increased by the combination of two or more drug is called synergism ?

Ex Ephedrine + Adrenaline.

h) What are enemas ?

Ans Enemas are a medical treatment where a liquid solution is inserted into the rectum to help evacuate the bowels. They are often used to relieve constipation.

k) Why generally no preservative are added to simple syrup?

Ans) When syrup is used, then no need to add preservative because simple syrup contains AIC to I.P 66.7 %1. w/w sucrose which having high osmotic pressure which prevent the growth of bacteria, fungi which are chief causes of decomposition in solution of vegetable matter.

i) Write the composition of compound tragacanth powder.

Ans) The primary components of tragacanth are

1) Tragacanthin
→ A water soluble polysaccharide fraction that swells in water to form a gel.

2) Bassorin
→ A water insoluble polysaccharide fraction that swells in water but doesn't dissolve

3) Arabinogalactan:-
Another polysaccharide that contributes to the viscosity and adhesive properties of the gum.

4) Xylan
→ A hemicellulose component.

5) Cellulose
→ A structural polysaccharide.

6) Proteins
minor amount that help stabilize the gum structure.

7) ~~Mineral and trace element~~

7) Mineral and trace element
-> such as calcium, magnesium, and potassium which are present in small quantity.

part-II

5 marks

2a) Explain the handling of prescription?

Ans 1) Receiving
2) Reading and checking
3) collecting and weighing the material
4) compounding / labelling and packaging.

Receiving

-> The prescription should be received by the pharmacist himself.
-> While receiving the prescription, he should not change any verbal expression because it may cause a impression on the patient that he is suprised or confused after seeing the prescription.

2) Reading & checking

-> on receiving a prescription, always check it that it is written in a proper format.
-> Every prescription must be examined behind the counter. If the pharmacist has any doubts about the prescription components or direction, he or she should speak with another pharmacist or prescriber.

Collection and weighing the material

→ Before compounding the prescription, collect all the essential components on the balance's left side.

→ After weighing the material it should be shifted to right hand side of the balance.

→ This a check of ingredients which have been weighed while compounding the label of every stock bottle should be read at least 3 times in order avoid any error.

Compounding, labeling and packing

→ compounding should be carried out in a neat place. All equipments required are cleaned and dried thoroughly.

→ only one prescription should be compounded at a time.

→ The size of the label should be proportional to the size of container.

→ The required suggestions / direction to the patient

b) Suppositories?

→ suppositories is a semisolid dosage form of medicament used for insert into body cavity like rectum, vaginal, nasal cavity, eurcone, urethral cavity.

→ It is designed to melt or dissolved in body Temprature. after that it releses the medicament & It will show local or systemic or mechanical action.

Types of suppositories

1) Rectal suppositories
2) Vaginal "
3) urethra "
4) nasal "
5) Ear cone.

1) Rectal suppositories

Rectal suppositories are intended for placement into rectum for systemic effect.

→ There are often prepared from Theobroma oil or cocoa butter.

→ In adult → 2gm
→ In children → 1gm
→ shape → cone or torpedo

2) Vaginal suppositories

→ Insert into vagina, sometimes referred as pessaries
→ They are bigger than rectal suppositories.
→ weight - 3-5gm.
→ shape → conical or rod shape.
→ used to treatment of vaginal infection.

3) urethral suppositories

→ Insert into the urethra / pencil shape
→ It is also known as urethral bougies.

	Length
In male → 4gm	100-150 mm
In female - 2gm	60-75 mm.

4) Nasal suppositories

→ Insert into nasal cavity. sometime is called as nasal bougies.
→ produced with glycerin base.
→ weight - 1gm
→ Length 9-10cm
→ Shape - cylindrical in shape.

Ear cone

→ Insert into ear.
→ It is also known as Auricular.
→ weight - 1gm
→ shape → cylindrical in shape

Advantages of suppositories

→ utilized with unconsious patient.
→ Compact dose form.
→ lower risk of side effect.
→ Treat people who have shiever nousea vomiting
→ used to prevent rectal & vaginal infection

Disadvantages

→ patient accpectance issue include suppositories not being appropriate for people with diarrhoea.
→ They must be stored at low temprature otherwise they will get melt.

c) write a note on suspending agent.

→ They are added in the suspension to disperse solid particles in continuous liquid phase.
→ They also helps to make suspense flocculated.
→ suspending agents are also called trickening agents are used to stabilize suspensions are hydrophilic colloid.
→ They help in lowering the sedimentation rate of particles in suspension.
→ The sedimenation rate is slowed down by increasing the viscosity of liquid vehicle.

→ They usually prevent caking at the base of an suspension. It could be resuspended by agitation.

→ It is majorly used as an excipients to help API stay suspended in formulation.

Ex bentonite, carbomer, tragacanth, sodium Alginate, carboxymethylcellulose.

d) Explain in detail about Indian pharmacopoeia.

Ans Pharmacopoeia is accepted as a book of standard

→ This word pharmacopoeia is derived from greek word.

pharmakon and poeia
(Drugs or medicine) ↓ to make

Indian Pharmacopoeia

→ In 1948 govt of India appointed Indian pharmacopoeia committ.

→ Indian Pharmacopoeia of committ under chairmainship Dr. B.N Bosh.

→ Father of Indian Pharmacopoeia was prof. mahadev Lal Schroof.

→ It is an official book of standards for drugs to define Identity, purity and strength for drug, imported, manufactured for sale, stock or distributed in india.

→ I.P is published by I.P.C (Indian Pharmacopoeia Commission)

→ It's head office is in Ghaziabad (U.P).

→ I.P is published by NISCAIR (National Institute of science communication and Information Resources.)

Importance of Pharmacopoeia

→ To maintain uniformity and control Standard of drugs available in the market.

→ Avoid Adulterad drugs.

→ It gives complete information of drugs and dosage form.

→ It acts as reference for laboratory, Industry and Academic institution.

Edition	year
1st edition	1955
2nd "	1965
3rd "	1985
4th "	1996
5th "	2007
6th "	2010
7th "	2014
8th "	2018
9th "	2022

Differentiate between cream and paste?

e) Differentiate between cream and paste.

Cream	Paste
-> water based semisolid preparation.	-> It is water based.
-> contain 50% oil and 50% water.	-> contain large amount of finely powdered solid.
-> Non greasy, rich and heavy.	-> less greasy than ointment.
-> Thick liquid preparation	-> more visrous than cream.
-> Easily spreadable.	-> less spreadable than cream.
-> Rapidly absorbed.	-> slowely absorbed.
-> penetrating power more.	-> less penetrating power than cream.

f) Factors affecting posology?

1) Age

-> the dose of drug is given according to age of patient.

-> children require less dose as compared to adult.

2) Sex

-> It also affect dose calculation because male & female have different criteria. For dose & in female at time of pregnacy, menstruation & lactation dosage is given carefully.

3) Body size

-> It influences the concentration of drugs. In the body heavy weight person want high dose compared to the person having low weight.

4) Route of administration

-> In case of I.V injection less dose is required
& In case of oral administration large dose is given

5) Presence of disease

-> If the patient have any disease in the body that affect the dose of drugs.

Ex: (1) In gastrointestinal disease like Alchlorohydria, absorption of aspirin decreases

6) Time of administration

-> In empty stomach drug responses quickly than filled stomach.

-> Absorption of drug is delayed by presence of food in stomach

7) Synergism

When the effect of drug is increased by the combination of two or more drugs it is called synergism.

Ex Ephedrine + Adrenaline

8) Antagonism

-> When the action of one drug is decreased by another drug then it is known as Antagonism. Ex Histamine + Adrenaline

9) Idiosyncrasy

-> Some person may produce abnormal reaction of drug after taking standard drug

Ex in some patient aspirin may cause Asthma.

10) Tolerance

→ some time, higher dose of a drug is required to produced a normal pharmacological action.

→ It is may be due to habit forming drug.

Q) write a note on powders for external usage.

Ans powder for external use are pharmaceutical preparation consisting of solid, loose, dry particles of varrying degree of fineness.

→ They are generally meant to applied on the outer body areas.

→ They basically includes.

1) Dusting powder
2) surgical powder
3) Dentrifices.

1) Dusting powder

→ Dusting powder are very fine, free flowing powders meant for application to unbroken skin.

→ These powders works as protectives, antiseptic & it is having antifungal property.

→ A good dusting powder includes.

1) Ease of flow
2) non- irritability
3) good- absorption
4) good - stability.

2) Surgical powder

-) These are also a type of dusting powder consist of sterile product intended to be used on open large wounds or non damage skin.

) Dentifrices

-) Dentifrices are tooth cleaning powders used with a tooth brush for the purpose of cleaning teeth.

Q) syrup ?

Ans It is a sucrose solution.

-> syrup is a concentrated soln of sugar or sucrose in water.

Advantages

-> It mask bitterest of the drugs.

-> It improves palatability (eat easily). so it increase patient Accpectance.

-) These are self preservative.

Disadvantages

-> Not suitable for Diabetic patient.

-> It has high calories. It also has the risk of dental caries.

-> Crystallization of the sugar can occur.

-> Dilute syrup can provide media for microorganism growth.

-> The dilute syrup require addition of preservative.

Formulation consideration

Ingredients	Formula	working formula
Sucrose	667 gm	66.7 gm
purified water	q.s 1000 gm.	q.s 100 gm.

i) write a note on gargles and mouthwashes.

Ans These gargles are aqueous solution used in the prevention or treatment of throat infection

-> usually these are treated in a concentrated solution with direction for the patient to dilute with warm water before ~~used~~ used

-> They brought in intimate contact with mucous membrane of throat and allow to remain in contact with it for few seconds before thrown out of the mouth.

Ex Phenol gargle.

Mouth wash

-> These are similar to gargles but are used for oral hygiene and to treat infection of the mouth.

-> Mouth washes are aqueous solution containing one or more active ingredients for used in contact with the mucous membrane of the oral cavity usually after dilution with warm water.

-> They may contains additive such as — alcohol, glycerin, synthetic sweetness, surfactants, colouring & flavouring agent.

→ Mouth washes are most often used for cleaning, refreshing or antiseptic action.
→ They are effecting in reducing bacterial concentration & odour in the mouth for short period of time.

Ex compound NaCl mouth wash
" ZnCl mouthwash

Part I - III

4) What do you mean by incompatibility? Classify: It Describe about therapeutic incompatibility ~~incompatibility~~ with it's remedy.

Ans When two or more ingredients are mixed together to prepare of medicine and an undesired change takes place which affect the physical, chemical and therapeutic properties of medicament then the phenomenon is called Incompatibility.

Types of pharmaceutical incompatibilities

1) physical Incompatibility
2) Chemical "
3) Therapeutic "

Physical Incompatibility

→ When two or more than two substance are combined together and a physical change takes place which results in the formation of an unacceptable product. Then this phenomenon is known as Physical Incompatibility.

-> physical incompatibility involves interaction beth two or more substance which leads to change in colour, taste, viscosity or appearance of product.

Chemical incompatibility

-> Chemical incompatibility is the result of change in chemical properties of two or more ingredients due to the chemical reaction occurs between them.

-> Chemical incompatbility results in the formation of a toxic or inactive dosage form.

-> If the chemical reaction between ingredients takes place immediatly then it is termed as immediate incompatibilties.

-> if the chemical reaction takes place over period of time then it is termed as delayed incompatibilities.

Therapeutic Incompatibilites

-> Therapeutic incompatibilites may be the result of prescribing certain drugs to the patient with intention to produce a specific degree of action but the nature or intensity of the action produced is different from that intended by prescriber.

Causes of Therapeutic incompatibilites

-> It may be occurs due to.

1) overdose / improper dose
2) improper dosage form.
3) contrandicated Drug
4) Synergistic and Antagonistic drug

Example of overdose

1) Codeine phosphate - - - 0.5gram.

Direction for pharmacist

1) make powder
2) send such 10 powder
3) 1 dose to be taken at bed time.

→ In the above prescription, physician write 500mg (0.5gm) instead of 5mg of codeine phosphate.

5) Define semisolid dosage form, write in detail about ointment?

Ans Semisolid dosage forms are topical preparation used to therapeutic, protective or cosmetic formulation function.

→ They are generally applied over the skin can also be applied nasally, vaginally or rectally.

→ Pharmaceutical semisolid dosage forms generally includes ointments, pastes, creams & gels.

Ointment

→ Ointment are homogenous translucent, viscous semisolid preparation intended for external application to skin or mucous membrane

Types of ointment

→ mainly ointment are divided into 2 types.

1) water insoluble ointment
2) water soluble Ointment

↓ Emulsifying ointment

↓ non Emulsifying ointment

Classification of ointment

- A/C to penetration
  - Epidermic ointment
  - Endodermic ointment
  - diodermic ointment
- A/C to therapeutic use

1) Epidermic ointment

→ ointments are meant for action on Epidermis for local effect.

→ It is mainly used for protective, antiseptic, parasitic cides, Antiinfectant.

Ex odomous cream.

2) Endodermic ointment

→ These ointments are meant for action on Deeper layer of cutaneous tissue.

→ Mainly used for emollient, stimulent & local irritant.

3) Diodermic ointment

→ These ointments are meant for deeper penetration and release medicament that pass through skin & produce systemic effect.

A/C to Therapeutic use

1) Antibiotic ointment
2) Antifungal "
3) Anti inflammatory "
4) Anti pruritic "
5) Astrigents
6) Counter irritant

1) Antibiotic ointment
-> It is used to kill or prevent microorganism
Ex Bacitracin, Neomycin.

2) Antifungal ointment
-> It is used to inhibit or kill fungi.
Ex Benzoic acid, salicylic acid.

3) Anti inflammatory ointment
-> It is used to relief inflammation or Allergic condition
Ex Hydrocortisone or its Acetate etc.

4) Anti Pruritic ointment
-> It is used to relief Itching.
Ex Benzocaine / coal tar

5) Astringent ointment
-> It causes contraction of the skin & decrease the discharge.
Ex Calamine, Tannic acid.

6) Counter-irritant ointment
-> It is applied locally to irritated the skin.
Ex oleoresin / Iodine.

Types of Ointment Base
-> They are 4 Types of Base.
1) Hydrocarbon Base
2) Absorption Base
3) water soluble Base
4) Emulsifying Base

1) Hydrocarbon Base / oleogenous Base

-> These Bases consist of animal fats, fixed oil, water soluble Hydrocarbon, silicon & waxes.

-> These are anhydrous greasing, non washable doesn't absorbed water.

-> These are used as protectant, emollient and vehicle for hydrolysable drug.

Ex white petroleum, soft paraffin, hard paraffin, Liquid paraffin.

2) Absorption Base

-> They are generally anhydrous substance which have the property of absorbing considerable quantity of water.

-> These base contains small amount of water.

-> they provide relatively less Emollient property than hydrocarbon base.

-> It is divided into 2 type.

A) non Emulsified Base Ex wool fat, Anhydrous lanolin, wool alcohol, bee wax.

B) water in oil Emulsion Base.

Ex lanolin (hydrous wool fat).

3) Water soluble Base

-> water soluble Bases are the polyethylene glycols (PEGs - Carbowax).

PEGs are relatively inert, nonvolatile, water soluble or water miscible liquid.

Ex PEG 400, PEG 6000, gelatin, tragacanth.

4) Emulsion Base

→ It is also called water removable or water washable or o/w Emulsion base.

→ Emulsion Bases are washable and are removable easily from the skin.

Preparation of ointment

1) Trituration/ Levigation method
2) fusion method.
3) Chemical reaction method
4) Emulsification method.

1) Trituration / Levigation method

→ It is most commonly used method for small scale manufacturing of ointment.

→ used when base is soft & medicament is insoluble in base.

Procedure

→ finely powder the solid medicament in mortar & pestle or ointment slab

↓

weigh required quantity of an ointment b

↓

Triturate solid medicaments with small amou of base

↓

Add remaining Base & mix uniform.

↓

Ointment so prepared pass through roller mill

↓

For large scale manufacture of ointment required mechanical mixtures.

2) Fusion method

→ This method is suitable when base is solid.

→ small scale - procelain dish is placed on water bath.

→ Large scale - carried out in large steam jacketed kettles.

Procedure

→ The ingredients & base are melted & properly mixed to obtain a uniform product.

→ Initially the ingredients of highest melting point is melted then remaining are added in decreasing order of melting point

↓

→ Mixture is removed from water bath & stirr to cool it.

Chemical Reaction method

→ This method is based on the Chemical Reaction both drugs & Ingredients of the base result in elegant and stable product like non staining iodine element.

Ex (1) Strong mercuric nitrate ointment

(2) oleated mercury ointment.

4) Emulsification method

→ In this method fats, oil, waxes are melted together on water bath at 70°C.

→ The aq soln added to melted bases with continuous stirring until product cool down. then ointment is prepared.

6) Define prescription with the help of an ideal example. describe the importance of all parts of a prescription.

Ans A prescription is a written order from a registered medical practitioner / physician to a pharmacist to compound & dispense a specific medication for the patient.

What does prescription includes

*) patient details direction for the pharmacist to prepare & dispense the medicament.
→ direction for the patients regarding administration of drugs.

Parts of prescription

1) Date
2) Name, age, sex, add. of patient
3) superscription
4) Inscription
5) subscription
6) signatura
7) Renewal Instruction
8) signature, RegNo & add. of prescriber

1) Date
→ Every prescription must bear the date on which the particular medicine are prescribed.
→ This helps the pharmacist to keep day to day patient record in chronologic order which helps the pharmacist or physician to refere the old case in future.

2] Name, age, sex & add. of the patient

-> It must be written on the prescription.
-> Name helps the pharmacist to identify the correct patient.
-> patient full name must be written instead of nick name.
-> Age of the patient becomes important in the case of pediatric & gediatric cases.
-> Because of the dose of drug in such cases due to their difference in ability to metabolism drugs
-> Hence dose of the drugs are calculated based on the age basis.
-> In some cases, weight, & height of the patients are also required.
-> Add. of the patient is generally record to contact the person at the later stage on to delivery the medication personally.

superscription

-> This part of the prescription is represented by the symbol Rx.
-> Now, a days It used as abbreviation for the latin term "Take Thou" which means to take.

Inscription

-> This is considered as the main part of the prescription order.
-> It contains the names quantities of the prescribed ingredient.

→ The name of each ingredients is written on a separate along with its quantity.
→ In complex prescription is divided as 3 parts as base / adjuvants, vehicle.
→ Now a days, the majority of the drugs are prescribed which are already in a suitable formulation.

Subscription :-
→ This part of prescription containing direction of the prescriber to the pharmacist regarding the type and compounding of dosage form
→ This is important because, dose of drugs also depends on the type of dosage form.

Signature
→ This part of the prescription contains direction of pharmacist to the patient regarding the administration of the drugs.
→ It is generally represented "sig" on the prescription.
→ The instruction may include
1) The quantity to be taken.
2) The frequency of administration.
3) The mode of administration.

Renewal instruction
→ The prescriber Indicate on every prescription wheather It may be renewed if so how many times.

-> It is very important for narcotics & other habitat forming drugs to prevent its misuse :

signature, address & Register number of prescriber

-> The signature and reg. No of the prescriber turns the prescription into legal and authentic order to the pharmacist.

-> Reg. No is importance in prescription containg narcotic drugs.

Q3) How suspension is different from emulsion ? discuss detail about Emulsion

Ans In a suspension we can find two substances or ~~any~~ two phase or matter like solid, liquid At the same time an emulsion consist of only two immiscible liquids.

Emulsion

-> An emulsion is a biphasic liquid dosage form in which two immiscible liquids are mixed together with the help of Emulsifying agent.

-> Emulsion generally contain two phases.
1) dispersed phase and other one is continous phase media.

Ex oil in water (milk)
water in oil (butter)

Types of Emulsion

-> these are basically three types.
1) oil in water Emulsion (o/w)
2) water in oil Emulsion (w/o).
3) multiple Emulsion

oil in water. Emulsion

→ These are the emulsion in which oil is present as dispersed phase and water is present as continous phase.

water in oil emulsion

→ These are, emulsion in which water is present as dispersed phase and oil is present as dispersion medium.

multiple emulsion

→ They are, two types

1) oil in water in oil (O/W/O)

2) water in oil in water (W/O/W)

Advantages

→ Easy masking of unpleasant taste.

→ Emulsion increase the absorption of oil when taken internally.

→ used for many external preparation.

→ They are generally cost effective.

Disadvantages

→ packing, handling and storage is difficult.

→ Thermodynamically unstable.

→ leads to creaming and cracking.

→ leads to phase inversion.

Identification test for emulsion

→ The following identification test are performed to check whether the emulsion is O/W or W/O.

1) Dilution Test
2) Conductivity Test
3) Dye Test
4) Fluorescent test.

Dilution Test

→ The test is based upon the solubility of ext phase of emulsion.
→ As let we take unknown emulsion and we added water in it. then if changes occurs then it is known as o/w emulsion.
→ if we add oil in it. then we will see separated phases and it is known as w/o type of emulsion.

Conductivity Test

→ the test is based upon the principle that water is a good conductor of electricity
→ if the emulsion is o/w then test will be positive and bulb glow and if the emulsion is w/o test will be negative and bulb doesn't glow.

Dye test

→ In this Test emulsion is mixed with water soluble dye such as amaranth and the changes observed.
→ if the continuous phase shows Red colour and dispersed globules shows colourless. means emulsion is o/w types.
→ if the continous phase appears colourless and dispersed globules shows red colour, then emulsion is w/o type.

Fluorescent Test

→ oil given fluorescent under uv light. while water doesn't. Now if under u.v observation emulsion gives fluorescent then it is w/o and if not then o/w