# *1. Over View:-*

*a. Target Population:*

\* To Student of Institute of Medical Technology / AL- Mansoor / 2nd. Class.

*b. Rationale:-*

This is Avery Important Subject must be studied by Student to know the science that deal with the drugs and to know Medical prescription parts and the most important definition used in this field.

*C. Central Ideal:-*

1. Pharmacy is branch of medicine Science

2. Know the most important term used in pharmacy.

3. History of Drugs and Source of medicine from Vegetables and animals.

4. Prescription explanation with its parts.

*d. Instructions:*

1. Study the overview of the module carefully.

2. Recognize the performance objectives of this module.

3. Do the pre – test & if you get:

a. 9 or more, so you do not need to study this module &

Review with your teacher or master.

b. Less than 9, so you need to continue studying this module

Precisely .

4. After Study the first module, do the post-test, So if you get:-

a. 9 or more remove to study the Second module.

b. Less than 9, so go over the Study of the first module or any

Part of it, and then do post-test agama.

*2- Performance Objectives:-*

When the student finished this module he will be able to:-

1. Know the most important medical terms.

2. Classify the ports of prescription.

3. The contribution of pharmacists.

4. The Extended role of pharmacists.

*3- Pre-Test:-*

Q1: Choose the correct answer by encircle on the right letter:-

(1degree for branch)

1. Pharmacy is branch of medicine science deals with:

a. drugs b. animals c. human d. metals

2. Agents intended for use in the diagnoses treatment or

Prevention of disease in man or animals called:

a. tablet b. capsule c. injection d. drugs

3. The oldest written prescription on clay done by:

a. Egypt b. Sumerian c. Roman d. Babylon

4. Dispensing is concerned with the know Ledge of:

a. Dosage b. Anatomy c. prescription d. aprofix

5. An order from doctor, dentist or veterinary surgeon written

Called:

a. medicine b. human c. aprofix d. prescription

6. The prescriber signature and address are written on:

a. Prescription d. drug c. medicine d. Dosege

7. The Date on which the prescription was written is:

a. important d. good c. bad d. dose

8. Aprofix is the sign:

a. Ry b. X-ray c. Gr d. Ju

9. Quantities of medicine in prescription written as:

a. Official Bp b. Apropetary product

d. Special formation c. all of them

10. Prescriphon written in Latin in order be under stood by:

a. patient b. doctor c. pharmacist d. all of them

*Note:-* Check your answer on key page 13.

*4. Introduction to pharmacy*

Pharmacy is branch of medicine science deals with

Preparation and dispensing of drugs.

For dispensing is concerned with the preparation and supply

Of medicines it requires extensive Knowledge of:

1. Stability of medicine

2. Principle of compounding

3. Dosage

4. Chemical, physical of therapeutic incompatability

5. Packing method

6. Labelling procedure

7. Legal requirements

Q1: Enumerate the parts of presciption?

*Note:-* Check your answer on key page 14

*Important Medical Terms in pharmacy*

*Pharmacy:-* Is branch of medicine science deals with preparation & dispensing of drugs

*Drugs:-* An agent intended for use in the diagnosis , treatment or prevention of disease in man or animal.

*Dispensing:-* Is concerned with the preparation and supply of medicines.

*Prescription:-* Is an order from a doctor , dentist or veterinary surgeon for the supply of a medicine, dressing or surgical appliace to patient.

*Aprofix:-* This is the sign Rx , which is an instruction to the pharmacist . It is derived from R . an addreviation for the Latin word (recipe).

*British pharmacopeia (B.P.):-* Published on the recommendation of the medicines. Commission pursuant to the medicine

Act.1968. this is primarily a book of standards.

Q2: Define the following: British Pharmacopeia, Drugs,

Pharmacy , presciption.

*Note:-* Check your answer on key answer page 14.

*Note:-* Check your answer on key answer page 15.

*(Part of Prescription)*

\*The patient's name and address for a child the age is also given to help when the pharmacist is checking the dose.

*\*Aprofix:-* This is the sign (Rx).

\*Name and quantities of medicaments to be supplied the

medicines prescribed are as:

a. An official Bp.

b. A propertary product.

c. Special formula.

\*Instructions:-

\* The prescriber signature & address.

\* The date on which the prescription was written.

Q3:- Match between the numbers in column (A) with the letter in column (B):

|  |  |
| --- | --- |
| (A) | (B) |
| a. Which the prescription was written | 1.Aprofix |
| b. This is the sign Rx | 2.T he data on |
| c. An official Bp | 3.Parts of Rx |
| d. Important part of Rx | 4.Name & quantities |
| e. Patient name & address | 5.Signature & address |

*Note:* Check your answer on key answer page 14.

*Doses*

Detailed information on doses will be found in the appendix on

Posology. It is the pharmacist's duty not to dispense a dose

Greater then official maximum unless.

(a) The prescriber has confirmed the apparent over dose by

Underlining &/or initialing it. Or by writteng it is both words &

Figures or.

(b) Reference to the action & was section of the B.P.C, Martindale or other reliable source confirms that occasional administration of such a dose is not unucual.

Q4:- Fill in the blinks with the correct word:-

1. Detailed information on will be found in the appendix or Posology.

2. It is the duty not to dispense a dose greater than the official maximum.

3. Reference to the a chon & was section of ,

4. Source confirms that occasional adminstrahon of such .

(4) Post-Test:-

1. The agent intended for use in diagnosis treatment of disease .called

a. bacteria b. pharmacy.

c. vegetable d. Drugs

2. In Egypt the priest practiced prescription writing in addition to:-

a. play b. food

c. reglious duties d. human

3. Dispensing requires knowledge of:-

a. stability d. physical test

c. Drug d. aprofix.

4. The prescription is writting by:-

a. physcian . b. pharmacist.

c. cheist. d. all of them.

5. Word recipe meaning:-

a. juption b. take thou

c. pharmacogeng d. part.

6. Time of adminstration is part of:-

a. instructions b. childhood.

c. patient. d. year.

7. Chemical , physical and therapeutic in compatablity knowledge studied by :-

a. Student b.Patient.

c. both of them d. non-of them.

8. An order form physicin to pharmacisl is called:-

a. drug b. Medicine

c. chemist d. prescription.

9. Despensing is concernd with the knowledge of:-

a. aprofex b. prescripition

c. Dosage d. physician.

10. Originally prescription are written in:-

a. latin b. Arabic

c. English d. Roman.

*Note:-* Check your answer on key answer page 14.

Key Answer Page

Pre-Test:-

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After doing the Pre-test:-

\*If you got 9 or more , so congralutation to your effect and need to transition to the second module.

\*If you got less than 9 so you need to continue studying this midule carefully .

Post – test:-

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After studying the first module & doing the post-test , so if you got:-

\* 9 or more move to study the second module.

\* less than 9 , so go over the study of the first module or any part of it, then do the post-test again.

Self-Test:-

Quize1: you will found the answer when you return on page 9.

Quize2: you will found the answer when you return on page 8.

Q3:

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| A | B |
| 1 | b |
| 2 | a |
| 3 | c |
| 4 | e |
| 5 | d |

Quiz4: you will found the answer when you return on page 10.

References :-

1. Cooper and Gunn's (1987):-

Dispensing for pharmaceutical

Students: 12th Edition

Churchill Livingston (London)

1. Pharmaceutical practice

Edited by

A.J. Winfield

R.M.E Richards (1988).

Solution , Definition ,

Benefit of solutions , Dissolution ,

Stability , Coloring & (Flavoring)

Solutions

As homogenous mixtures or one phase system consisting of to or more substances (Solute in small quantity and solvent in large quantity solid & liquid), (gas and liquid)

They are used in many ways:-

1. Orally as mixture , elixirs , syrup and paderatic drops.
2. Used in the mouth and throat as mouth washes , gargles,

Throat paints and throat sprays.

1. Instilled into the body cavities as enema, ear drops, nasal drop & sprays.
2. Applied to body surfaces as collodition , liniments, lotions & paints.

*Quiz1:-* Enumerate the way of solution using?

*Note:-* check your answer on key answer (P.C)

Disadvantages

Oral liquid medicines are being supersided gradually by tablets and capsules because:-

1. They are less stable then solid dosage form since deleterious changes lake place more readily in solution.
2. Unpleasant flavours can be difficult to mask.
3. They are bulky to carry around.
4. A spoon is needed to administer the dose.
5. Accidental breakage of the containr results in complet & messy loss of contents.

Tow explanation of their continued popularity are :-

1. Young children & some adults have difficulty in swallowing tablets & capsules.
2. They are more quiackly effective then tablets which must disintegrate in the body before absorption.
3. Over view :-
4. Target population:-

* To student of institute of medical / Technology / Al-Mansoor / 2nd –Class.

1. Rationale:- This is very important subject must be studied by student to know what is solution , and its definition , benefit of solution , dissolution and stability , coloring and flavoring.
2. Central idea:-
3. What is the solution and the way of administration.
4. Disadvantages of oral liquid medicine and why supersided gradually by tables and capsule.
5. A advantages (or benefit) of oral solution.
6. Solubility and the terms of solubility description.
7. Stability and solution.
8. Coloring and types of flavoring.
9. Instructions:-
10. Study the over view of the module carefully.
11. Recognize the performance objectives of this module.
12. Do the pre-test & if you get.
13. 9 or more so you don't need to study this module & review with your teacher or master.
14. Less than 9 so you need to continue studying this module precisely.
15. After studying the 2nd module do the post-test , so if you get:-
16. 9 or more remove to study 3rd module .
17. Less than 9 , so go over the study of the 2nd module or any part of it , then do the post-test again.
18. Performance objectives:-

When the studied finished this module he will be able to:-

1. To know what is definition of solution.
2. Disadvantages of solutions.
3. Advantages of oral solution.
4. Solubility and descriptive terms of solubility.
5. Stability of solution.
6. Coloring and flavoring agent.
7. Special solution such as ophthalmic solution , parenteral , Nasal & Ear drops.
8. Pre-test:-

Q1: choose the correct answer by encircle on the write letter :- (1degree to each branch)

1. Homogeneous mixture or one phase system consisting of two or more substances is :
2. Solution b. ointment

C. dropper d. Gel

2. The solution used for mouth called :

a. Suppoistery b. Gargle

c. Solution d. Cream

3. Solution applied to bady surface as:

a. Gargle b. drug

c. medicine d. collodion

4. Solution are bulky to carry around this:

a. advantage b. drop

c. color d. disadvantage

5. Uniform dosage is certain in:

a. Solution b. sbsorption

c. diluents d. Solubility

6. for stability of solution keep in:

a. Oven b. Refregreter

c. Table d. Capsule

7. Use for increasing acceptability of solution:

a. Salt b. Green

c. Ointment d. coloring

8. In ophthalmic solution osmotic pressure must be similler to:

a. blood b. Lacyrmial fluid

c. soluhon d. sugar

9.Dilute ammonium solution used far:

a. coma b. vomittiy

c. Diarrhea d. cough

10.The odur and tast of soluhon to be pleasend add:

a. gel b.oil

c. flavoring agent d. salt

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Technology / AL-Mansoor

Q 2: Numerate the disadvantage of solution dosage form?

Note check your answer on key answer page ( ).

( Advantages of oral solution )

1.Absorption is not delayed.

2.Uniform dosage is certain.

3.The provide a safe means of administering.

4.Attractive appearance.

Q 3: Match between the numbers is column (A) with the letters in column (B):

1. (B)

1.Unpleasan flavor a. of the containr.

2.Accidenta breakage b. is not delayed.

3.Solution are less stable c. is certain.

4. Absorption d. than solid dosage form.

5.Uniform dosage e. can be difficult to mask

*Note:*- check your answer on key answer page (15) .

( Solubility )

Increase due to adsorption on or incorporation of the solute molecule into or in the colloidal particle.

Q 4: Fill in the blanks with the correct word:

1. Attractive forces between lead to the formation of molecules.
2. ----------------- Energy between two molecule is minimum and the system is more stable.

*Note:-* Check your answer on key answer page (14).

4- Post-Test:-

1. Parts of solvent which required one part of solute for very solute for very soluble is:
2. Less than one part.
3. Form 1000-10000 part.
4. 5ml.
5. Form 1-10 parts.
6. Add color for solution to:
7. Increase stability.
8. Decrease stability.
9. Stable.
10. Acceptability increased.
11. Flavoring agent added to solution is:
12. Volatile oil.
13. Fixed oil.
14. Vitamins.
15. Color.
16. Ophthalmic solution must be:
17. Hypotonic.
18. Isotonic.
19. Hypertonic.
20. None of them.
21. Parenteral solution is:
22. Injected.
23. Oral.
24. Solid.
25. Gas.
26. Solution is homogenous mixture or:
27. Three phase system.
28. Two phase system.
29. One phase system.
30. Four phase system.
31. Disadvantage of solution is:
32. Less stable.
33. Very stable.
34. Both of them.
35. Non- of them.
36. Accidental breakage of the container in sotution is:
37. Advantages.
38. Disadvanges.
39. Liquid.
40. Gas.
41. Solution are more quackly effective them:
42. Ointment.
43. Lotion.
44. Tablets.
45. Emulsion.

10. The attractive appearance of solution a well polished bottle has a beneficial :

1. Gas.
2. Liquid.
3. Solid.
4. Psychological effect.

Note: check your answer on key answer page (14).

(key answer page)

Pre-post:-

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After doing the pre-test:

* If you got 9or more, so congratulation to your effort and need to transition to the third module.
* If you got less than 9, so you need to continue studying this module carefully.

Post-Test:-

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After studying the second module and doing the post-test , so if you got:

* 9 or more remove to study the third module.
* Less than 9, so go over the study of the first module or any part of it , then do the post-test again.

Self-test:-

*Quiz(1):* you will found the answer when you return on page 20.

*Quiz(2):* you will found the answer when you return on page 21.

*Quiz(3):*

|  |  |
| --- | --- |
| A | B |
| 1 | c |
| 2 | b |
| 3 | a |
| 4 | d |
| 5 | e |

*Quiz(4):* you will found the answer when you return on page (22).

References:-

1. Bonnard P 1992 Effective communication skill for health profession .Chapman and Hall ,London

2.Ley p 1988 communicating with patient carom Helm, London.

3.pease A 1989 Body language .Sheldon press, London.

Third & Forth module

Ointments , definition , Using benefit , Methods of

Preparation Types , classification according to the

Method of preparation.

1. ( Over view ):-

*a. Target population:-*

To student of institute of Medical / Technology / Al-Mansoor / 2nd class.

*b. Rationale:-*

This is very important subject must be studied by student to know what is ointment , definition , using , benefits , methods of preparation types ,classification according to the method of preparation.

*c. Central Idea:-*

1. what is ointment doses form .

2. Baneful of using of ointment.

3. Classification of ointment according to method of preparation.

*d. Instruction:-*

1. study the overview of the module carefully.

2. Recognize the performance objectives of this module.

3. Do the pre-test & if you get:-

a) 9 or more – so you do not need to study this module and review with your teacher or master.

b) less than 9 so you need to continue studying this module precisely.

4. After studying the 3rd module do the post-test ,so if you get :-

a) 9 or more remove to study 4th module.

b) less than 9, so go over the study of the 3th module or any part of it , than do the post-teat again .

2. ( performance objectives ):-

When the student finished this module he will be able to:-

1) To know what is definition of ointment.

2) Genera notes about ointment as pharmaceutical preparation.

3) Uses of ointment.

4) Storage and labeling of ointment.

3. ( Pre-Test ):-

Q1) Choose the correct answer by encircle on the write letter:-

1. Semi-solid preparation often anhydrous base applied to the skin is

a. solution b. Get

c. ointment d. drops

2. Spation used in ointment preparation contain sohcylic acid must be

a. metal b. Abonate

c. stainlessteef d. all of then

3. When there is more than one type of base in ointment

preparation added according to :-

a. descending order of melting point b. density

c. specific gravit d. weight

4.Uses of ointment is as :-

a. gel b. vitamins

c. sall d. inbricant

5. Used as aprotactive agend to cover the skin surface:-

a. ointment b. emulsion

c. solution d. ear

6. Ointment usually dispensed in:-

a. Bottle b. Auto clave

c. Jar d. non-of them

7. Consist of soft paraffin or mixtures with hard paraffin:

a. drug b. Hydrocarbon base

c. drop d. solution

8. Dimethyl polysiloxanes is type of ointment base:

a. bees wax b. vasaline

c. Silicones d. hydrocarbon

9. water soluble base used in:

a. gas b. liquid

c. solid d. ointment

10. Fats and fixed oil as dermatogical vehicle e.g is:

a. Olin oil b. cream

c. emulsion d. drop

Note:- Check your answer on key page ( )

( Ointment )

Semi – solid preparation often anhydrous and containing dissolned or dispersed medical agants applied to the skin with rabbing cused externally it applied to the skin binedtly or by using specie of gauze .

General notes about

1) The tool used in preparation of ointment is porcelain dish or metal slab and spatula to mix the medical substances with oily base .

Ointment

Sime-Solid preparation often anhydrous and congaing dissolved or dispersed medical agents applied to the skin with ribbing (used externally) it applied to the skin directly or by using apiece of gauze.

General Notes about

Ointment as pharmaceutical preparation

1. The tool pharmaceutical of ointment is porcelain dish or metal slab and spatula dish or metal substances with oily base.

2. Purification of ointment base.

3. The base used in preparation of eye ointment must be sterilized in addition to purification by using auto clave.

Q (1):- Enumerate the tools used in ointment preparation.

*Note:-* Check your answer on key answer p.( ).

Preparation of ointment

The ointment base may contain Beeswax , vaselin , Hard paraffin these substances have to be fussed according to its metting point.

Q (2):-

How do you add the bases in ointment preparation for these bases.

( Land, Wood, Fat, beeswax, Wood alcohol)

*Note:-* Check your answer on key answer page ( ).

(Uses of ointment)

* Used as lubricant.
* Used as avehicle.
* Used as aprotactve agent to cover the skin surface.

Q (3):- Mention the physiochemical criteria for dermatological for mulatoris ?

*Note:-* check your answer on key answer page ( ).

( Ointment package )

\*usually dispensed in ointment Jar or tubes .

\*tubes of metal or plastic with speak cover .

\*tubes filled with rectal preparation is provide with nozzle .

Q (4) :- Fill in the blanks with the correct word:-

1. Ointment should be stored in ------------- to prevent Liquifing .

2. Ointment used as ------------- to cover the skin surface .

3. --------------- have to used in ointment preparation .

4. Eye ointment sterilized by ------------------- . .

*Note:-* check your answer on key answer page ( 14) .

4. Post-Test:-

1. Eye ointement must be sterilized by:

a. slab b. Antibiotic

c. Auto clave d. Oven

2. Abonate spatula used for ointment containing

a. mercuric salt b. eye ointment

c. solution d. drops

3. Ointment dosage form is:

a. Solid b. Semi-solid

c.gas d. Liquid

4. The bases added in ointment preparation according to:

a. gel b. cream

c. descending order of metting point.

d. ascending order of metting point.

5. Hard paraffin is base used in:-

a. Ointment b. eye drops

c. gel d. solid

6. Used as aprotactive agent to cover the skin surface:-

a. gas b. ointment

c. solid d. Liquid

7. Ointment usually dispensed in:-

a. tubes b. bottles

c. packet d. powder.

8. Ointment should be stored in:-

a. hot plase b. freze

c. cool place d. gas

9. The base inhit moisture loss and improve hydration of layer is:-

a. solution b. lotion

c. lard d. hydrocarbon bases

10. Water solution bases used in preparation of:-

a. Ointment b. Iodine

c. Salicylic acid d. Tannic acid

*Note:-* Check your answer on key page (14).

( key answer page)

Pre-Test:-

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After doing the Pre-test:-

* If you got 9 or more , so congratulation to your effort and need to transition to the forth module.
* If you got less than 9 , so you need to continue studying this module carefully.

Post-Test:-

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After studying the third module and doing the post- test , so if you got:

* 9 or more remove to study the forth module.
* Less than 9 , so go over the study of the third module or any part of it , then do the Post-test again.

Self- Test:-

*Quiz(1):*- you will found the answer when you return on page (35).

*Quiz(2):*- you will found the answer when you retuen on page (36).

Q3:

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*Quiz(4):-* You will found the answer when you return on page (37).

References:-

1. Hand book of pharmaceutical Excipients 1994 2nd el pharmaceutical press London.

2. Reynold dE(ed) 1999 Martindal , the extra pharmacopeve 31st ed.

Pharmaceutical press London.

( Creams)

1. Over view:-

*a. Target population*

\* To student of Institule of Medical / Technology/ AL-

Mansoor / 2nd class.

*b. Rotionale:-* This is very important subject must be studied by studied to know what is cream , and its definition, benefit , why patient prefer water / oil cream to ointment.

*c. Centeal idea:-*

1. What is cream and its definition.

2. Why patient prefer cream to an ointment dosage form.

3. Important points about cream.

*d. Instructions:-*

1. Study the over view of the module carefully.

2. Recognize the peiformance objectives of this module.

3. Do the pre-test & if you get:

a. 9 or more, so you don’t need to study this module & review with your teacher or master.

b. Less than 9, so you need to continue studying this module precisely.

4. After studying the 4th module do the post-test , so if you get:-

a. 9 or more remove to study 5th module.

b. Less than 9, so go over the study of 4th module or any point of then do the post-test again.

2. Performance objectives:-

When the student finished this module he will be able to:-

1. To knew what is definistion of cream.

2. Why patient prefere cream to an ointment.

3. Important consideration of ceam.

3. Pre-Test:-

Q1: Choose the correct answer by encircle on the write letter

(1 degree to write each branch)

1. Semisolid emulsion for external application called:-

a. buffer b. isotonic

c. cream d. solution

2. Oil/ Water cream rub into:-

a. skin b. eyes

c. ointment d. body

3. The station corneum increase promoting percutanous:-

a. evaporation b. ointment

c. absorption d. grassy

4. To minimize drug precptation cream formula may include:-

a. fixed oil b. less votalil

c. drop d. less gressy

5. Patient prefer w/o cream to ointment because:-

a. buffer b. missible

c. skin d. less gressy

6. cream can deposit lipids and other moisturize hase:-

a. emollient b. fat

c. volatile d. ointment

7. partitioning of the medicament between the emulsion:-

a. water b. solution

c. phases d. drops

8. Determination of a true viscosity for the diffusing in the:

a. Vehile b. buffer

c. emulsion d. fat

9. The possibility of phase inversion or cracking of the emulsion when applied to the:-

a. phase b. skin

c. absorption d. liquid

10. The cream spreads readily so prefer to:-

a. solution b. injection

c. ointment d. liquid

*Note:-* Check your answer on key page ( ).

(Creams)

Cream are semisolid emulsion for external application o/w emulsion are most useful as water washable bases , whereas w/o are emollient and cleaning.

\* Patient prefer w/o cream to an ointment because.

1. the Cream spreads readily.

2. Less gressy.

3. The evaporation water soothes the in flamed tissue.

*Quiz (1):-* Why patient prefer w/o cream to an ointment?

*Note:-* Check your answer on key answer page ( ).

(Properties of cream)

O/W cream rub into the skin the continues phase. Evaporation and increases the concentration of water solution drug in the adhering film.

*Quiz (2):-* Define cream and why we used it.

*Note:-* Check your answer on key page ( ).

(Advantages of cream)

O/W cream rub into the skin the continuous phase evaporate and increase the concentration of water soluble drug in the adhering film the concentration of drug across the statum concentration ther fore increase promoting percutanous absorption.

To minimne drug preciption a formula or many include ales volatil, water miscible co-solvent.

*Quiz (3):-* Fill in the blanks with correct words:-

1. O/W cream ـــــــــــــــــ into the skin the continuous phase ــــــــــــــــــــ and increase the concentration of water soluble drug.

2. Patient prefer W/O cream to an ointment because

ـــــــــــــــــ, ـــــــــــــــــــــــــ and ــــــــــــــــــــ.

*Note:-* Check your answer on key page ( ).

Physiological and physicochemical

consideration of cream

1. Partitioning of the medicameal between the emulsion phases

2. The addition of preservative.

3. Determintion of atrue viscosity for the dffusing molecules in the vehicle.

4. The possibility of phase increase cracking of the emution when applied to the skin.

*Quiz (4):-* Match between the number in column (A) with the letters in the column (B)

(A) (B)

1. Cream must add a. For the diffusing molecules

2. Partition of the medical b. perseveres

3. Determination of true c. between emulsion phase

Viscosity

4. Possibibity of phase d. when applied the skin

Inversion

4. Post-Test:-

1. Cream can deposit liquid so has:

a. emollient properties b. water / oil

c. drug d. skin

2. pratitiong of the medicament between the:

a. liquied b. emulsion

c. ointment d. buffer

3. The possibility of phase inversion of the eimulsion when applied

a. water b. volatile oil

c. oil d. skin

4. Semi-solid emulsion for external application called:

a. solution b. drug

c. cream d. phase

5. Patient prefer w/o cream to oinyment because:

a. less gressy b. drop

c. injection d. gas 6. Increase concentration of drug in the adhering film:-

a. status cornea b. liquid

b. injection d. drug

7. To minimize drug perception a formula or many include :-

a. liquid b. water miscible

c. grassy d. buffer

8. The evaporating water soothes the inflamed tissue in :-

a. cream b. ointment

c. colloid on d. cataplasm

9. O/W emulsion are must useful as:-

a. gas b. water washable

c. acid d. skin

10. Patient prefer w/o cream to an ointment because:-

a. cream spreads readily b. gas

c. liquid d. buffer

*Note:-* Check your answer on key answer page ( ).

Gels ( Jellies)

1. Over view:-

*a. Target population:-*

\*To student of institute of medical / Technology/ AL- Mansoor/

2nd class.

*b. Rationale :-* This is very important subject must be studied by student to know what is gel and its definition , Types of gel , formulation and typical polymers used.

*c. Central idea:-*

1. what is gel as new dosage form.

2. Types of jellies.

3. Medicated jellies with example.

4. Lubricants and miscellaneous gels.

5. formation of jells.

6. Typical polymers used in jellies.

d. Instructions:-

1. Study the over view of the module carefully.

2. Recognize the performance objective of this module.

3. Do the pre-test & if you get:

1. 9 or more , so you don’t need to study this module & review with your teacher or master.
2. Less than 9, so you need to continue studying this module precisely.

4. After studying the 5th module do the post-test , so if you get:-

1. 9 or more remove to study 6th module.
2. Less than 9, so go over the study of it , than do the post-test again.

2. Performance:-

When the student finished this module he will be able to:-

1. To know what is definition of gels.

2. Types of gels.

3. Formulation of gels.

4. Typical polymers used in jellies.

3. Pre-Test:-

Q1. Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch)

1. There are many types of jellies:-

1. Three
2. Two
3. Six
4. Ten

2. Electrocardiography dosage form is type of gels:-

1. Lubricants
2. Miscellaneous
3. Ointment
4. Liquid

3. Ephedrine sulphate used to arrest bleeding form nose is:-

1. Oil
2. Cream
3. Vasoconstrictor
4. Buffer

4. Gels are two-component semisolid system rich in:-

1. Oil
2. Cream
3. w/o
4. liquid

5. Typical polymers of natural is:-

1. gums
2. oil
3. clays
4. ointment

6. Typical polymers of mythic type such as:-

1. targcanth
2. carbopol
3. methylcellulose
4. alcohol

7. Semisynthetic materials used as typical polymer is:-

1. gums
2. spirit
3. methylcellulose
4. solution

8. The containers used for gels are:-

1. Collapsible tubes
2. Bottles
3. Jars
4. Bacteria

9. Typical polymers used jell is are:-

1. Two
2. Three
3. Four
4. Seven

10. Medicated jellies contain considerable amount of:-

1. Oil
2. Collodion
3. Cream
4. Water

*Note:-* Check your answer on key answer page ( ).

Gels ( Jellies)

Jellies are transparent or translucent non greasy , semi-solid gels.

Generally applied externally they are used for medication lubriztion and some miscellaneous application.

Types of Jellies

1. medicated jellies.

2. lubricants.

3. miscellaneous jellies.

*Quiz(1):-* Enumerate the types of gels.

*Note:-* Check your answer on key answer p. ( ).

Medicated Jellies

Contain a considerable amount of water and are particularly suitable as vehicles for water-soluble medicament such as anesthetic spericides and antiseptic.

They are easy to apply evaporation of the water content products apleasant cooling effect.

The residual film usually adheres well and gives protection but easily removed by washing when treatment is complet for example of this type.

Ephedrine sulphate, vasoconstrictor used to arrest bleeding from the nose.

*Quiz (2):-* Explain medicated jellies with example?

*Note:-* Check your answer on key answer page ( ).

Lubricants

Catheters, items of electrodiagnostic equipment such as cystoscopes and rubber gloves or fingers used for rectal and other examination require lubrication before use.

The water solubility, transparency , blondness smoothness, & lubricity of jellies makes them very acceptable for this purpose.

*Quiz (3):-* Explain the lubricants type of jellies with example.

*Note:*- Check your answer on key answer page ( ).

Miscellaneous Jellies

as:-

1. Patch testing ( this test to detect sensitivity).
2. Electrocardiography.

Formulation :- gels are two –component semisolid system rich in liquid their one characteristic feature is the presence of contmuous structure providing solid-like properties those are usually organic more appropriate.

Typical polymers used

1. Natural gums , tragcanth, pectin agar, and al ginic.
2. Semi synthetic materials such as methylcellulose, hydroxyl ethycellulose, and cardoxy methylcellulose.
3. Synthetic polymers such as crabapple.
4. Certain clays as betonies veegum and laponite may be also used.

*Quiz (4):-* Fill in the blanks with correct words:-

1. Gels are ------------------- semisolid rich in liquid.
2. Typical polymers used are --------------- , ----------------------, ---------------------- and ------------------.
3. Air-space in container for gel encourage -------------------- .
4. Synthetic polymers of gel such as --------------------- .

*Note:*- Check your answer on key answer page ( ).

4. Post-Test:-

1. Gel container stored in a cool place to prevent:-

1. Drying out
2. Moisture
3. Freezing
4. Evaporation

2. Are two component semisolid system rich in liquid:-

a) ointment

b) gel

c) liquid

d) gas

3. gels dosage form applied:-

a) ear

b) skin

c) hand

d) hair

4. ephedrine sulphate avasconstricter is:

a) solution

b) solid

c) medicated jellies

d) buffer

5. gels used as lubricant for cyst scopes because of:-

1. Water solubility
2. Dosage form
3. Water evaporation
4. Two component

6. Miscellaneous jellies application is:-

1. Patch testing
2. Lubricant
3. External
4. Orally

7. Typical polymers of natural type is:-

1. Blood
2. Water
3. Gums
4. Base

8. Most jellies are of suitable consistency for packaging in:-

1. Bottdes
2. Test-tube
3. Flask
4. Collapsible tubes

9. Typical polymers of synthetic type is:-

1. Carpool
2. Theorem oil
3. Al cohol

d) Water

10) Local anaesthetic is type of:

a) Miscellaneous b) Medicated

c) Lubricants d) gum

Note:- Check your answer on key answer page( )

( Key Answer Page )

Pre-test:-

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After doing the pre-test:-

* If you got 9 or more, so congralution to your effort and need to transition to the sixth module.
* If you got less than 9, so you need to continue studying this module carefully.

Post-Test:-

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After studying the 5th module and doing the post-test, so if you got:-

* 9 or more remove to study the sixth module.
* Less than9 , so you over the study of the 5th module or any part of it, then do the post-test again.

Self-Test:-

*Quiz (1):-* you will found the answer when you return on page (58).

*Quiz (2):-* you will found the answer when you return on page (60).

*Quiz (3):-* you will found the answer when you return on page (61).

References:-

1. ABPI compendium of data sheets and summaries of product characteristic, current edn. Data harm publications London ( updated annually)
2. Ault on ME 1988 pharmaceutics , the science of dosage form , Churchill Livingstone.

Seven & Eight module

Suppositories

Definition

Using

Benefit

Examples

1. Over view:-

*a. Target population:-*

\* To student of institute of medical/ Technology / AL- Mansoor

b. Rational :- This is very important subject must be studied by student to know what is supposetery and its definition , benefil and example.

*c. Central idea:-*

1. What is suppository and the way of administration.
2. Benefit or adrantages of supposteries.
3. Using of suppositories.

*d. Instructions:-*

1. Study the over view of the module carefully.
2. Recognize the performance objective of this module.
3. Do the pre-test & if you get.

a. 9 or more, so you don’t need to study this module and remove with your teacher or master.

b. less than 9, so you need to continue studying this module precisdy.

4) After studying the 6th module do the post-test, so if you get:-

a. 9 or more remove to study 7th module.

b. less than 9, so you go over the study of 6th module or any part of it then do the post-test again.

2. Performance objective:-

When the student finished this module he will be able to:-

1. To know what is definition of supposeterios.
2. The uses of suppostery as dosage form.
3. The benefit of suppostery.

3. Pre-Test:

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch)

1. Suppostery are conical or avoid solid preparation for insertion into:-

1. Dose
2. Drug
3. Rectum
4. Buffer

2. Advantages of supposeterioes when stomach is:-

1. Laxative
2. Irritated
3. Base
4. Solution

3. The base in supposteruy must melt at body temperaturne:-

1. 40 C
2. 45C
3. 60C
4. 37C

4. It is yellowich-white solid wiyh chocolate like odour:-

1. The obroma oil
2. Glycerin
3. Alcohol
4. Water

5. The number of parts dy wight of the medicamenit that displace one part of base:-

1. Base
2. Buffer
3. Eye drops
4. Displacement value

6. Water-miscible base used in suppository is:-

1. Stomach
2. Bees wax
3. Solvent
4. Glycerin-gelatin

7. Evalulation of suppostery by determination of:-

1. Melting point
2. Boiling point
3. Freezing point
4. Ideal point

8. For heat sensitive active ingredient in suppostery preparetion use :-

1. Mould
2. Lubricant
3. Cold method
4. Hot method

9. Soap and glycerin in equal quanlety used as lubricant of:-

a) ointment

b) Mould

c) alcohol

d) castor oil

10. The types of suppostery base is:-

1. Three
2. Four
3. One
4. Two

*Note:-* Chock your answer on key page ( ).

Suppositories

Suppositories are conical or avoid solid preparations for insertion into the rectum where their melt dissolve or disperse and exert a local or less often systemic effect.

There basis is a fat a wax or glycerol-gelatin & jelly.

They weigh 1,2 gm. Or occasionally 4gm. And are usually unmediated.

Therapeutic uses

1. To exert a direct action on the reaction most suppositories in this group are used to relieve the pain & irritation of haemoeehoids.
2. To promote evacuation of the bowel some legatine drugs e.g. glycerol & bisacodyl exert their effect by irritating the rectum.
3. To provide a systemic effect.

Q1. Enumerate the therapeutic uses of suppositories?

*Note:-* Check your answer on key answer page ( ).

The advantages of suppositories

1. When the stomach is irritated in case of vomiting or peptic were.

2. It's used for children & mental retarded patient.

3. It's has been assumed that the dose absorbed by intestine so get prolonged action of drug.

*Quiz (2):-* What are the advantages of suppository?

*Note:-* Check the answer on key answer page ( ).

Characters of base used in suppositories

1. The base must melt at body temperature (37C) and release the action ingredients.
2. The base must be (non-toxic) & non-irritant.
3. The base should be stable on storage.
4. The difference between melting point should be very small.

*Quiz (3):-* Match between the numbers in column (A) with letters in column (B) :

A B

(A) the base must meltal (1) Should be very small

(B) The difference between (2) Non-toxic

Melting point and solidification

(C) The base in suppostery must be (3) Storage

(d) The base should be stable (4) body temp. 37C.

Note:- Check the answer on key answer page ( ).

Types of suppositories base

1. Fatly base like theobroma oil or cocoa butter.

2. Water-miscible base like glycerin or glycerol-gelatin base.

Theobroma oil

It's yellowish-write solid with chocolate like odor it is a mixture of glycergl-esters of slearic, polmitic oleic acid and other fully acid.

*Quiz (4):*- what is theobroma oil?

*Note:-* Check the answer on key page ( ).

Post-Test:-

1. The number of parts by weight of the medicament that displace one part of the base is:-

1. Melting point
2. Displacement value
3. Lubricant
4. Mould

2. Types of suppostrey base is:-

1. Fatly base
2. Beeswax
3. Land
4. Water

3. The base must melt at body temperature:-

1. 40C
2. 60C
3. 37C
4. 50C

4. The difference between melting point and solidification point should be:-

1. Very large
2. Very small
3. Equal
4. Hot

5. To Exert a direct action on the rectum:-

1. Suppostery
2. Solution
3. Gel
4. Cream

6. To promote evacuation of the bowel:-

1. Water
2. Alcohol
3. Laxative
4. Cream

7. It has been assumed that dose absorbed by intestine so get prolonged action of drug:-

1. Buffer
2. Alcohol
3. Gel
4. Suppository

8. Water-miscible base on supposteny is:-

1. Glycerin
2. Beeswax
3. Drug
4. Ointment

9. Displacement value the number pf parts by weight of the medicament the displace one part by weight of:

1. Water
2. Land
3. Ether
4. Theobroma oil.

10. Types of suppository base is:-

1. Two
2. Three
3. Four
4. Five

Note:- Check your answer on key page ( ).

( Key answer page)

Pre-test:-

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After doing the pre-test:-

* If you got 9 or more, so congratulation to your effort and need to transition to the seventh module.
* If you got less than 9, so you need to continue studying this module carefully.

Post-test:-

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After studying the first module and doing the post-test, so if you got:-

* 9 or more remove to study the seventh module.
* Less than 9 , so you go over the study of sixth module or any part of it then do the post-test again.

*Self-Test:-*

*Quiz(1):-* you will found the answer when you return on page (71)

*Quiz(2):-* You will found the answer when you return on page (72).

*Quiz(3):-* You will found the answer when you return on page (73).

*Quiz(4):-* You will found the answer when you return on page (74).

*References:-*

1. Aulton M.E. 1988 pharmaceutics; the science of dosage form design Churchill livpenton, Edmburgh.

2. Pharmceutical codex 1994 12th edn pharmaceutical press London.

Ninth module

Method of supposteny preparation

Evaluation of supposteny

Mould

Lubrication of mould

Calculation

*1. Over view:-*

*a. Target population:-*

\* To student of institute of Medical/ Technology/ AL-Mansoor / 2nd –class.

*b. Rationale:-* This is very important subject must be studied by student to know methods of suppositories preparation and lubrication of mould and calculation .

*c. Central idea:-*

1. Method of suppositories preparation.
2. Evolution of suppositories.
3. What is mould.
4. Lubrication of mould.
5. Calculation.

*d. Instructions:-*

1. Study the over view of the module carefully.
2. Recognize the performance objectives of the module.
3. Do the pre-test & if you get:

a. 9 or more, so you don’t need to study this module & review with your teacher or master.

b. Less than 9, so you need continue studying this module precisely.

1. After studying the 7th module do the post-test, so if you get:-

a. 9 or more remove to study 8th module.

b. Less than 9, so go over the study of 7th module or any part of it , then do the post0test again.

*2. Performance objectives:-*

When the student finished this module he will be able to know:

1. Method of suppositories preparation.
2. Evolution of supposteny.
3. What is mould.
4. Lubrication of mould.
5. Calculation.

*3. Pre-Test:-*

*Q1:* Choose the correct answer by encircle on the write letter:

(1 degree to each branch)

1. The methods of suppositories preparation are:-

1. Three
2. Four
3. Five
4. Two

2. When the action ingredients are sensitive to heat use:-

1. Cold method
2. Hot method
3. Both method
4. Non- of them

3. In hand rolling method for suppositories preparation by using

1. Spatula
2. Sterror
3. Fingers
4. Water

4. Evaluation of supposeteriors by deter mention of:

1. Melting point
2. Boiling point
3. Critical point
4. Non-of them

5. mould used in suppositories preparation are made of:

1. Wood
2. Metal
3. Glass
4. Crystal

6. Open the mould in supposeteriors preparation by removing:

1. Cap
2. Soap
3. Screw
4. Glycerin

7. It is necessary to lubricate the mould to get suppository:

1. Hard
2. Easly
3. Alcohol
4. Screw

8. Soap and glycerin in equal quantity are used:

1. Water
2. Mould
3. Alcohol
4. Lubricant

9. Clean the mould used for suppostery preparation by:

1. Water
2. Ether
3. Glycerin
4. Spirit

10. Determination of disintegration or dissolution point used for:

1. Evaluation of suppository
2. Freezing point
3. Melting point
4. Critical point

Method of suppositories preparation

In general there are two methods for preparation:

1. Hot or fusion method

2. Cold method

a. Hand rolling method

b. compression mold method

*a. Hand rolling method:-*

In this method the molding of suppose ting is done by fingers after formation plastic mass.

b. Compression method by using mold.

*2. Hot or fusion method:-*

This is used for all suppository by sensitive drugs to heat cannot be used.

*Quiz(1):-* Enumerate methods of suppositories preparation.

*Note:-* Check the answer on key page ( ).

Evaluation of suppositories

1. Assay of therapeutic action ingredients must be established.

2. Determination of melting point.

3. Determination of disintegration or dissolution point.

4. fragility assessment.

5. Absorption rate.

*Quiz (2):-* Enumerate the evolution of suppository?

*Note:-* Check your answer on key answer page ( ).

Mould

The mould used are metal & have six or twelve cavities by removing as crew they can be opened longitudinally for cleaning & lubricating.

The normal capacity of mould are 1gm or 2gm ,4gm and 8gm.

Lubrication of mould

It is necessary to lubricate the mould to get the supposteny easly & smoothly.

The best lubricant used with cocoa butler consist of:-

1. Soft soap 1 part

Glyceren 1 part

Alcohol 5 parts

2. Soap and glycerin in equal quanlity:-

3. Soap 3 part

Almond oil 1 part

Castor oil 1 par

Alcohol 90% 2 parts

4. Soap 1 part

Alcohol 90% 1 part

Almond oil 2 parts

5. Soap 1 part

Alcohol 90% 1 part

Almond oil 2 parts

*Quiz (3):-* Mention types of lubricant used in suppository preparation.

*Note:-* Check your answer on key answer page ( ).

Calculation

R/ Determatal 0.2 gm

Resocrnd o.o6

Ziinc oxid 0.13 gm

Theobroma oil fill to 2 gm

Q.S to mil III

D.V of Dematolol = 2.6

D.V of Resocul = 1.3

D.V of Zinic oxid = 4.8

Calculation:-

1. Add two move suppository because of water of weight:

2+3=5 No. of supp

0.2×5= 1 gm total wt of dermatol

(Total wt of subs/ D.V of sub.) = (1/2.6) = 0.49 gm wt of dermt

of Displaced

0.6 ×5 = 2.3 gm of wt of displaced resorcinol

0.65 ÷ 4.8 = 0.13 gm wt displaced of zinc oxide

0.49 + 2.3 + 0.12 = 2.64 gm total wt of active ingredient that

displease theobromal

10 – 2 – 64 = 7.36 gm net wt of theobroma oil used.

*Quiz (4):-* Calculate the tannic acid and theobroma oil in this suppository?

Rx:-

Tannic acid powder gr III oil of theobroma Q.S to fill 2 gm mold.

Fiat supp Mitt VI.

*Post- Test:-*

1. The mold used in suppository opened:-

1. Longitudinally
2. Horizontally
3. Vertically
4. One side

2. Soft soap 1 part glycerin 1 part alcohol 90% 5 parts used as:

1. Fixed
2. Displacement value
3. Water
4. Lubricant

3. Methods of suppostery preparation are:

1. Four
2. Two
3. Three
4. Seven

4. Active ingredient sensitive to heat in suppostery preparation use:

1. Hot method
2. Mould
3. Cold method
4. Non of them

5. In hand rolling method the pastic mass are rolled by:

1. Finger
2. Mould
3. Glass
4. Metal

6. Assay of therapeutic action ingredient must be stablished in:

1. Theobroma oil
2. Glycerin
3. Evalutation of suppostery
4. Melting point

7. In suppostery compression method by using:

1. Water
2. Oil
3. Alcohol
4. Mould

8. Evalution of lubricate mould to get the suppository:

1. Fragility assessment
2. ,elting point
3. Freezing point
4. Critical point

9. It is necessary to lubricate to get the suppository:

1. Fast
2. Good
3. Smooth
4. Bad

10. the mould used in suppostery preparation contain:-

1. Cavities
2. Closed
3. Opened
4. Water

Note:- Check your answer on key answer page ( ).

( Key answer page)

*Pre-test:-*

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After doing the pre-test :-

* If you got 9 or more, so congratulation to your effort & need to transition to the 8th module.
* If you got less than 9, so you need to continue studying this module carefully.

*Soft-Test:-*

*Quiz (1):-* You will found the answer when you return on page ( 84).

*Quiz (2):-* You will found the answer when you return on page (86).

*Quiz (3):-* You will found the answer when you return on page (87).

*Post-Test:-*

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After studying the 7th module & doing the post-test, so if you got:-

* 9 or more remove to study of the 8th module.
* Less than 9, so go over the study of the 7th module or any part of it, then do the post-test again.

*References:-*

1. Chemist and Druggist Directory 1996 128th edn Mitler freeman, Tonbridge.

2. National health service England & wels drug Traff HMSO

( Published Monthyl- use current edu )

Tenth module

Capsules , definition

Types

Therapeutic uses

*1. .over view:-*

*a. Target population:-*

\* To student of institute of Medical/ Technology/ AL-Mansoor/ 2nd –Class.

*b. Rationale:-* This is very important subject must be studied by student to know what is capsule and it is definition and uses types of capsule.

*c. Central Idea:-*

1. What is capsule and the way of admintration.

2. Types of capsule.

3. Uses and therapeutic uses.

4. Calculation.

*d. Instructions:-*

1. Study the over view of the module carefully.

2. Recognize the performance objective of this module.

3. Do the pre0test & if you get:-

1. 9 or more, so you don’t to need to study this module & review with your teacher or master.
2. Less than 9, so you need to continue studying this module precisely.

4. After studying the 8th module do the post-Test , so if you got:-

1. 9 or more remove to study the 9th module.
2. Less than 9, so go over the study of the 8th module or any parts of it then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to :-

1. To know what is definition of capsule.
2. Types of capsule.
3. To know what is hart shell capsule.
4. Compounding of capsule.

*Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

1. Are solid preparation intended for oral administration made with hard or soft shell:-

1. Solution
2. Capsule
3. Tincture
4. Tablet

2. The types of capsule are:-

1. Three
2. Four
3. Two
4. Five

3. Empty capsule shells are made form amixture of gelatin , acacia, sugar, & water:-

1. Hard shell capsule
2. Soft shell capsule
3. Water
4. Alcohol

4. The soft shell capsule comprise of:-

1. Four part
2. Three part
3. Five part
4. Two part

5. Capsule used for inhalation such as:-

1. Intel cap.
2. Glycerin
3. Granules
4. Powder

6. Capsule contain liquid such as:-

1. Soft
2. Hard
3. Cod-liver oil
4. Blood

7. Coloring & marking can be easily:

1. Light protention
2. Cool place
3. Alcohol
4. Drug.

8. The powder of mixture affed by:-

1. Alcohol
2. Glycerin
3. Tincture
4. Waste of weight

9. In calculation add two more capsule to prevent:-

1. Lactose
2. Powder
3. Solution
4. Tablet

10. The dilulent used in capsule preparation:-

1. Lactose
2. Powder
3. Solution
4. Tablet

*Note:-* Check your answer on key page ( ).

Capsules

Are solid preparation intended for oral administration made with a hard or soft shell.

One or more medicaments are enclosed withen this gelatin container.

*Types:-*

1. Soft shell capsules:

A soft gelatin capsules consist of a flexible solid shell, containg powder, non-equeow liquid, solution, emulsion suspension or pasts.

1. Hard shell capsules:

Empty capsule shells are made from a mixture of gelahn acacia, sugar & water.

*Quiz (1):-* Enuerat the types of capsule and explain one?

*Note:-* Check your answer on key answer page ( ).

The shell compices two sections, the body and the cap., both bring cylindrical and sealed at one end.

Powder pr particulate solid, such as granules & pellels, can be plased in the body and the capsule closed by bringing the body and together.

As in fig.(1) cap.

Body

Powder mixture

*Quiz (2):-* Explain compounding of cap.?

Compounding of capsule

Occasionally hard filling of capsule may be required, particularly in a hospital pharmacy setting or when preparing materials for clinical trials. Ausitable size of capsule shell should be selected so that the finished capsule looks reasonably foll, hard shell capsule are a viable in eight sizes.

These are listed in tables (1) with corresponding approximate capacity ( based on lactose).

The density of a powder mixture will also affed the choice of capsule.

Table (1):- Size of hard gelatin capsule , affect the choice of capsule size.

Capsule No. 000 00 0 1 2 3 4 5

Content 950 650 450 300 250 200 150 100

*Quiz (3):-* Mention the capsule number and weight.

*Calculation:-*

To franil 10mg ( wt a variable 10,25mg )

Volume 1 mg ( wt a variable 2,5,10 mg )

Paracetal 300mg ( wt a variable 500mg )

Fiat cap. Mitt 30 cap.

*Calculation:-*

1. Add two capsule more

30 + 2 = 32 No. of capsule to be calculated

32 × 10 = 320 mg total wt. of tofranl for preparing 32 cap.

320 ÷ 25 = 12 No.of tofrnal tal.

Note: we use the higher weight a vialall as concentaled of drug used for economic purpose.

32 × 1 = 32 mg wt of volume for 32 cap. Prepay.

32 ÷ 10 = 3 No. of tal we use.

300 × 32 = 9600 mg total wt of paracetol to use.

9600 ÷ 500 = 19 No. of paracelat tal to be used.

300 + 10 + 1 = 311 mg total wt of active ingredients

Note:- We choice cap. No. 0 form tal (1) because it capacity in (150)

450 – 311 = 139 mg total wt of lactose

139 × 32 = 4448 mg = 4.5 gm wt of lactose

Quiz (4):- Calculation

Bruten 100 mg ( wt a viable 200/400)

Parcetul 100 ( wt a viable 500 )

Note:- Check answer on key answer page ( ).

*Post-Test:-*

1. Advantage of capsule is:-

1. Easy to swallow
2. Water
3. Ointment
4. Gel

2. are solid preparation intended for oral administration made with a hard or soft shell:

1. Solution
2. Capsule
3. Colliodin
4. Gas

3. The types of capsule are:-

1. Four
2. Three
3. Two
4. Five

4. empty capsule shelled are made from mixture of gelatin acacia, sugar and water:-

1. Hard shell cap.
2. Soft shell cap.
3. Water
4. Alcohol

5. The soft-shell capsule compresse of:-

1. Four part
2. Three part
3. Two part
4. Five part

6. Capsule used in inhalation such as:-

1. Intal cap.
2. Glycerin
3. Granules
4. powder

7. Capsule and marding can be easily:-

1. Soft
2. Hard
3. Cod-live oil
4. Blood

8. Coloring and marking can be easily:-

1. Light protection
2. Cood place
3. Alcohol
4. Drug

9. In calculation add two more cap. To prevent:-

1. Alcohol
2. Glycerin
3. Tincture
4. Waste of weight.

10. The diluent used in cap. Preparation:-

1. Lactose
2. Powder
3. Ointment
4. Gel

*Note:-* Check answer on key answer page ( ).

( Key answer page)

*Pre-Test:-*

|  |  |
| --- | --- |
|  |  |
|  |  |

After doing the pre-test:-

\* If you got 9 or more , so congratulation to your effort and need to transition to the tenth moudule.

\* if you got less than 9, so you need to continue studging this module carefully.

*Post-test:-*

|  |  |
| --- | --- |
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After studyiny the eigthth & 9th module and doing the post-test so if you got:

\* 9 or more remove to study the tenth module.

\* Less than 9, so go over the study of the eighth, ninth module or any part of it, then do the post-test again self-test.

*Quiz (1):-* You will found the answer when you return page (98).

*Quiz (2):-* You will find the answer when you retur or page (99).

*Quiz (3):-* You will find the answer when return on page (100).

*Quiz (4).* -You will found the answer when return on page (101).

*References:-*

1. Beil NDS Jon Classoom for Pharmaceutical Production In Pharmaceutical codex 12th ed Pharmceutial Press London.

2. R.J Willam , R.E. Richard 2nd edition II Pharmaceutical practice 1996.

Eleven & Twelve & Thirteen & Fourteen module

Tablets , Definition , Additives

Diluents

Granulating agent

Binders

Lubricants

Disintegrating agent

Coloring and flavouvlly agent

*1. Over view :-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rationale:-* This is very important subject must be studied by student to know what is tablet definition and additive like diluents granulating agent , binder, lubricants, disinteg, rating agent coloring and flaroring agent.

*c. Central Idea:-*

1. What is tablet dosage form and way of admintration.
2. Diluentest and additive added to table.
3. What is diluents .
4. Lubricants
5. Disintigraty agent.
6. Coloring and flavoring agent.

*d. Instructions:-*

1. The study the over view of the module carefully
2. Recognize the performance objective of this module.
3. Do the pre-test & if you get:-

a. 9 or more, so you don’t need to study this module & review with your teacher or master.

b. less than 9, so you need to continue studying this module precisely.

1. After studying the 10th module do the post-test , so ie you get:-

a. 9 or more remove to study eleventh module.

b. Less than 9, so go over the study of the tenth module or any part of it, then do the post-test again.

*2. Performance objectives:-*

When the student finished this module he will be able to:-

1. To know what is tablet dosage form.
2. Additives used in tablets.
3. What type of dilution.
4. What is granulating agent.
5. What is binder.
6. The additive lubricant used in tablrt.
7. Disintegrating agebt used in table.
8. Coloring & flaroing agent.

*3. Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch)

1. The most extensively used solid dosage form:-

1. Solution
2. Dose
3. Ointment
4. Tablet

2. Used to increase the weight of the tablet:-

1. Diluents
2. Gel
3. Blood
4. Glycerin

3. Used in order to change fine powder into coarse granules:-

1. Powder
2. Drug
3. Theobroma oil
4. Granulating agent

4. Used to prevent dissociation of tablet:-

1. Capsule
2. Binder
3. Diluent
4. Lactose

5. The substance used to prevent adhesion and adsorption of active ingredients on the wall of machine:-

1. Lubricates
2. Alcohol
3. Ointment
4. Collodion.

6. To help to passage of granules through the pore of machine:-

1. Solution
2. Hydrogen peroxide
3. Lubricant
4. Glucose

7. The substance to used to disintegrate of insoluble active ingredent:-

1. Powder
2. Cataplasma
3. Disintegrating agent
4. Diluent

8. Used to increase acceptability to patient:-

1. Coloring agent
2. Medicine
3. Gargle
4. Lotion

9. Used to preduce standerd preparation:-

1. Capsule
2. Coloring agent
3. Children
4. Sodium chloride

10. The types of additives added to tablet dosage form is:-

1. Two
2. Six
3. Three
4. Four

*Note:-* Check your answer on key answer page ( ).

Tablets

Are the most extensively used solid dosage form. They are prepared by module or usually compression.

The active ingredient mixed in indiffrernt ratio compressed rather circular in shape or compresed from both sides, add coloring & flavrouing agent some time.

Additives used for tablet preparation:-

1. Diluents
2. Binders
3. Granulating agent
4. Lubricants
5. Disintegrating agent
6. Coloring & flaroring agent

*Quiz (1):-* Enumerate the additive used in tablet preparation.

*Note:-* Check your answer on key answer page ( ).

Diluents

Used to increase the wight of tablet in ordre to get proper size of tadlet for example:

1. Sucrose

2. Lactose

3. Sodium chloride

4. Lactose

5. Dextrose

6. Talic powder

Granulating agent

Used in ordre to change fine powder into coase granules used with acacia binders for example:

1. Water & alcohol with acacia and starch and glncode solution or sucrose in suffient quantily.

2. Water with muelage acacia 2.5 %.

3. Tragcantl 2.5 &.

4. Starch 1.4 &.

5. Glucose solution ( 1- 5 %).

6. Sucrose solution ( 2- 20 %).

7. Gelotin solution ( 1-3 %).

8. Lactose (5-20 %).

*Quiz (2):-* Fill I the Blanles with correct words:-

1. Water with muatage acacia 2.5% is used as ------------------ in taflet preparation.

2. Diluent used to --------------------- the weight of taflnt.

Binder

Uswd with the fine powder to get coorse granules to prevent dissociation of taflet for example:-

1. Acacia powder

2. mucilage of tragcanth 1-3%.

3. Starch

4. Gelatin 5. Glucose & gelatinLubricants

1. Used to prevent adhesion & adsorption of active ingredrnt on the wall of machinc.

2. & help to passage of granules through the pore of machain.

3. Give good appearance for the table.

4. Remove the table from machain easily for example:-

1) Gelatin, glucose, sucrose 2%.

2) Magnuis , cihat, 1/4 – 1%.

*Quiz (3):-* Mention why lubricats used in taflet preparation.

*Note:-* Check your answer on key answer page ( ).

Disintegration agent

This is used when the active ingredients are insoluble in water, help in disintegration of table after swallowing

Disintegration agent e.g:-

1. Starch 5-10 %.
2. Cocoa both & ether
3. Tartaric acid & sodium bicarbonate.

Coloring & Flavoring agent

1. Colour:- Pharemanceutical preparation are coloured for four main reasons:-

1. To increase their acceptability to patient ( Attractive).
2. To give warning
3. For identification = this is the chief reason for colouring medicated surgical dressing
4. To produce standard preparation.

*Quiz (4):-* Mention disintegrating agent used in table preparation.

*Note:-* Check your answer on key answer page ( ).

*Post-Test:-*

1. Coloring agent used for:-

1. Four reasence
2. Two reasence
3. Three reasence
4. Five reasence

2. Used to produse standerd preparation:-

1. Capsule
2. Coloring agent
3. Children
4. Sodium chloride

3. The substance to be used to disinteqrent insoluble active ingerdents:-

1. Powder
2. Hydrosen peroxide
3. Lubricant
4. Disintegrating agent

4. To help to passage of granules through the pore of machine:-

1. Solution
2. Cataplasion
3. Lubricant
4. Glucose

5. The most extensively used solid dosage from :-

1. Solution
2. Dose
3. Table
4. Ointment

6. Used to increase weight of taflet:-

1. Diluent
2. Gel
3. Blood
4. Glycerin

7. Used to prevent dissociation of taflet:-

1. Powder
2. Drug
3. Theobeoma oil
4. Granulating agent

8. The substance used to prevent adhesion & adsorption of active ingredients on the wall of machain:-

1. Lubricant
2. Alcohol
3. Ointment
4. Colloidon

9. Substance to used to disintegrate insoluble active ingredient:-

1. Powder
2. Cataplasma
3. Disintegraty agent
4. Diluent

10. The types of additives added to taflet preparation are:-

1. Two
2. Six
3. Three
4. Four

*Note:-* Check your answer on key answer page ( ).

Key answer page

*Pre-Test:-*

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After doing the pre-test:-

\* If you got 9 or more, so congralutation to your effort and need to transition to the 11th module.

\* If you got less than 9, so you need to continue studying this module carefully.

*Post-Test:-*

|  |  |
| --- | --- |
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|  |  |

After studying the 10th module the post-test so if you got:-

\* 9 or more move to study the 11th module.

\* Less than 9, so go over the study of the 10th module or any part of it then do the post0test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (111).

*Quiz (2):-* You will found the answer when you return on page (112).

*Quiz (3):-* You will found the answer when you return on page (113).

*Quiz (4):-* You will found the answer when you return on page (114).

*References:-*

1. Kirk B-Hambleton R, Hoskins HT 1985 Amodel for predicting the stability autoclaned pharimceutical using real time computer integration techniques-Journal of Parenteral science & technology 39-89-98.

2. Table science & technology 39-89-98 United state pharmcopeca 23. 1995 Mack Easton, PA.

Fifteen module

Tinctures , Definition , Uses

Classification with examples

*1. Over view:-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rationale:-* This is very important subjected must be studed by student to know what is tincture, definition, uses classification.

*c. Central Idea:-*

1. What is tincture & itdefinition
2. Uses of tincture
3. Classification
4. Example

*d. Instructions:-*

1. Study the over view of the module carefully.
2. Recognize the prefornance objective of this module.
3. Do the pre-test & if you get:

a. 9 or more so you don’t need to study this module.

b. Less than 9 so you need to continue studying this module precisly.

1. After studying the 11th & 12th module do the post-test, so if you get:-

a. 9 or more remove to study 13th module.

b. Less than 9, so go over the study of the 11th & 12th or any part of it then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is tincture
2. What are the uses of tincture
3. What are the classification
4. Example on tincture

*3. Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. Are alcohol or hydroalcohol solution or chemical soluble constatenous of vegetable or animal drugs:-

1. Tablet
2. Tincture
3. Solution
4. Gel

2. Tincture of cardamom are preparaed by:-

1. Extraction
2. Simple mixing
3. Solution
4. Ointment

3. Tincture preparaed by simple mixing:-

1. Ginger
2. Cardamom
3. Sodume chloride d) Iodine

4. Tincture of orange are prepared by:-

1. Chemical
2. Physical
3. Maceration
4. Simple

5. The strong concentration of active ingredients are:-

1. 20%
2. 50%
3. 10%
4. 40%

6. used as anticolonergic to overcome intestinal spasma:-

1. Belladona tincture
2. Iodine
3. Chemical
4. Tablet

7. Compound benzoin tincture preparaed by:-

1. Chemical
2. Ointment
3. Beeswax
4. Maceration

8. Tincture used as topical detergent is:-

1. Orange
2. Lemon
3. Cream soap
4. Iodine

9. Tincture preparaed by perculation and used orally as analgesic:-

1. Salin
2. Opium tincture
3. Solution
4. Capsule

10. Tincture prepared by miceration and used as flaroring agent:-

1. Vanilla tincture
2. Orange tincture
3. Opium tr.
4. Tolu-balsam.

*Note:-* Check your answer on key answer page ( ).

Tincture

Are alcohol or hydro-alcohol solution or chemical soluble constatenous of vegetable or animal drugs.

These are alcohol preparation conyaining the active principles of vegetable drugs. They are relatively weak compared with extract.

( Preparation of tincture)

1. By extraction from plants or animal by dissolving the soluble active ingredients for example tincture of cardmon compound.

2. Tincture prepared by simple mixing e.g. weak tincture of ginger.

3. tincture prepared by maceration plants part maceration from 2-24 day and form time e.g. ( Tincture of orange, Lemoz)

4. Tincture preparaed dy peculation e.g. ( Tincture of ballodona).

Q 1:- Enumerat method of tinctune preparation.

*Note :* Check your answer on answer key page.

( Concentration of Tinctures )

Strength of Tincture

1) The concentration of Tinctures is 10% if the active ingredient (Tincture content ) stronge active constuent of ingredients .

2) Concentration of Tinctune 20% if at quautity of active ingredient .

Q 2:- Explain the concentration of Tinctures.

*Note :-* Check your answer on key page ( ).

*Examples of Tincture:-*

|  |  |  |
| --- | --- | --- |
| Tinctures | Method of prepara tion | Use of compound |
| 1. Belladona tincture | perculation | Uaed as anticolenergic to overcome intestinal spasma and check secrtion |
| 2. Compound benzoyne tincture | macreation | To pical protect contain benzoine aloe tolu balsm in alcohol |
| 3. Green soap tincture | solution | Topical delergent |
| 4. Iodine tincture | solution | Topical antiseptic antinfectad |
| 5. Opium tincture | maceration | Used as flavoring tincture |
| 6. Vanella tincture | Maceration & perculation | Flavoring tincture |

*Quiz (3):-* Fill in the blank with correct words:-

1. Iodine tincture used -------------- .
2. Opium tincture used ---------------- .
3. Tolue balss used --------------------- .
4. Vanilla tincture used ---------------- .

*Note:-* Check your answer on key answer page ( ).

*Post-test:-*

1. used as anticolenergic to overcome intetinal spasm:-

1. Belladona tincture
2. Iodine
3. Chemical
4. Tablet

2. Tincture prepared by simple mixing:-

1. Ginger
2. Cardomon
3. Sodium chloride
4. Water

3. Tincture used as topical detergent:-

1. Orange
2. Lemon
3. Cream soap
4. Iodine

4. Tincture of organge are prepared by:-

1. Chemical
2. Physical
3. Maceration
4. Simple

5. The storng concentration of active ingredient are:-

1. 20%
2. 50%
3. 10%
4. 40%

6. Compound benzonin tincture prepared by:-

1. Chemical
2. Ointment
3. Beeswax
4. Maceration

7. Are alcohol or hydroalcoholic solution or chemical soluble constetnuous of vegetable or animal:-

1. Table
2. Tincture
3. Solution
4. Gel

8. Tincture of cardomon are prepared by:-

1. Extraction
2. Simple mixing
3. Solution
4. Ointment

9. Tincture prepared by maceration used as flavoring agent:-

1. Venella tincture
2. Orange tincture
3. Opium tincture
4. Tolu balsam

10. Tincture prepared by perculation and used orally as analgesic:-

1. Salin
2. Opium tincture
3. Solution
4. Capsule

*Note:-* Check your answer on key answer page ( ).

Key answer page

Pre-test:-

|  |  |
| --- | --- |
|  |  |
|  |  |

After doing the pre-test:-

\* If you get 9 or more, so congratulation to your effort and need to transition the 13th module.

\* If you got less than 9, so you need to continue studying module carefully.

*Post-Test:-*

|  |  |
| --- | --- |
|  |  |
|  |  |

After syuding the 10 & 11 module & doing the post-test so if you got:-

* 9 or more remove to study 13th module.
* Less than 9, so go over study of first module or any part of it , then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (123).

*Quiz (2):-* You will found the answer when you return on page (124).

*Quiz (3):-* You will found the answer when you return on page (125).

*Quiz (4):-* You will found the answer when you return on page (126).

*References:-*

1. ABPI Compendium of data sheets and awrnmries of product characteristic data pharm publication London 1995.

2. Wade A 1980 Pharmcetical handbook 19th edn pharmaceutical press, London.

Seventeenth module

Cataplasma ( Poultice)

*1. Over view:-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rationale:-* This is a very important subject must be student to know the studied by to know the science that deal with the drugs and to know medical prescription parts and most important definition used in this field.

*c. Central Idea:-*

1. Cataplasma is dosage form must student know it.

2. The uses of Cataplasma.

3. The advantage of Cataplasma.

4. Example on Cataplasma.

*d. Instructions:-*

1. Study the over view of the module carefully.

2. Recognize the performance objective of this module.

3. Do the pre-test & if you get:-

1. more, so you don’t need to study this module & review with your teacher or master.
2. Less than 9, so you need to continue studying this module precisely.

4. After studying the 13th module, do the post-test, so if you get:-

9 or more remove to study of this module or any part of it, then do the post-test again.

*2. Performance objectives:-*

When the student finished this module he will be able to:-

1. Know the most important medical trems.

2. Classify the parts of prescription.

3. The contribution of pharmacy today is health care provision.

4. The extended role of pharmacists.

*Pre- Test:-*

Q 1:- Choose the correct answer by encircle on the right letter:-

( 1 degree to each branch )

1. Paste-like preparation used externally is:-

1. Solution
2. Eye ointment
3. Cataplasma
4. Tablet

2. The preparation is spread thickly on addressing and applied as:-

1. Hot
2. Cold
3. Gel
4. Buffer

3. Mix kaolin with boric acid and add:-

1. Water
2. Glycerin
3. Alcohol
4. Gel

4. It is better to use heavy kaolin because:-

1. Isotonic
2. Hyperyonic
3. Chcaper
4. Expensive

5. Heating to 1200 C is useful to:-

1. Table
2. Ointment
3. Solution
4. To kill spore

6. Heating is useful to complete :-

1. Reaction
2. Solution
3. Buffer
4. Isotonic solution

7. Poultices are past-test preparation used externally to:-

1. Boiting
2. Reduce inflammation
3. Cooling
4. Buffer

8. Heat cataplasma on water both to:-

1. 1000 C
2. 500 C
3. 1200 C
4. 4000 C

9. Add methyal salicylate to make cataplasma:-

1. Oil of peppermeut
2. Alcohol
3. Water
4. Glycerin

10. 10gm starch and mix with purified water to get then add reming:-

1. Boiling water
2. Cool water
3. Alcohol
4. Isotonic solution

*Note:-* Check your answer on key answer page ( ).

Cataplasma ( Poultices )

Are paste-lite preparation used externally to reduce inflammation because they retain heat well.

After heating the preparation is spread thickly on adresy and applied as hot as oatienl can bear it, to the affected area.

*Quiz:-* Define Cataplasma.

*Note:-* Check your answer on key answer page ( ).

Kaolin Poultice

Kaolin Poultice

Cataplasma Kaolin

RX:-

Kaolin finely sifled dried at 1000 C 527gm

Boric acid powder finly sifted 45gm

Methyl salicylate 2ml

Oil of peppermint 0.5ml

Thymol 0.5 gm

Glycerin 425gm

*Methods:-*

1. Mix kaolin with boric acid then add glycerin to them.

2. Heat over water-both to 1200 C for 1hr with mixing from time to time.

3. Cool the result and add mrthyal salicylate oil of peppermeul with coulenous mixing.

*Quiz (2):-* Explain kaolin poultice.

*Note:-* Check your answer on key answer page ( ).

Cataplasma

1. It is better to use heavy kaolin because it is cheaper than light kaolin, also it is best base for poultice.

2. Heating to 1200 C is useful to kill the spores of bacteria like

( B-tetanus) which found in Aluminum silicate in kaolin also heating is useful to complete and glycerin to form glyceroboric acid which have medical using.

*Quiz (3):-* Why we use heavy kaolin instead of light kaolin in poultice preparation.

Poultice of starch

Poultice of starch

( Cataplasma Amyl)

RX:-

Starch 10gm

Purified water to 100 ml

*Method:-*

1. Weight 10gm starch & mix with purified water to gel paste then add the remaing boiling.

2. Heat the paste until boiling.

*Quiz (4):-* Explin poultice of starch.

*Note:-* Check your answer on page answer page ( ).

*Post-Test:-*

1. 10 gm starch and mix with purified water to get paste then add reaming:-

1. Boling water
2. Cold water
3. Alcohol
4. Isotonic solution

2. Add methyl salicylate to make Cataplasma:-

1. Oil of peppermint
2. Alcohol
3. Water
4. Glycerin

3. Heat Cataplasma or water-bath to:-

1. 1000 C
2. 500 C
3. 1200 C
4. 4000 C

4. Poulties are paste-like preparation used externally to:-

1. Boiling
2. Reduce inflammation
3. Cooling
4. Buffer

5. Poultice are paste-like preparation used externally to:-

1. Boiling
2. Reduce inflammation
3. Cooling
4. Buffer

6. Starch and purified water is:-

1. Cataplasma
2. Collodion
3. Cream
4. Gel

7. Heating is useful to complete:-

1. Reaction
2. Solution
3. Buffer
4. Isotonic solution

8. Heating to 1200 C is useful to:-

1. Tablet
2. Ointment
3. Solution
4. To kill spore

9. Paste-like preparation used externally is:-

1. Solution
2. Eye ointment
3. Cataplasma
4. Tablet

10. The preparation is spread thickly on addressing and applied as:-

1. Hot
2. Cold
3. Gel d) Buffer

*Note:-* Check your answer on page answer page ( ).

Key answer page

*Pre-test:-*

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After doing the pre-test:-

* If you got 9 or more so congralation to your effect need to transition to 14th module.
* If you got less than 9 so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the 13th module & doing the post-test, so if you got:-

\* 9 or more move to study the 14th module.

\* Less than 9, so go over the study of the 13th module or any part of it, then do the post-test.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (135).

*Quiz (2):-* You will found the answer when you return on page (136).

*Quiz (3):-* You will found the answer when you return on page (137).

*Quiz (4):-* You will found the answer when you return on page (138).

*References:-*

1. ABPI Compendium of data sheets & Summaries of product characteristic datapharm publication

London (99).

2. Wade A-1980 pharmaceutical hard book 19th pharmaceutical press.

Eighteen & nineteen module

Medical injection, Definition

Uses, Types classification

With examples

*1. Over view:-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rational:-* This is very important subjected must be studied by student to know what is medical injection, definition, uses, types classification with example.

*c. Central Idea:-*

1. What is medical injection
2. Advantages of injection
3. Uses of injection
4. Example of injection

*d. Instructions:-*

1. Study the over view of the module carefully.
2. Recognize the performance objective of this module.
3. Do the pre-test & if you got:-

a. 9 or more ,so you don’t need to study this module & review with your teacher or master.

b. Less than 9,so you need to continue studying this module precisely.

1. After studying the 14th & 15th module do the post-test, so if you get:-

a. 9 or more remove to study 16th module

b. Less than 9, so go over the study of 14th & 15th module or any part of it, then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is definition of medical injection.
2. To know advantages of medical injection.
3. Uses of medical injection.
4. Classification of medical injection.
5. Types & examples of injection.

*3. Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. Used parenterally and are sterite:-

1. Injection
2. Drops
3. Ointment
4. Tablet

2. The poor absorption of the drug given:-

1. Orally
2. Injection
3. Tablet
4. Buffer

3. Drug produced a localized effect:-

1. Tablet
2. Injection
3. Solution d) Eye drop

4. Rapidly correct fluid and electrolytatc imbalance:-

1. Drug
2. Ointment
3. Gel
4. Injection

5. These are major routes of Parenteral drug:-

1. One
2. Two
3. Three
4. Four

6. The vehicle provides the highest proportion of formulation should not be :-

1. Toxic
2. Table
3. Preservative
4. Solution

7. Additines used in injection preparation is:-

1. Gel
2. Tablet
3. Preservation
4. Solution

8. Antimicrobial agent add to injection of:-

1. Multiple dose
2. Single dose
3. Drug
4. Buffer

9. The ideal ptl of Parenteral product is:-

1. 4.5
2. 7.4
3. 9
4. 14

10. Isotonicety adjusting agent isotonic solution have the same:-

1. Osmotic pressure
2. Hypertonic
3. Hypotonic
4. Water

*Note:-* Check your answer on key answer page ( ).

Injection

These are used parent rally and are sterile, Parenteral products are dosage forms which are delivered to the patient by a rout out with the alimentary canal.

The Parenteral rout of administration is often used for drugs which cannot be given orally , this may be due to patient intolerance to the instability of the drug or to poor absorption of the drug if given by the oral route.

Parenteral products injection or infused directly into vessels, tissues.

*Quiz (1):-* Define medical injection.

*Note:-* Check your answer on key answer page ( ).

Advantages of Parenteral therapy

1. Produce a localized effect

2. administer dregs if the oral rout cannot be used

3. deliver drugs to the unconscious patient

4. Rapidly correct fluid and electrolyte imbalance

5. Ensune delivery of the drug to the target tissue

*Quiz (2):-* Mention the advantages of Parenteral therapy.

*Note:-* Check your answer on key answer page ( ).

Admintration

The three major routs Parenteral drugs and adminstration are:-

1. Subcutaneous
2. Intramuscular
3. Intravenous

In addition to these, other roules such as intraderal, intra arterial, intracardaic, intraspinal & intra-articular.

*Quiz (3):-* Enmural the major route of Parenteral drug.

*Note:-* Check your answer on key answer page ( ).

Products for Parenteral use

Parenteral products are sterile formulations which are administered into the body by various routes include injection, infusion & implantation.

Injections

These are subdivided into small & large volume Parenteral fluids-small volume parenterals are steriles pyrogen-free injectable products. They are packaged in volume up to 100 ml small volume parentenal fluids are packed as:-

1. Single dose ampoules
2. Multiple dose vials
3. Prefilled syringes

*Quiz (4):-* Enumerate packed volume of medical injection

*Note:-* Check your answer on key answer page ( ).

*Post-Test:-*

1. Isotonicity-adjusting agent isotonic solution have the same:-

1. Osmotic pressure
2. Hypertonic
3. Hypotonic
4. water

2. The ideal PH of Parenteral product is:-

1. 4.5
2. 7.4
3. 9
4. 14

3. Antimicrobial agent add to injection of:-

1. Multiple dose
2. Single dose
3. Drug
4. Buffer

4. The poor absorption of the drug given:-

1. Orally
2. Injection
3. Tablet
4. Buffer

5. Drug produced a localized effect:-

1. Tablet
2. Injection
3. Solution
4. Eye drop

6. Rapidly correct fluid and electrolytatc imbalance:-

1. Drug
2. Ointment
3. Gel
4. Injection

7. They are major routes of Parenteral drug:-

1. One
2. Two
3. Three
4. Four

8. . The vehicle provides the highest proportion of formulation should not be :-

a) Toxic

b) Table

c) Preservative

d) Solution

9. Additines used in injection preparation is:-

a) Gel

b) Tablet

c) Preservation

d) Solution

10. Used parenterally and are sterite:-

1. Injection
2. Drops
3. Ointment
4. Tablet

*Note:-* Check your answer on key answer page ( ).

Key answer page

*Pre-Test:-*

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After doing the pre-test:-

* If you got 9 or more so congralation to your effect need to transition to 15th module.
* If you got less than 9 so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the this module & doing the post-test, so if you got:-

\* 9 or more move to study the next module.

\* Less than 9, so go over the study of the first module or any part of it, then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (147).

*Quiz (2):-* You will found the answer when you return on page (148).

*Quiz (3):-* You will found the answer when you return on page (149).

*Quiz (4):-* You will found the answer when you return on page (150).

*References:-*

1. Aulton M.E 1988 pharmaceutics; the science of dosage form design Churchill livepenton, Edam burgh.

2. Pharmaceutical Codex 1994 (12th edn) pharmaceutical press London.

Twenty module

Eye drops, Definition

Uses

Examples

*1. Over view:-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rational:-* This is very important subjected must be studied by student to know what is Eye drops (Ophthalmic) , definition, uses, types classification with example.

*c. Central Idea:-*

1) What is Eye drops (Ophthalmic).

2) Advantages of Eye drops.

3) Uses of Eye drops .

4) Example of Eye drops.

5) Formulation of eye drops.

d. Instructions:-

1) Study the over view of the module carefully.

2) Recognize the performance objective of this module.

3) Do the pre-test & if you got:-

a. 9 or more ,so you don’t need to study this module & review with your teacher or master.

b. Less than 9,so you need to continue studying this module precisely.

1. After studying the 16th module do the post-test, so if you get:-

a. 9 or more remove to study 17th module

b. Less than 9, so go over the study of 16th module or any part of it, then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is definition of Eye drops (Ophthalmic).
2. To know advantages of Eye drops.
3. Uses of Eye drops.
4. Examples of Eye drops.
5. Formulation of eye drops.

*Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. Eye drops must not contain:

1. Forigen subs
2. Tablet
3. Drugs
4. Gel

2. Preservale uaed in eye drops like:

1. Phenyl mercuric nitrate
2. Alcohol
3. Glycerin
4. water

3. Eye drops must be isotonic:

1. same pressure
2. hypertonic
3. hypotonic
4. equall

4. Sodium metabisulphite use in eye drops is:

1. oxidize agent
2. reduction
3. buffer
4. tablet

5. The substance used to keep PH constant called:

1. reduction agent
2. oxidation agent
3. buffer
4. glycerin

6. Methyl cellulose used in eye drops in order to keep:

1. viscosity
2. Isotonicety
3. Hypertonic
4. Hypotonic

7. The container used for eye drop must be:

1. Dark
2. White
3. Red
4. yellow

8. Preservtine used for eye drop to:

1. gel
2. Collodion
3. To prevent microbial growth
4. Cream

9. Example of eye drops is:-

1. Sulfacetamid
2. Table
3. Drug
4. Gel

10. Auxiliary agent in eye drop used to:

1. Prevent analysis heavy metal
2. Isotonic
3. Hypertonic
4. Hypotonic

*Note:-* Check your answer on key answer page ( ).

Eye drops ( Ophthalmic)

Are aqueous oily sterilized solution used for eye treatment and must be:

1. Sterilized.
2. Must not contain forign subs.
3. Must not contain irritant ingredients to eye tissues.
4. Contain preservitives to prevent microbial growth.
5. Must be isotonic solution

*Quiz (1):-* What are properties of eye drops.

*Note:-* Check your answer on key answer page ( ).

Formulation of Eye drops

In order to keep the ophthalmic drops for longtime stable must add other ingredients in addition to active ingredients.

1. Preservation like

2. Phenyl mercuric nitrates

3. Phenyl ethyl alcohol

4. Benzalkonu chloride

5. Isotonicety

6. Oxidation of medicatent.

*Quiz (2):-* Explain formulation of eye drops?

6. Hydrogen ion concentration

PH must be constant, so use buffer solution for e.g. in chlormphenal eye drops we use boric acid and borax as a buffer.

7. Auxiliary agent:- Used to prevent analysis of heavy metals used in eye drops (e.g.) sodium Edetate use in eye drops.

*Viscosity of solution:-*

Must add agent to viscous the eye drop in order to remain for long time like 1% of methyl cellule.

*Quiz (3):-* Explain viscosity of eye drop?

Eye drop containers

Eye drop container should be dark or green color & dropper made of glass or plastic which will not read with active ingredients.

*Quiz (4):-* Explain eye drop container.

*Note:-* Check your answer on key answer page ( ).

*Post-Test:-*

1. Auxillary agent in eye drop used to:-

a. Prevent analysis of heavy metal

b. Isotonic

c. Hypertonic

d. Hypotonic

2. Example of eye drops:-

a. Sulfacetamid

b. Table

c. Drug d. Gel

3. Preservitive used for eye drop to:-

a. Gel

b. Collodion

c. To prevent microbial growth

d. Cream

4. The container used for eye drops must be :-

a. Dark

b. White

c. Red

d. Yellow

5. Methylcellulose used in eye drop in order to keep:-

a. Viscosity

b. Isotonicity

c. Buffer

d. Glycerin

6. Sodium metabisulfat use in drop is:-

a. Oxidazing agent

b. Reduction agent

c. Buffer

d. Tablet

7. Eye drops must be isotonic:-

a. Same pressure

b. Hypertonic

c. Hypotonic

d. Water

8. Preservitive used in eye drops like :-

a. Phenlmercuric nitrate

b. Alcohol

c. Glycerin

d. Water

9. Eye drops must not contain:-

a. Forign substance

b. Table

c. Drug

d. Gel

10. Preservative used for eye drops to:-

a. Gel

b. Colloidon

c. To prevent microbial growth

d. Cream

*Note:-* Check your answer on page answer page ( ).

Key answer page

*Pre-Test:-*

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After doing the pre-test:-

* If you got 9 or more so congralation to your effect need to transition to 17th module.
* If you got less than 9 so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the 16th module & doing the post-test, so if you got:-

\* 9 or more move to study the next module.

\* Less than 9, so go over the study of the 16th module or any part of it, then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (159).

*Quiz (2):-* You will found the answer when you return on page (160).

*Quiz (3):-* You will found the answer when you return on page (161).

*Quiz (4):-* You will found the answer when you return on page (162).

*References:-*

1. Aulton M.E 1988 pharmaceutics; the science of dosage form Churchill ,livepenton, Edam burgh.

2. ABPI Compendium of data sheets & Summaries of product characteristic; Current edn, datapharm publication

London (Update annually).

Twenty one & Twenty two module

Nasal drops, Definition

Uses, Example

Ear drops, Definition

Uses

Example

*1. Over view:-*

*a. Target population:-*

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rational:-* This is very important subjected must be studied by student to know what is nasal drops and ear drop their uses and examples.

*c. Central Idea:-*

1) What is nasal drops and the way of adminstration.

2) Ear drops what is it.

3) Uses of nasal drops .

4) Example of nasal drops.

5) Uses of ear drops.

6) Example of ear drops.

d. Instructions:-

1) Study the over view of the module carefully.

2) Recognize the performance objective of this module.

3) Do the pre-test & if you got:-

a. 9 or more ,so you don’t need to study this module & review with your teacher or master.

b. Less than 9,so you need to continue studying this module precisely.

4) After studying the 17th & 18th module do the post-test, so if you get:-

a. 9 or more, remove to study 19th module

b. Less than 9, so go over the study of 18th module or any part of it, then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is nasal drops.
2. To know what is the nasal drops.
3. Uses of nasal drops.
4. Examples of nasal drops.
5. Use of ear drops.
6. Example of ear drops.

*Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. The nasal drops solution are:-

1. Isotonic
2. Hypertonic
3. Hypertonic
4. Normal salin

2. The PH of nasal drops:-

1. 4 b) 6.5 c) 2 d) 9

3. PH of nasal is 6.5 to prevent:-

1. Gel
2. Cream
3. Alcohol
4. Prevent damage to Cilary transport

4. Dencongestant can use for:-

1. Short of time
2. Long time
3. Both of them
4. Non-of them

5. The nasal route range may also be useful for biological active:-

a) peptides & polypeplides

b) Glycerin

c) Alcohol

d) Normal salin

6. Ear drops also called:-

1. Aural prep
2. Nasal drop
3. Eye drop
4. Gel

7. Ear drop vehical used:-

1. Buffer
2. Preservative
3. Glycerin
4. Propyleve glycerin

8 . The drops can be warned by holding:-

1. The bottle
2. Table
3. Red
4. Water

9. Mannfactured ear drops are usually packed in small:-

1. Both
2. Glass or plastic container
3. Steel
4. Jar

10. The patient should remain in this position for a few minutes after the drops have beer administer to:-

1. Spread in the nose
2. Spread n eye
3. Tablet
4. Iotion

Ear drops

Ear drops are solution for one or more active ingredients which exert alcohol effect in the ear, for example by softing ear wax or treating infection or inflammation. They may also be referred to as otic or aural preparation propylene glycol, glycercl and water may be used as vehicles. Examples are aluminum acetate ear drops, almond oil ear drops and sodium bicarbonate ear drop BP.

*Quiz (1):-* Explain ear drops?

*Note:-* Check your answer on key answer page ( ).

Containers for nasal and aural preparation

Nose and ear drops that prepared extemporaneously should be packed in an amber, ribbed hexagonal glass bottle which is fitted with a rubber teat and dropper. Manufactured nasal solution may be packed in flexible plastic bottles which deliver affine a pray to the nose when squeezed, or in a plain glass bottle with a pump spray or dropper.

*Quiz (2):-* What is propentery of container for nasal and aural preparation?

*Note:-* Check your answer on key answer page ( ).

Ear drops

They are pharmaceutical preparation contain one or more active ingredient dissolved in water or glycerin or pure alcohol in different concentration or special solvent like propylenedlycol.

These drops also sotain (antibiotics) like tetracycline or chlormphencil.

1. Tetracyclin otic drop 50 gm with 10ml of solvent.

2. Chormphenicsl drop

3. Pheral ear drop

RX:-

Phenal liquid 1 gm

Glycerin Q.S to 100ml

Sodium Bicarbonate ear drop

RX:-

Sodium Bicarbonate 5gm

Glycerin pure 33ml

D.W Q.S to 100ml

- Dissolve Sod. Bicarbonate in D.W then filter add glycerin end complet volume with D,W to 100ml.

*Quiz (3):-* Mention example on ear drop and expline sodium Bicarbonate ear drop.

*Note:-* Check your answer on key answer page ( ).

Nasal drops

Naristillae

Are aqueous and oil drop not used effect on movement of cilia.

Must be sterilized & used for bleeding of nose and must not be used for long time because of it side-effect.

e.g.

1. Ephedrine Nasal drop ( Naristitlae Ephedrine)

- Powder of ephedrine Hcl 0.5g , Chlero butal 0.5g

*Quiz (4):-* Explain Nasal drop with example?

*Note:-* Check your answer on key answer page ( ).

*4. Post-Test:-*

1. The patient should remain in this position for a few minutes after the drops have been a dmintered:-

1. Spread in the nose
2. Spread in eye
3. Tablet
4. Iotion

2. Manufacture ear drops are usually packed in small:-

1. Bottle
2. Glass or plastic container
3. Steel
4. Jar

3. The drops can be warried by holding:-

1. The bottle
2. Lablel
3. Red
4. Water

4. Ear drop vehical used:-

1. Buffer
2. Preservative
3. Glycerol
4. Propylene glycol

5. Ear drops also called:-

1. Aural preparation
2. Nasal drops
3. Eye drops
4. Gel

6. The nasal route range may also be useful for new biological active:-

1. Peptid & polypeptide
2. Glycerin
3. Alcohol
4. Normal salin

7. Decongestant can use for:-

1. Short of time
2. Long time
3. Both of time
4. Non-of time

8. PH of nasal is 6.5 to prevent:-

1. Gel
2. Cream
3. Alcohol
4. Prevent damage of Cilary transport

9. The PH of nasal drops is:-

1. 4
2. 6.5
3. 2
4. 9

10. The nasal drops solution are:-

1. Isotonic
2. Hypertonic
3. Hypotonic
4. Normal salin

*Note:-* Check your answer on key answer page ( ).

Key answer page

*Pre-Test:-*

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After doing the pre-test:-

* If you got 9 or more, so congratulation your effort and need to transition 19th module.
* If you got less than 9, so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the 17th & 18th module & doing the post-test, so if you got:-

\* 9 or more move to study the next module.

\* Less than 9, so go over the study of the 17th & 18th module or any part of it, then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (171).

*Quiz (2):-* You will found the answer when you return on page (172).

*Quiz (3):-* You will found the answer when you return on page (173).

*Quiz (4):-* You will found the answer when you return on page (174).

*References :-*

1. Ansel H.c popovich N.G. Allen L.v1995 Pharmaceutical

dosage forms and drug delivery system 6th edn Williama & Willkins Malvern , U.S.A.

2. Reynolds JE.F (ed) 1996 Martindale, the extra pharmacopea 31st edn Pharmaceutical press London.

3. Wade A (ed) 1980 Pharmaceutical handbook 19th edn Pharmaceutical press London.

Twenty Four module

Collodion

*1. Over view:-*

a. Target population:-

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

*b. Rational:-* This is very important subjected must be studied by student to know what is Collodion, definition, methods of preparation, examples.

*c. Central Idea:-*

1) What is Collodion and the way of adminstration.

2) What is definition of Collodion.

3) Methods of Collodion preparation.

4) Example on Collodion.

d. Instructions:-

1) Study the over view of the module carefully.

2) Recognize the performance objective of this module.

3) Do the pre-test & if you got:-

a. 9 or more ,so you don’t need to study this module & review with your teacher or master.

b. Less than 9,so you need to continue studying this module precisely.

4) After studying the 17th & 18th module do the post-test, so if you get:-

a. 9 or more, move to other module.

b. Less than 9, so go over the study of the other module or any part of it, then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is definition of Collodion.
2. The use of Collodion .
3. Examples of nasal drops.
4. Method of preparation of Collodion.
5. Examples.

*Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. Fluid preparation for external use applied by a brush or rod:-

a) Collodion

b) Cataplasma

c) Solution

d) Tablet.

2. The vehicle used in Collodion is:-

a) Isotonic

b) Glycerin

c) Volatil substance

d) Non-volatil subs.

3. Castor oil used in Collodion to gine:-

a) Flexibility

b) hard

c) gel

d) buffer

4. Nitrocellulose in Collodion is mixture of:-

a) Water & cohol

b) Ether and cohol

c) Buffer & cohol

d) Water & ether

5. Unmedicated Collodion is useful for:-

a) Small cut

b) Deep cat

c) Burns

d) Tablet

6. Pyroxyl is mixture of:-

a) Cotton & H2 SO4 + HNO3 .

b) Coton and water

c) Cotton and acetone

d) Cotton

7. Mix H2 SO4 & HNO3 in porcelain dish leave to cool to:-

a) 500C

b) 100C

c) 200C

d) 400C

8. Dry the cotton after mixing by using:-

a) Filter paper

b) Ganze

c) Non-of them

d) Both-of them

9. Aceton Collodion consist of:-

a) Pyrixylin& oil of clave, amylacelata & acetone

b) Water

c) Alcohol

d) Cotton

10) The vehicle is volatile & leave an site after:-

a) Evaporation

b) Freezing

c) Drying

d) Non-of them

*Note:-* check your answer on page answer page ( ).

Collodia-Collodion

Collodions are fluid preparations for external use. They are applied with abrush or rod.

The vehical is volatile & evaporation on application on the skin, leaving aflexible, protective film coverg the site. The volatile solvents are ether and alcohol (Nitrocellulose) and the substance giving the flexbiliy is castor oil.

Unmedicated aand medicated forms are a vailable, the former are useful to protect small cuts and abrasion while the later provide provide protonged contact between the skin ?7 medicine.

*Quiz (1):-* Mention types of Collodion?

*Note:-* check your answer on page answer page ( ).

Pyroxylinum ( Pyroxylin)

RX:-

Cotton 10gm

H2SO4 sp.gr 1.42 100ml

HNO3 sp.gr 1.84 100ml

Ditle water Q.S.

Method of preparation

1. Mix 100ml of sulphuric acide with 100ml of nitrit acid in a procelin dish leave it to cool to 400C.

2. Put 10gm of cotton in this mixture of acids for 3min & mix with glass sterrior.

3. Wash the cotton to paper, the result will be white pice of cellulose scturated with 4 molecule of nitrogen ( cellulose tetranitrate) this will dissolve in one part of 90% alcohol & 3part of ether also it dissolve in acetone.

*Quiz @(2):-* How do you prepare pyroylen?

*Note:-* check your answer on page answer page ( ).

Collodium Flexable

Collodium Flexable

RX:-

Pyroxylin 20 gm

Collophyny resin 20gm

Caster oil 20gm

Alcohol 90% 340gm

Solvent ether Q.S add 1000ml

Method:-

1. Put pyroxylin into 240ml of 90% alcohol mix well.

2. Add small quantity of ether to it with mixing.

3. Add collophyny resinj & caster oil to it with good mixing to dissolve the ingredients.

4. Leave it and filter to gel rid of forigen substance.

*Quiz (4):-* How do you prepare Collodium flexable?

*Note :-* check your answer on page answer page ( ).

Aceton Collodion

Aceton Collodion ( Collodion Acetonium)

RX:-

Pyroxylin 50 gm

Oil of clave 20ml

Amyl acetate 250ml

Aceton Q.S. to 1000ml

Methods:-

1. Dissolve pyroxylin in 500ml of acetone.

2. Add to it oil of clove and 250ml of any of acetate.

3. Add acetone to complete volume to 1000ml.

*Quiz (4):-* How do you prepare acetone Collodion?

*Note :-* check your answer on page answer page ( ).

*Post-Test:-*

1. The vehicle is volatile & leave an site after:-

a) Evaporation

b) Freezing

c) Drying

d) Non-of them

2. Aceton Collodion consist of:-

a) Pyrixylin& oil of clave, amylacelata & acetone

b) Water

c) Alcohol

d) Cotton

3. Dry the cotton after mixing by using:-

a) Filter paper

b) Ganze

c) Non-of them

d) Both-of them

4. Mix H2 SO4 & HNO3 in porcelain dish leave to cool to:-

a) 500C

b) 100C

c) 200C

d) 400C

5. Pyroxyl is mixture of:-

a) Cotton & H2 SO4 + HNO3 .

b) Coton and water

c) Cotton and acetone

d) Cotton

6. Medicated Collodion is useful for:-

a) Prologed contact

b) Short contact

c) Non-of them

d) Both- of them

7. . Unmedicated Collodion is useful for:-

a) Small cut

b) Deep cat

c) Burns

d) Tablet

8. . Nitrocellulose in Collodion is mixture of:-

a) Water & cohol

b) Ether and cohol

c) Buffer & cohol

d) Water & ether

9. Castor oil used in Collodion to gine:-

a) Flexibility

b) hard

c) gel

d) buffer

10. The vehicle used in Collodion is:-

a) Isotonic solution

b) Glycerin

c) Volatil substance

d) Non-volatil subs.

*Note :-* check your answer on page answer page ( ).

Key answer page

*Pre-Test:-*

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After doing the pre-test:-

* If you got 9 or more, so congratulation your effort and need to transition of the another module.
* If you got less than 9, so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the this module & doing the post-test, so if you got:-

\* 9 or more move to the other module.

\* Less than 9, so go over the study of the 19th & 20th module or any part of it, then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (184).

*Quiz (2):-* You will found the answer when you return on page (185).

*Quiz (3):-* You will found the answer when you return on page (186).

*Quiz (4):-* You will found the answer when you return on page (187).

*References:-*

1. Handbook of pharmaceutical Excipients 1994 2nd edn.

Pharmaceutical press. London ( Gives technical details on many ingredients)

2. Reynolds JE.F (ed) 1999 Martindale; the extra pharmacopoeia 31st edn.

Pharmaceutical every 3 years-use current edn Has a lot of information about ingredients, formulae & uses of preparation.

Twenty five & Twenty six module

Incompatibity , Definition

Types of incompatibility

With examples

*1. Over view:-*

a. Target population:-

\* To student of institule of Medical / Technology/ AL-Mansoor/ 2nd –class.

b. Rational:- This is very important subjected must be studied by student to know what is Incompatibility , definition, type of Incompatibity with examples.

*c. Central Idea:-*

1) What is Incompatibility.

2) Definition of Incompatibility.

3)types of Incompatibility.

4) Example of Incompatibility.

d. Instructions:-

1) Study the over view of the module carefully.

2) Recognize the performance objective of this module.

3) Do the pre-test & if you got:-

a. 9 or more ,so you don’t need to study this module & review with your teacher or master.

b. Less than 9,so you need to continue studying this module precisely.

4) After studying the 17th & 18th module do the post-test, so if you get:-

a. 9 or more, move to other module.

b. Less than 9, so go over the study of the other module or any part of it, then do the post-test again.

*2. Performance objective:-*

When the student finished this module he will be able to:-

1. To know what is definition of Incompatibility.
2. Definition of Incompatibility.
3. Types of Incompatibility.
4. Examples of Incompatibility.

*Pre-Test:-*

Q1:- Choose the correct answer by encircle on the write letter:-

( 1 degree to each branch )

1. Is the result of mixing two or more antagonistic substance called:-

1. Table
2. Solution
3. Incompatibity
4. Iotion

2. Types of Incompatibity are:-

1. Four
2. Five
3. Two
4. Three

3. Combination of drug and diet called:-

1. Chemical
2. Therapeutic
3. Physical
4. Non-of them

4. Change due to immiscibility or insolubility called:-

1. Physical Incompatibility.
2. Chemical Incompatibility
3. Therapeutic Incompatibility
4. All of them.

5. Chang due to PH or double decomposition reaction or complex formation called:-

1. Chemical Incompatibility.
2. Buffer.
3. Binder
4. Diluent.

6. Chemical Incompatibility which is useful called:-

1. Intentional Incompatibility.
2. Physical
3. Colour
4. Buffer

7. When the volume of precipaplate is little quantity:-

1. Divide the vehicle in two part
2. Divide the vehicle into three part
3. Gel
4. Alcohol

8. Qunine in large quantity and must add:-

1. Glycerine
2. Tragcanth
3. binder
4. Diluent

9. Most acide decompose sodium salicy late release:-

1. H2O
2. CO2
3. N2
4. O2

10. When salt of stey chinine hydrochlorid aisolve water then add:-

1. Ammonium solution
2. Sodium chloride
3. Water
4. Alcohol

*Note:-* Check your answer on key answer page ( ).

Incompatibility

Is the result of mixing two or more antagonistic substances and it is detected by change in physical, chemical or therapeutic qualities, it may affect the safety, efficacy and appearance of a medicine and the pharmacist must use his pharmaceutical, chemical, pharmological background to anticipate antagonism and decide the most appropriate line of action.

*Quiz (1):-* Define Incompatibility?

*Note:-* Check your answer on key answer page ( ).

There are three types of Incompatibility:-

1. Therapeutic Incompatibility. Some combination of drug and diet can be dangerous, pharmacists must be a watchful for these interactions example morphine hydrochloride with atropine sulphate or tetracycline with milk.

2. Physical Incompatibility

This is due to immiscibity or insolubility this happen when mix oil with water for example:-

1) Camphor and Naphtha

2) Phenol and chloral hydrate

3) Menthol and thymol

4) Phenazone and sodium-Salicylate

3. Chemical Incompatibility

This type of Incompatibility s generally caused by PH-change, a double decomposition reaction or complex formation. Provided the product hairless the interaction.

There are cases that chemical Incompatibility is useful this called ( Intentional Incompatibility) for example preparation of mercurous oxide (Hg2O) is black precipitate is useful which formed form reaction between mercurous chloride.

An calcium hydroxid so black ppt. formed as alotion for dermatitis on skin information:

2Hgcl + Ca(OH)2 —› Hg2O + H2O + Cacl2

This called black Iotion Mercury, there is another example of mercuric chloride with calcium hydroxide the reaction form yellow precipitate also it is useful.

Hgcl2 + Ca(OH)2 —› HgO + Cacl2 + H2O

This is called ( Mercuric oxide Iotion ) it is useful if the ppt. in large quantity add ( Tragcanth powder) or tragcanth to be suspended.

*Quiz (2):-* What is meaning of intentionl Incompatibility with examples.

*Note:-* Check your answer on key answer page ( ).

General Method for ppt.

Treatment formed due to chemical reactions.

There are two method for ppt treatment:-

1) When the volume of ppt treatment quanitity, the treatment will be by dividing the vehicle into two part.

Each chemical ingredient dissolve in one part then mix both.

2) If the ppt is in large quantity treatment will be by dividing the vehical into two parts, dissolve one ingredient in first part of vehical and put 2% gm for each 100ml of tragcanth powder or ¼ volume of total mixture use mucilage add to it second part of ingredient mix both parts, write in the bottele ( Skake before use)

*Quiz (3):-* How do you treat chemical reaction precipitation.

Alkaloiclal Incompatibility

1. Incompatibility of Alkaloiclal salt with alkalinc substances.

Most of alkaloidal salts are soluble in water like strychinine salt amd morphin but alkaloid it self are insoluble alkalin like ammonia or aromatic spirit pf ammonia due to reaction

When salt of strychinine hydrochlorid dissolve in water then add ammonium solution result in ppt formation which are as small crystal.

The ppt past of medicine lead to poisoning for patient.

The solubility of strychnine is 8/37 min.

C12H22O2N2.Hcl.2H­2O + NH3 —› C12H22O2N2 + NH4Cl +

2H2O

Strychinine is more soluble in alcohol than water it is solubility is 1/150

Alkalin Ingredents:-

1) Aromatic spirit of ammonia

2) Solution of ammonia

3) Borax

4) Calcium hydroxid

5) Pot. Picarbonate

6) Sod. Bicarbonate

2. Morphin salt:-

Morphin is slightly soluble in water like strychnine this ingredient will react with alkaline ( Ammoum solution) the morphin will ppt.

Solubility of morphin is 12min or less for each volume oune & solubility in alcohol is 1/100.

3. Quinine salts:-

It is slightly soluble in water and it will ppt if mixed with alkalin the ppt of qunine is large quantity and must add tragcanth or mucilage of tragcanth.

*Quiz (4):-* Mention five alkalin substance?

*Note:-* Check your answer on key answer page ( ).

*Post-Test:-*

1. When salt of strychnine hydrochlorid dissolve water then add:-

a) Ammonum solution

b) Sodium chloride

c) Water

d) Alcohol

2. Most a cide decompose sodium Salicylate release:-

a) H2O

b) CO2

c) N2

d) O2

3. Qunine in large quantity and must add:-

a) Glycerin

b) Tragcanth

c) Binder

d) Diluent

4. When the volume of precepatite is little quantity:-

a) Divide the vehicle in two part

b) Divide the vehicle into three part

c) Gel

d) Alcohol

5. Chemical Incompatibility which is useful called:-

a) Intentional Incompatibility

b) Physical

c) Colour

d) Buffer

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2. Solution
3. Incompatibity
4. Iotion

Key answer page

*Pre-Test:-*

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* If you got less than 9, so you need to continue studying this module carefully.

*Post-Test:-*

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After studying the this module & doing the post-test, so if you got:-

\* 9 or more move to the other module.

\* Less than 9, so go over the study of the 21th & 22th module or any part of it, then do the post-test again.

*Self-Test:-*

*Quiz (1):-* You will found the answer when you return on page (198).

*Quiz (2):-* You will found the answer when you return on page (199).

*Quiz (3):-* You will found the answer when you return on page (200).

*Quiz (4):-* You will found the answer when you return on page (201).

*References:-*

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