

B. PHARMACY FIRST YEAR FIRST SEMISTER EXAMINATION-2023

Subject: Pharmaceutics-I

Time: 3hours

Full Marks: 75

Answer any five questions taking at least one from each group

Group: A

Q.1. What are incompatibilities? Site **two** specific examples of each kind of incompatibilities & suggest the best possible ways to overcome such incompatibilities. (3+12)

Q.2. Answer any three of the following:

i) In what proportion 10%, 6% & 3% alcohol be mixed to get 5% alcohol?

ii) Calcium chloride ($\text{CaCl}_2, 2\text{H}_2\text{O}$) has a formula weight of 147. What weight of the chemical is needed to obtain 40 mEq of calcium ($\text{Ca} = 40.1$; $\text{Cl} = 35.5$; $\text{H}_2\text{O} = 18$)?

iii) The freezing point depression for a 1% solution of Pilocarpine hydrochloride is 0.14. What concentration of Pilocarpine hydrochloride that would be iso-osmotic with the blood?

iv) The concentration of Sodium fluoride in a community's drinking water is 0.6 ppm. Express this concentration as a percentage. (3x5=15)

Group: B

3. Classify, with examples, pharmaceutical solution dosage form according to their route of administration. Discuss about vehicles used in pharmaceutical solution dosage form. What are suppositories. Write the advantages and disadvantages of suppository dosage form. [5+5+1+4]

4. Define pharmaceutical suspensions. Elaborate the ideal characteristics of a pharmaceutical suspensions. Discuss flocculated and deflocculated suspensions. What is the difference between structured vehicle and controlled flocculation? [1+4+5+5]

Group: C

5. Define. Write the colour test to identify types of emulsion. What are the various stability problems of emulsions and how can they be overcome? How can you prepare acacia emulsion by wet gum method?

An emulsion is prepared using the following formula:

Composition	HLB value of the chemical
Liquid paraffin 36%	12
Bees wax 2%	10
Cetyl alcohol 1%	15
Emulgent 7%	
Water, q.s.	

[Turn over

Using the blend of Sarbitan 80 (HLB 4.3) and Tween 80 (HLB 15) as emulgent, determine the formula of a stable emulsion of the above composition. $1+2+6+2+4 = 15$

6. What is a prescription? Write about the following parts of the prescription and their importance: Superscription and signa. Give the year of publication of the first and the latest IP. Give the English meaning of the following words: Mitte, atne cibos, semendus, pulvis, ter-in-die, modo dictum

Write Clarke's dose formula.

What is posology? Using Young's formula, please calculate the child dose of a child of 6 years old. Adult dose is 600 mg. $2+3+1+3+2+1+3 = 15$

Group: D

7. i. Draw a diagram of skin and explain the mechanism of drug penetration through skin.
ii. write the factors influencing dermal penetration of drugs. $2+5+8$

8. i. Write the classification of semisolid. Give definition and example of each one.
ii. Write in detail about the evaluations of semisolid formulation. $2+2+2+9$