

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 10

B.Pharmacy (Sem.-4)
PHYSICAL PHARMACY
Subject Code : PHM-245
Paper ID : [D0163]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **FIFTEEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **FOUR** questions carrying **TEN** marks each and students have to attempt any **THREE** questions.

SECTION-A**1. Answer briefly :**

- a. What is latent heat?
- b. What is meant by sublimation?
- c. Define glassy state.
- d. What is the porosity when solid particles are packed closely?
- e. What is angle of repose?
- f. What is kinematic viscosity and what is its unit of measurement?
- g. What is contact angle?
- h. What is yield value and in which types of systems it is observed?
- i. Give two examples of non-ionic surfactants.
- j. What is Ostwald ripening?
- k. What is a chelate (give suitable example also)?

- l. Write the equation for calculating the half life for a drug following first order degradation kinetics.
- m. What is the molar concentration of a non-ionizing solute isotonic with lacrimal fluid?
- n. What is meant by buffer capacity?
- o. Which type of emulsion will be formed by surfactants having very low HLB?

SECTION-B

2. Explain the differences between crystalline and amorphous solids. Explain the advantages and disadvantages associated with them.
3. What is the difference between surface and interfacial tension? Explain the method for determining spreading coefficient.
4. Differentiate between Newtonian and Non-Newtonian systems.
5. Write briefly about cyclodextrin complexes and highlight their applications in formulation of dosage forms.
6. Enumerate the differences between conventional emulsions and microemulsions. Describe the tests used for determining the type of emulsion.

SECTION-C

7. What are dispersed systems? Discuss the approaches that can be used for formulating a flocculated suspension. Briefly explain the tests carried out for assessing the stability of these suspensions.
8. Discuss the factors influencing the stability of drug formulations. Suggest the additives added for enhancing the stability of formulations.
9. Classify complexes with examples. Enumerate the methods used for analyzing them and explain any one method in detail.
10. Enumerate the methods used for determination of surface area of powders. Discuss any one method in detail.