DEC-23-0071

BP-302 T (Physical Pharmaceutics-I)

B.Pharm-3rd (PCI)

Time : 3 Hours   **Max. Marks : 75**

Note: Section-I is compulsory, attempt all questions in this section. Attempt any two questions from Section II and Seven questions from Section III.

SECTION-I

(Attempt all questions)   (10×2=20)

1. Short Answer the following.

a. Define Solvation and Association.

b. Define the term "eutectic mixture" with an example.

c. Enumerate the term latent heat.

d. State the equation for ideal solubility parameter.

e. Explain the term "Detergency".

f. Classify surfactants with examples.

g. What are chelate compounds?

h. What do you mean by surface free energy?

i. Define protein binding with example.

j. Write about Sorenson's pH scale.

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2   **BP-302 T**

SECTION-II

(Attempt any two Long Essay type questions)   (2×10=20)

2. Describe the solubility of liquids in liquids.

3. Elaborate various methods used for the determination of surface and interfacial tension.

4. Demonstrate the classification of complexation in detail.

SECTION-III

(Attempt any seven Short note questions)   (7×5=35)

5. State and explain Nernst Distribution law along with its applications and limitations.

6. Differentiate between amorphous and crystalline solids.

7. Define buffered isotonic solutions. Explain various methods of adjustment of tonicity of a solution.

8. Discuss various methods used for the analysis of complex formation.

9. Demonstrate various applications of buffer in pharmaceutical and biological systems.

10. Derive the buffer equations for a weak acid and its salt.

11. Define HLB and explain Griffin's scale.

12. Explain critical solution temperature along with its applications.

13. Explain the various methods for the determination of pH.