2021
M.Sc. (Applied Chemistry/Pharmaceutical)
Third Semester
Paper – 302: Physical Pharmacy

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt _five_ questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Answer the following:-

   a) What do you mean by yield value?

   b) Define gold number.

   c) What do you understand by the term fluidity?

   d) Write the expression for Young-Laplace equation.

   e) Define shelf life.

   f) Define crystal growth. (6x2)

UNIT – I

II. Define Surface Tension and Interfacial Tension. With the help of a neat diagram describe the phenomenon of Electrical double layer and Zeta potential at interfaces. (12)

III. Write a short on:-

   a) Critical Micelle Concentration

   b) Hydrophilic-Lipophilic Balance (6x2)

UNIT – II

IV. a) State the various expressions used for expressing the solubility of solids in liquids.

   b) Discuss the various solubility parameters. (6x2)

V. What are Protective Colloids? Discuss phenomenon of sensitization and protective colloid action. (12)

UNIT – III

VI. Write a short note on:-

   a) Cup and Bob viscometer

   b) Cone and Plate Viscometer (2x6)

P.T.O.

VII. What is Newtonian and Non-Newtonian flow? Explain the Non-Newtonian type of flow with suitable example. (12)

UNIT – IV

VIII. Define Complexation. What are inclusion complexes? Give their applications in pharmacy. (12)

IX. a) Discuss in detail the influence of various factors in stability of drugs.

b) Explain the methods of analysis of complexes. (6,6)

x-x-x