**B. Pharm 4th Semester Examination**

**Subject- Physical Pharmaceutics-II (T)**

**(BP403T)**

**F.M.: 75 Time: 3 Hrs**

1. **Answer all questions 10X2=20**
2. What is meant by protective colloid? Mention one example of the same.
3. Define ‘order of reaction’ with a suitable example.
4. What is the difference between cool place and cold place regarding the storage of a product?
5. Explain the concept of Surface Tension.
6. Describe two applications of Thixotropy
7. Explain the term shear thinning and shear thickening with suitable examples
8. What is Brownian movement? Which formulations exhibit this movement.
9. Describe two methods for identifying the type of emulsion
10. Define Structured vehicles? What are the properties that a structural vehicle should have?
11. Write any two distinguishing features of molecular and Colloidal dispersion.

**2. Answer any two questions 2X10=20**

1. Explain the methods to ascertain the order of reaction.
2. Define adsorption isotherms. Draw various types of adsorption isotherms and explain their behaviour.
3. Describe the method of preparation of lyophobic colloids

**3. Answer any seven questions 7X5=35**

1. The half-life of a drug that decomposes by first order is 60 days. Calculate k1, and shelf life(t90)
2. A sample of Newtonian fluid is analysed by applying a shear stress of 5000 dy/cm2. The rate of shear is found to be 200 sec-1. Calculate the coefficient of viscosity and fluidity.
3. In what proportion should Tween 80 and span 80 be blended to obtain a required HLB value of 12. 0?
4. Write a short note on wetting phenomenon.
5. Write short note on physical stability of suspension.
6. Describe the causes of instability of emulsion.
7. Explain the plastic and pseudoplastic flow curves with examples. What are the reasons for such behaviour?
8. Describe the influence of temperature on the rate of reaction.
9. Describe the method of micellar solubilisation. Explain its application in pharmacy with suitable examples.