M. P. M. (Sem. III) Examination

December - 2019

Physical Pharmacy

Faculty Code : 014
Subject Code : 1043003

Time : 3 Hours]   [Total Marks : 75

1   Answer the following questions :   10×2=20
   (a)   Explain in brief - Supercritical fluids.
   (b)   Explain Ideal solutions and real solutions in brief.
   (c)   Explain eutectic mixtures.
   (d)   What is Polymorphism ? Explain with examples.
   (e)   What is a surfactant ? Explain with examples.
   (f)   Enlist the applications of buffers.
   (g)   Classify complexes.
   (h)   What is dielectric constant ? Give two applications.
   (i)   What is Buffer capacity ?
   (j)   Explain two limitations of Distribution law.

2   Answer any **two** out of the following :   2×10=20
   (a)   Write a detailed note on methods of measurement of surface and interfacial tension.
   (b)   Give the applications of complexation and write in detail about the methods of analysis of complexes.
   (c)   Explain optical rotation. Describe the principle, construction and working of a polarimeter.

3   Answer any 7 out of the following :   7×5=35
   (a)   What is a surface active agent? Explain the HLB scale.
   (b)   Write a short note on solubility of gases in liquids.
   (c)   Write a note on changes in the state of matter.
   (d)   Write a note on Surface free energy.
   (e)   Write a note on liquid crystals.
   (f)   Explain refractive index and the instrument used for its measurement.
   (g)   Explain the Distribution law, give its limitations and applications
   (h)   Explain Detergency process.
   (i)   Write a note on Inclusion complexes.