04/01/24

Seat Number | | | | | | |

DAGDU-15

# BP-302T : Physical Pharmaceutics-I
## (723302)

Total Page : 1]

Time: 3 Hours | Max. Marks : 75

**Instruction to candidates:**

1 Do not write anything on question paper except seat number.
2 Graph or diagram should be drawn with black ink pen being used for writing paper or black HB pencil.
3 Students should note, no supplement will be provided.
4 Draw figures/diagrams wherever necessary.
5 Figures to the right indicate full marks.

**1. Attempt all questions** **20**

i) Give limitations of Raoult's law.
ii) What is chelating agent? Give its uses.
iii) Define the term isotonicity with an example.
iv) Enlist various methods used to determine surface tension.
v) What do you mean by glassy states?
vi) Discuss limitation of Nernst distribution law.
vii) What is protein-drug binding?
viii) Give any four applications of buffers in pharmacy.
ix) Write about dielectric constant and dipole moment.
x) Define polymorphism with example.

**2. Attempt any two.** **20**

i) Define solubility. Explain in detail about different factors affecting the solubility of drugs.
ii) Describe the principle, construction and working of Abbe's refractometer. Write its application.
iii) Define Surface tension. Explain in detail capillary rise method used for determination of surface tension. Give its limitations.

**3. Attempt any seven.** **35**

i) Define a buffer. Explain the mechanism of action of buffers.
ii) Discuss Gibbs phase rule along with its application.
iii) Explain the various applications of complexation in pharmacy with examples.
iv) Write a short note on HLB scale.
v) Define optical rotation. Explain how to measure optical rotation.
vi) Write a short note on liquefaction of gases.
vii) What are azeotropic mixtures? Explain with an example.
viii) Explain the mechanism of cyclodextrin drug inclusion complex. Give its applications.
ix) Write the calorimetric method of determination of pH.