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Roll No .....

PY-104 (GS)

B.Pharmacy I Semester Examination, June 2020

Grading System (GS)

Pharmaceutical Chemistry-I

(Physical)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. Discuss the shapes of the following molecules using the VSEPR model
   i) PCl_5 ii) XeF_2
   iii) $H_3O^{\oplus}$ iv) $CH_3^{\oplus}$

2. a) Define polymorphism and isomorphism.
   b) Discuss Bragg's law and its applications.

3. Write a note on VSEPR theory and its role in structure prediction.

4. What is free energy? Explain concept of first law of thermodynamics.

5. Discuss in detail factors affecting the chemical equilibrium and explain how acid-base catalysis decompose the medicinal compounds.

6. What are the quantum numbers? Give significance of various quantum numbers.

   OR

   What is Ideal gas equation? Explain Kinetic theory of gases.

7. What is the relationship between the volume and the pressure of a gas when the temperature is held constant.

   OR

   What is Raoult's Law? Give its application. Write examples of various types of phase systems.

8 Write short notes on any two of the following:
   a) Colligative properties
   b) Gibb's Free energy
   c) Time independent Schrodinger equation

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