

PHYSICAL PHARMACY – I

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- (a) Define Gas law.
- (b) What is eutectic mixture?
- (c) Explain refractive index.
- (d) What is enthalpy?
- (e) How will you prepare molal solution?
- (f) Define Henry's law.
- (g) What is activity coefficient?
- (h) Define pH.
- (i) What is buffer?
- (j) What is isotonic solution?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Write briefly on super critical fluid state with diagram.

OR

3 Explain the following:

- (a) Van der Waals forces.
- (b) Hydrogen bonds.

UNIT – II

- 4 (a) Define and derive first law of thermodynamics.
- (b) Explain reversible process with diagram.

OR

5 Write in detail about molar refraction and refractive index.

UNIT – III

6 Write in detail about depression of freezing point with diagram.

OR

7 Explain the coefficient for expression colligative property.

UNIT – IV

- 8 (a) Write the calculation of pH for proton balance equations.
- (b) Write the conjugate acid base pairs.

OR

9 Write in detail species concentration as function of pH.

UNIT – V

10 Explain in detail buffer capacity.

OR

11 Write a note on the following:

- (a) Influence of buffer capacity & pH on tissue irritation.
- (b) General procedure for preparing pharmaceutical buffer solutions.
