Printed Pages: 01 **Subject Code:BP302T**

Paper Id: 150302 **Roll No:** | | | | | | | | | | |

B PHARM
(SEM III) THEORY EXAMINATION 2018-19
PHYSICAL PHARMACEUTICS -I

Time: 3 Hours ***Total Marks: 75***

Note: 1. Attempt all Sections.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a. Define ideal solution?
b. A solution contains 0.25 mole of solute and 0.75 mole of solvent. Calculate mole fraction of solvent in the solution?
c. What is Charles's law? Explain it.
d. Explain eutectic mixtures.
e. Why drop of liquid hanging in air is spherical in shape?
f. Explain the term Solubilization.
g. Define complexation.
h. What are chelate compounds and chelation?
i. What is Sorensen's pH scale?
j. Name the two important biological buffer systems.

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a. Explain ideal solubility parameters. What are its applications, advantage and limitation? Describe briefly the methods for determination of ideal solubility parameters.
b. Define crystalline solid. What are the types of crystals? Enlist and explain characteristics of crystals.
c. Define tonicity. Differentiate between isosmotic and isotonic solutions. Describe the methods that are used to adjust pH and tonicity.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a. Define solubility. Explain mechanism of solute solvent interaction. Mention the reason of solubility in different type of solvents.
b. Explain critical solution temperature and its applications using suitable example.
c. Differentiate between crystalline solid and amorphous solid.
d. Define adsorption. Explain the factors affecting adsorption. Mention the characteristic features of physisorption and chemisorptions.
e. Give the statement and postulates of kinetic molecular theory of ideal gases.
f. Discuss the thermodynamic treatment of stability constants.
g. Elaborate the electrometric and colorimetric pH determination methods.

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