S.Y.B.PHARM. SEMESTER-III (CBCS - 2015 Course) : WINTER - 2018

SUBJECT: PHYSICAL PHARMACY - I

Day: Monday
Date: 19/11/2018

W-2018-4076

Time: 02.00 PM TO 05.00 PM
Max. Marks: 60

N.B:

1) **Q. No. 1** and **Q. No. 5** are compulsory. Out of the remaining questions attempt **ANY TWO** questions from each section.
2) Answer to both the sections should be written in **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION - I

Q.1 Answer **ANY FIVE** of the following: **(10)**

a) Give definition and significance of compressibility factor.
b) Define constitutive properties with examples.
c) Differentiate between ideal and real solution.
d) What is 'F' for mixture of O_2 and N_2?
e) Define: i) Molarity ii) UCT
f) What is effect of dilution on equivalent and specific conductance?

Q.2 **a)** What are critical constants? Explain methods to determine the same. **(06)**
b) Derive ideal gas equation. **(04)**

Q.3 **a)** Define colligative properties. Explain any one in detail. **(06)**
b) Write a note on Debye Huckel theory. **(04)**

Q.4 Write short notes on **ANY TWO** of the following: **(10)**

a) Raoult's law and its deviation
b) Liquefaction of gases
c) Two component system

SECTION – II

Q.5 Answer **ANY FIVE** of the following: **(10)**

a) What is Q_{10} value?
b) Classify solvents on basis of dielectric constant
c) Define Nernst distribution law.
d) Enlist different thermodynamic equilibriums.
e) What is saturated solution?
f) Give applications of distribution law.

Q.6 **a)** Derive an expression for solubility parameter. **(06)**
b) Write formula for Arrhenius equation. Explain method to determine activation energy. **(04)**

Q.7 **a)** Write a detailed note on accelerated stability studies. **(06)**
b) Add a note on solubility of strong electrolytes. **(04)**

Q.8 Write short notes on **ANY TWO** of the following: **(10)**

a) Methods to determine order of reaction
b) Solute-solvent interaction
c) Collision theory

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