Your Roll No.....

BSc.-MSc. Integrated Program (Chemistry)
Semester -II Examinations-2018
Paper Code- BCH-CC4
Paper Tittle: Status of matter and Ionic Equilibrium

Time: Three Hours **Max Marks: 75**

(Write your Roll No. On the top immediately on receipt of question papers)

Attempt all questions. All parts of a question must be attempted in continuation. Start answer of a fresh question on a new page. Cite examples and draw labeled diagrams wherever necessary.

Q1. Answer very briefly of the following **[10 x1.5= 15]**

a. What is root mean square velocity?
b. What is surface tension?
c. Define unit cell of lattice?
d. Define pH.
e. Write down the units of Vander waal's constant.
f. What is viscosity?
g. What is the nature of solid?
h. What is degree of ionization?
i. What is Boyle's temperature?
j. What is common ion effect?

Q2. Attempt **ANY THREE** of the following: **[3x5=15]**

A. What are the varies postulates of the kinetic theory of gas?
B. Derive kinetic gas equation.
C. Explain compressibility factor.
D. Explain the behavior of real gases on the basis of Vander waal's equation.
E. How will you determine critical constant experimentally?

Q3. Attempt **ANY THREE** of the following: **[3x5=15]**

A. Explain the structure of liquids.
B. Explain the XRD of Liquids.
C. How will you determine surface tension of a liquid?
D. What are the factors that affect viscosity of liquids?
E. Explain the cleansing action of soap.

Q4. Attempt **ANY THREE** of the following: **[3x5=15]**

A. What is the law of constancy of interfacial angle?
B. Explain the miller indices.

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C. Explain Bragg's law.
D. What are the types of defect found in crystal lattices?
E. Explain the diffraction patterns of CsCl & NaCl.

Q5. Attempt **ANY THREE** of the following: **[3x5=15]**

A. What are the factors affecting degree of ionization?
B. Why group iv cations do not precipitate on passing H_2S gas in presence of HCl?
C. What is the buffer index and buffer capacity?
D. Derive Henderson equation.
E. What are the various applications of Henderson Equation?

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