

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Non-Medical) (Sem-2)

**PHYSICAL CHEMISTRY-I**

Subject Code : BSNM202-18

M.Code : 76300

Date of Examination : 09-06-2023

Time : 3 Hrs.

Max. Marks : 50

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write briefly :**

- a) What is collision frequency?
- b) Explain most probable velocity.
- c) Define coefficient of viscosity
- d) What are lyophilic colloids?
- e) What are ideal solutions??
- f) What is Van't Hoff factor?
- g) What are Azeotropes.
- h) Explain Elastic Gels?
- i) Explain intrinsic viscosity.
- j) Explain the law of corresponding states.

### SECTION-B

2. Calculate the root mean square velocity, average velocity of  $\text{SO}_2$  molecules at  $427^\circ\text{C}$ .
3. Explain one kinetic property and one optical property of colloidal state.
4. Differentiate between unreversible and reversible sols.
5. Latent heat of fusion of water (ice) is  $1436.3\text{cal/mol}$ . Calculate the molal freezing point depression constant of water.
6. Describe the principle and apparatus used for the measurement of surface tension.

### SECTION-C

7. Derive the relationship between :  
Depression in freezing point and lowering of vapour pressure.
8. State and explain: Boyle's law, Charles law and concept of absolute zero.
9. Define vapour pressure, boiling point, Trouton's Rule.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**