

Roll Number

In Figures: \_\_\_\_\_

In Words: \_\_\_\_\_

PR XI (01) 16  
CHEMISTRY (New)  
Inter Part-I  
(Fresh/Reappear)

Fic. No. \_\_\_\_\_  
(For Board's Office use only)

Superintendent

Signature / Stamp:

CHEMISTRY (New)  
Inter Part-I  
(Fresh/Reappear)

Fic. No. \_\_\_\_\_  
(For Board's Office use only)

Marks: 85

Time Allowed: 3 Hours

Note: There are THREE sections in this paper i.e. Section A, B and C.

Attempt Section-A on the same paper and return it to the Superintendent within the given time.

No marks will be awarded for Cutting, Erasing or Overwriting. Marks of Identification will lead to UFM case, Mobile Phone etc are not allowed in the examination hall.

Marks: 18

Time Allowed: 20 minutes

Section - A

Q-I Write the correct option i.e. A, B, C or D in the empty box provided opposite to each part.

- |  |   |                                     |                                     |                           |   |
|--|---|-------------------------------------|-------------------------------------|---------------------------|---|
| i. SI unit of coefficient of viscosity is  | A. $\text{Kg m}^{-1}$                                 | B. $\text{Kg s}^{-1}$               | C. $\text{Kg m}^{-1} \text{S}^{-1}$ | D. $\text{Kg ms}^{-2}$    | C |
| ii. Fog is the example of .....  | A. Suspension   | B. Colloid                          | C. Solution                         | D. None                   | B |
| iii. Oxidation number of those elements which have High Electronegativities is .....                   | A. Negative   | B. Positive                         | C. Zero                             | D. All of these           | A |
| iv. K (rate constant) is dependent on .....  | A. Temperature  | B. Concentration                    | C. Volume                           | D. None of these          | A |
| v. Which one of the given has greatest intermolecular force?   | A. Glycerin   | B. Water                            | C. Ethanol                          | D. Ether                  | A |
| vi. With the increase in temperature the rate of reaction increases due to .....                       | A. More number of molecules attains activation energy | B. Increase in K.E of the molecules | C. Decrease in activation energy    | D. Increase in collisions | A |
| vii. The oxidation number of Cl in $\text{HClO}_3$ is.....   | A. +5   | B. +3                               | C. +1                               | D. -1                     | A |
| viii. Electrolysis is process in which the cations and anions liberated from the electrolyte are ..... | A. Discharged   | B. Charged                          | C. Hydrolyzed                       | D. Hydrated               | A |
| ix. The percentage of Ca in $\text{CaCO}_3$ is.....  | A. 40   | B. 48                               | C. 100                              | D. 12                     | A |
| x. Le Chatelier's principle applies to a.....system.   | A. Chemical   | B. Physical                         | C. Mechanical                       | D. Both A and B           | D |
| xi. An orbital can have the maximum number of two electrons but with opposite spin, it is called.....  | A. Pauli's Exclusion principle                        | B. Hund's Rule                      | C. Auf bau Principle                | D. Le-Chatelier principle | A |
| xii. Most penetrating radiation of radioactive element is.....   | A. $\alpha$ -rays                                     | B. $\beta$ -rays                    | C. $\gamma$ -rays                   | D. X-rays                 | D |
| xiii. If ionic product is greater than solubility product, the solution is...                          | A. Saturated  | B. Un-saturated                     | C. Super saturated                  | D. None of these          | C |
| xiv. A very large value of $K_c$ indicates that reactants are...                                       | A. Very stable  | B. Very un stable                   | C. Moderately stable                | D. None of these          | B |
| xv. The frequency of green light is $6 \times 10^{14}$ Hz. Its wavelength is .....                     | A. 100 nm   | B. 5000 nm                          | C. 5 nm                             | D. 500 nm                 | D |
| xvi. Freezing point of solution as compared to the solvent is .....                                    | A. Variable   | B. Lower                            | C. Higher                           | D. Same                   | B |
| xvii. All of the given substances are crystalline except .....   | A. Ice  | B. Diamond                          | C. Sucrose                          | D. Glass                  | D |
| xviii. Which one of the given reaction is spontaneous?   | A. Endothermic  | B. Exothermic                       | C. Reversible                       | D. Irreversible           | B |

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Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

**Section – B**

Marks: 40

Q-II. Answer any TEN parts. Each part carries FOUR marks.

1. Discuss the effect of change in temperature on chemical equilibrium.
2. What are liquid crystals? Give their uses in daily life.
3. Write a note on charge to mass ratio of cathode rays.
4. Differentiate Solution, Suspension and Colloids.
5. Discuss the relation between  $K_p$  and  $K_x$ .
6. Explain the factors affecting London dispersion forces.
7. State and explain law of mass action.
8. Write a note on standard hydrogen electrode.
9. Calculate the density of  $CH_4$  at  $0^\circ C$  and 1 atmosphere.
10. Why actual yield of reaction is less than theoretical yield. Give reasons.
11. Write down the properties of X-rays.
12. Calculate the value of "R" at STP.
13. Write note on (i) Polymorphism (ii) Crystal lattice.

**Section – C**

Marks: 27

Note : Attempt any THREE questions. All questions carry equal marks.

- Q-III (A) What are buffer Solutions? Explain their action.  
(B) Discuss the azimuthal quantum numbers.
- Q-IV (A) Derive non-ideal gas expression. (The van der waal's equation)  
(B) State and explain Hess's Law.
- Q-V (A) Write a detail note on surface tension.  
(B) Explain bonding in oxygen molecule with the help of MOT.
- Q-VI Write short note on the following.  
(a) Solubility Product.  
(b) Raoult's Law.