



Name

1۔ ہر سوال کے سامنے چار دائرے دئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

Roll No

2۔ دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

3۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہو گا۔

Time Allowed: 20 Minutes

## SECTION – A

Marks : 18

- 1 Heat of formation for elements at standard condition is.....  Very high  Very low  Zero  Always negative
- 2 Sugar, Sulphur, phosphorus are all the examples of.....  Covalent solids  Ionic solids  Polar solids  Molecular solids
- 3 The largest number of atoms present in.....  6 g carbon  32 g oxygen  10 g of sodium  4g of Hydrogen
- 4 Graphite rod in dry cell act as....  Electrode  Cathode  Anode  None of these
- 5 The colloid formed by hydrophobic molecules are.....  More stable  Less stable  Neutral  Miscible
- 6 Increase in internal energy results.....  Phase change  Increase temperature  In chemical reaction  All these
- 7 Rte of reaction for reactants is...  Positive  Negative  Neutral  Fractional
- 8 The splitting of spectral lines in the presence of magnetic field is called.....  Stark effect  Zeeman effect  Uncertainty principle  Hund's rule
- 9 At 0°C volume of a gas is 10 dm<sup>3</sup> what will be the temperature if volume becomes 20 dm<sup>3</sup>.  20°C  273 K  546 K  100°C
- 10 One gram-atom of any element is equal to.....  Mass of molecule in gram  Mass of atom  Relative atomic mass in gram  6.022 × 10<sup>23</sup> gram atom
- 11 The colour of the plasma depends upon.....  Temperature of the gas  Pressure of the gas  Nature of the gas  Heat capacity of gas
- 12 The H<sup>+</sup> ion concentration of a solution is 1 mol.dm<sup>-3</sup>, its pH will be .....  0.1  1.5  1.0  0
- 13 Liquid oxygen is.....  Diamagnetic  Paramagnetic  Antimagnetic  Ferromagnetic
- 14 Consider the reaction  $2\text{SO}_2 + \text{O}_2 \rightleftharpoons 2\text{SO}_3$   $\Delta H = -94.58 \text{ kJ mole}^{-1}$ . The formation of SO<sub>3</sub> will increase if  Temperature increased  Pressure decreased  Adding more SO<sub>3</sub>  Removing SO<sub>3</sub>
- 15 1 mole of CO<sub>2</sub> contains.....  3 atoms of carbondioxide  6.022 × 10<sup>23</sup> atoms of CO<sub>2</sub>  6.022 × 10<sup>23</sup> molecules of CO<sub>2</sub>  44 mg of CO<sub>2</sub>
- 16 All of the given statements are true for Bohr Model except....  It explains H.atom  It explains Energy of electron  It predict the lines in H-Spectrum  It is according to Heisenberg principle
- 17 If the Ionic product of a solution is less then Ksp then solution is  Saturated  Unsaturated  Supersaturated  None of these
- 18 Fog is an example of.....  Solution  Colloids  Suspension  None of these

**PR XI (01) 19**  
**CHEMISTRY (New)**  
**Inter Part-I**  
**(Fresh/Reappear)**

**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. 23g Na and 238g of Uranium contain the same number of atoms. Justify.
2. The frequency of Red Light is  $8 \times 10^{14}$  Hz calculate its wave length.
3. Bond energies of polar molecules are more than non polar molecules why?
4. Derive unit for Gas constant (R) in terms of  $\text{dm}^3 \cdot \text{torr} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ .
5. Water is a perfect example of hydrogen bonding. How?
6. The solubility product of AgCl is  $1.8 \times 10^{-10}$ . Calculate the molar solubility of the salt.
7. Differentiate between solution and suspension.
8.  $\text{Na}^+$  is an oxidizing agent while Na is reducing agent why?
9. Why it is essential to mention the physical states of reactants and products in a thermo chemical equation?
10. Why molecular collision can be sufficiently energetic to cause a reaction?
11. Why do we call  $\text{BF}_3$  and  $\text{Cl}^-$  ion as Lewis acids and base respectively?
12. Differentiate between Isomorphism and Polymorphism.
13. Why water droplet is spherical?

**Section – C**

**Marks: 27**

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

- Q-III** (a) What is Graham's Law of diffusion and effusion? Also prove its mathematical expression. (5)
- (b) Calculate the rate of diffusion for Hydrogen gas compared with Helium. (4)
- Q-IV** (a) What is Le-chatelier's principle? Discuss the effect of temperature and pressure. (6)
- (b) Consider the equation  $2\text{SO}_2 + \text{O}_2 \rightleftharpoons 2\text{SO}_3$   $\Delta H = -94.58 \text{kJ mole}^{-1}$  (3)
- Predict the direction of reaction upon changing temperature.
- Q-V** (a) What are excess and limiting reactants? (4)
- (b) Consider the reaction  $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{CO}_3$  if 120g of  $\text{CO}_2$  is dissolved in 80g water then. (2.5)
- i) Identify limiting reactant (2.5)
- ii) Calculate amount of product (9)
- Q-VI** Write short note on the following:
- (i) Hydrogen bonding
- (ii) Evaporation
- (iii) Collision theory