



BWP-G2-11-19

Chemistry	(A)	L.K.No. 1114	Paper Code No. 6482
Paper I	(Objective Type)	Inter -A- 2019	(New Pattern)
Time :	20 Minutes	Inter (Part - I)	(Group 2nd)
Marks :	17	Session (2015 -17) to (2018 - 20)	

Note : Four possible choices A, B, C, D to each question are given. Which choice is correct fill that circle in front of that Question No. Use Marker or Pen to fill the circles. Cutting or filling two or more circles will result in Zero Mark in that Question.

Q.No.1	The volume occupied by 1.4 g of N_2 at S.T.P. is :
(1)	(A) 2.24 dm^3 (B) 22.4 dm^3 (C) 1.12 dm^3 (D) 112 cm^3
(2)	The mass of one mole of electrons is : (A) 1.008 mg (B) 0.55 mg (C) 0.184 mg (D) 1.673 mg
(3)	The comparative rates at which the solutes move in paper chromatography depends on : (A) The size of paper (B) R_f values of Solutes (C) Temperature of the Experiment (D) Size of the chromatographic tank used
(4)	A real gas obeying van der Waals equation will resemble ideal gas if : (A) Both 'a' and 'b' are large (B) Both 'a' and 'b' are small (C) 'a' is small and 'b' is large (D) 'a' is large and 'b' is small
(5)	The molar volume of CO_2 is maximum at : (A) S.T.P (B) 127°C and 1 atm (C) 0°C and 2 atm (D) 273°C and 2 atm
(6)	Acetone and Chloroform are soluble in each other due to : (A) Intermolecular Hydrogen Bonding (B) Ion - Dipole Interaction (C) Instantaneous Dipole Forces (D) London Dispersion Forces
(7)	Ionic Solids are characterized by : (A) Low Melting Points (B) Good Conductivity in Solid State (C) High Vapour Pressures (D) Solubility in Polar Solvents
(8)	Splitting of Spectral Lines when atoms are subjected to strong electric field is called : (A) Zeeman Effect (B) Stark Effect (C) Photoelectric Effect (D) Compton Effect
(9)	Quantum Number values for 2p Orbitals are : (A) $n = 2, l = 1$ (B) $n = 1, l = 2$ (C) $n = 1, l = 0$ (D) $n = 2, l = 0$
(10)	Which of the following Hydrogen Halides has the highest percentage of ionic character : (A) HCl (B) HBr (C) HF (D) HI
(11)	Which of the following Molecules has Zero Dipole Moment : (A) NH_3 (B) $CHCl_3$ (C) H_2O (D) BF_3
(12)	For a given gaseous process, the heat changes at constant pressure (q_p) and at constant volume (q_v) are related to each other as : (A) $q_v = q_p$ (B) $q_p < q_v$ (C) $q_p > q_v$ (D) $q_p = q_v / 2$
(13)	The pH of $10^{-3} \text{ mol dm}^{-3}$ of an aqueous solution of H_2SO_4 is : (A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5
(14)	The Molal Boiling Point Constant is the ratio of the elevation in boiling point to : (A) Molarity (B) Molality (C) Mole Fraction of Solvent (D) Mole Fraction of Solute
(15)	A solution of glucose is 10% w/v. The volume in which its one gram mole is dissolved will be : (A) 1 dm^3 (B) 1.8 dm^3 (C) 200 cm^3 (D) 900 cm^3
(16)	If the Salt Bridge is not used between two half cells, then the voltage : (A) Decreases Rapidly (B) Decreases Slowly (C) Does not change (D) Drops to zero
(17)	If the rate equation of a reaction $2A + B \rightarrow \text{products}$ is, $\text{rate} = k[A]^2[B]$, and A is present in large excess, then order of reaction is : (A) 1 (B) 2 (C) 3 (D) None of these

BWP-672-11-19

Roll No.	1114 - 22000	Session (2015 -17) to (2018 - 20)	Inter (Part -I)
Chemistry (Subjective)	Inter - A -2019	Time 2 : 40 Hours Marks : 68	(New Pattern) / Group 2nd

Note : It is compulsory to attempt any (8 - 8) Parts each from Q.No. 2, Q.No.3 and attempt any (6) Parts from Q.No.4. Attempt any (3) Questions from Part - II. Write same Question No. and its Part No. as given in the Question Paper.

Make Diagram where necessary.

Part - I

22 x 2 = 44

- Q.No.2 (i) Many Chemical Reactions taking place in our surrounding involve the limiting reactants. Justify it by two examples.
- (ii) How many Atoms are present in 0.1 g pure Na - 23 ?
- (iii) Why the Atomic Mass of Neon Gas is in Fraction?
- (iv) What is Solvent Extraction? What is its importance?
- (v) How Crystals are dried by Filter Paper? What is disadvantage of this method?
- (vi) Why lighter gases diffuses through air rapidly than heavier gases?
- (vii) Derive Charles's Law from Kinetic Molecular Theory of Gases.
- (viii) Convert - 40°C to Fahrenheit Scale.
- (ix) Define Plasma. Why it is neutral?
- (x) What is meant by Molar and Molal Solutions?
- (xi) Mention two applications of Depression in freezing point.
- (xii) Define Hydration and Hydrolysis.
- Q.No.3 (i) How Electrical Conductivity of Metal decreases by increase in temperature?
- (ii) Boiling need a constant supply of Heat. Justify.
- (iii) Justify that Diamond is non conductor of electricity.
- (iv) Ionic Solids are highly brittle, why?
- (v) Why is it necessary to decrease the pressure of gas in the discharge tube?
- (vi) Justify that e/m value is maximum for Hydrogen Gas.
- (vii) Give importance of Principal Quantum Number.
- (viii) Throw light on the factor $\frac{1}{273}$ in Charles's Law.
- (ix) Define pH and pOH. How are they related with pK_w ?
- (x) Explain the effect of change in temperature on K_w .
- (xi) Define Catalytic Poisoning with an example.
- (xii) Enzymes are always specific in action. Explain.
- Q.No.4 (i) Define Electronegativity. State the element with highest value of Electronegativity.
- (ii) Describe sp^2 - Hybridization. Mention a Molecule in which sp^2 - Hybridization is applied.
- (iii) Ionization Energy is an Index to the metallic character justify.
- (iv) Difference of Electronegativity values of the bonded atoms is an index to the polar nature of Covalent Bond justify.
- (v) Define System and Surrounding.
- (vi) Describe Non - Spontaneous Process. Give an example.
- (vii) Give two applications of Fuel Cell.
- (viii) How Electrochemical series help to predict the feasibility of chemical reaction?
- (ix) Write down reactions at Anode and Cathode during Electrolysis of Aqueous Solution of $NaNO_3$.

(Part - II)

- Q.No.5 (a) Define Limiting Reactant. How does it control the quantity of the product formed? (4)
Explain with two examples.
- (b) Explain the following properties of Solids : (4)
(i) Allotropy (ii) Habit of a Crystal (iii) Cleavage Plane (iv) Transition Temperature
- Q.No.6 (a) Calculate the Density of CH_4 (g) at 0°C and 1 Atmospheric Pressure. (4)
- (b) Write the main points of Bohr's Atomic Model. (4)
- Q.No.7 (a) How does Molecular Orbital Theory explain the paramagnetic character of O_2 . (4)
- (b) State First Law of Thermodynamics. Also prove $q_p = \Delta H$ (4)
- Q.No.8 (a) The Solubility of PbF_2 at 25°C is 0.64 g / dm³. Calculate K_{sp} of PbF_2 . Molecular Mass of $PbF_2 = 245.2 \text{ g mol}^{-1}$ (4)
- (b) Explain the effect of Surface Area and light on the rate of reaction. (4)
- Q.No.9 (a) Define Elevation of Boiling Point. How is it measured experimentally? (4)
- (b) Discuss Discharging and Recharging of Lead Accumulator along with reactions occurring at electrodes. (4)

