CHEMISTRY | Intermediate Part-I , Class 11th (1stA 323) | Paper : I | Group – I

Time: 2:40 Hours | SUBJECTIVE | Marks: 68

Note: Section-I is compulsory. Attempt any THREE (3) questions from Section-II.

SECTION – I

2. Write short answers to any EIGHT questions. **(2 x 8 = 16)**

i - Calculate the moles of Cl atoms in 0.822 g of $C_2H_4Cl_2$.
ii - What is the difference between gram atom and gram ion?
iii - No individual neon atom has a mass of 20.18 amu. Why?
iv - How does the respiration process involve Dalton's law of partial pressures?
v - Give the quantitative definition of Charles's law.
vi - Where is plasma found?
vii - What is Moseley's law? Give its significance.
viii - Write down the electronic configuration of $_{29}Cu$ and $_{19}K$.
ix - The velocities of electrons in higher orbits are less than those in lower orbits of hydrogen atom. Give the reason.
x - Define standard enthalpy of combustion. Give an example.
xi - What is meant by state function? Give two examples.
xii - Define exothermic reaction. Give an example.

3. Write short answers to any EIGHT questions. **(2 x 8 = 16)**

i - Define water of crystallization. Give example.
ii - How do you justify that the boiling point of one molal urea solution is 100.52°C but the boiling point of two molal urea solution is less than 101.04°C?
iii - Give two statements of Raoults law.
iv - Differentiate between fast step and the rate determining step.
v - What are enzymes? Give an example.
vi - The reaction happens due to collisions among the molecules but all the collisions are not fruitful. Justify it.
vii - How does a Gooch crucible increases the rate of filtration?
viii - Give the main characteristics of the solvent used for crystallization.
ix - What is ether extraction?
x - Define polymorphism. Give example.
xi - Hydrogen bonding is present in chloroform and acetone. Justify it.
xii - How liquid crystals can act as temperature sensors?

4. Write short answers to any SIX questions. **(2 x 6 = 12)**

i - Atomic radius decreases from left to right in a period, justify.
ii - Define electron affinity, give one example.
iii - How the criteria of electronegativity helps us to understand the nature of bond?
iv - What is buffer capacity?
v - Value of pK_a and pK_b are related to strength of acid and bases. Justify it.
vi - Define solubility product with an example.
vii - Differentiate between electrolytic and galvanic cell.
viii - What is electrolysis? Give an example.
ix - How anodized aluminium is prepared in an electrolytic cell?

(Turn Over)

Roll No. of Candidate : _____

CHEMISTRY **Intermediate Part-I , Class 11th (1stA 323- III)** **Paper : I** **Group – II**

Time: 20 Minutes **OBJECTIVE** **Code : 6486** **Marks: 17**

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

1. 1 - In zero order reaction, the rate is independent of
(A) temperature of reaction (B) concentration of reactants
(C) concentration of products (D) none of these

2 - The pH of 10^{-3} mol dm^{-3} of an aqueous solution of H_2SO_4 is
(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

3 - If a strip of Cu metal is placed in a solution of $FeSO_4$
(A) Cu will be deposited (B) Fe is precipitated out
(C) Cu and Fe both dissolve (D) no reaction takes place

4 - Calori is equal to
(A) 0.4184 J (B) 41.84 J (C) 4.184 J (D) 418.4 J

5 - The oxidation No. of Nitrogen in HNO_3 is
(A) +3 (B) –3 (C) –5 (D) +5

6 - The change in heat energy of a chemical reaction at constant temperature and pressure is called
(A) enthalpy change (B) heat of sublimation
(C) bond energy (D) internal energy change

7 - An aqueous solution of ethanol in water may have vapour pressure
(A) equal to that of water (B) equal to that of ethanol
(C) more than that of water (D) less than that of water

8 - Feeling uncomfortable breathing in unpressurized cabin is due to
(A) high pressure of CO_2 (B) low pressure of CO_2
(C) low pressure of O_2 (D) high pressure of O_2

9 - The value of pH of pure water at 25° C is
(A) 14 (B) 7 (C) 1×10^{-14} (D) 1×10^{14}

10 - Pressure remaining constant, at which temperature the volume of a gas will become twice of what it is at 0° C
(A) 546° C (B) 200° C (C) 546 K (D) 273 K

11 - Which of the following species has unpaired electrons in the antibonding molecular orbitals ?
(A) O_2^{2+} (B) N_2^{2-} (C) B (D) F_2

12 - During the process of crystallization the hot saturated solution
(A) is cooled very slowly to get large size crystals
(B) is cooled at a moderate rate to get medium size crystals
(C) is evaporated to get the crystals of the product
(D) is mixed with immisible to get the pure crystals of the product

13 - When 6 d orbital is complete, the entering electron goes in to
(A) 7 f (B) 7 p (C) 7 s (D) 7 d

14 - 27 g of Al will react how much mass of O_2 to produce Al_2O_3
(A) 8 g of Oxygen (B) 16 g of Oxygen (C) 32 g of Oxygen (D) 24 g of Oxygen

15 - Diamond is a bad conductor because
(A) it has a tight structure
(B) there are no free electrons present in the crystal of diamond to conduct electricity
(C) it has a heigh density
(D) is transparent to light

16 - The mass of one mole of electron is
(A) 1.008 mg (B) 0.55 mg (C) 0.184 mg (D) 1.673 mg

17 - Liquid Hydrocarbon is
(A) Methane (B) Pentane (C) Hexane (D) Propane