ECAT Chemistry Chapter 1 Basic Concepts Online Test

Sr	Questions	Answers Choice
1	The volume occupied by 1.4 g of N_2 at S.T.P is	A. 2.24 dm³ B. 22.4 dm³ C. 1.12 dm³ D. 112 cm³
2	0.5 mole of CH_4 and 0.5 mole of SO_2 gases have equal	A. Volume B. Mass is gram C. Total number of atoms D. Number of molecules
3	What is the volume in cm^3 of 3.01 x 10^{23} molecules of O_2 gas at S.T.P	A. 1000 cm³ B. 11000 cm³ C. 1120 cm³ D. 11200 cm³
4	The mass of one mole of proton is	A. 1.008 g B. 0.184 g C. 1.673 g D. 1.008 mg
5	The largest number of molecules are present in	A. 3.6 g of H₂O B. 4.8 g of C₂H₅OH C. 2.8 g of CO D. 5.4 g of N₂O₅
6	One mole of SO_2 contains	A. 6.02 x 10²³ atoms of oxygen B. 18.1 x 10²³, molecules of SO₂ C. 6.02 x 10²³atoms of sulphur D. 4 gram atoms of SO₂
7	3.01 x 10^{22} Ag^+ ions is present in	A. 85 grams AgNO₃ B. 0.85 g AgNO₃ C. 8.5 g AgNO₃ D. 18.5 g AgNO₃
8	When nitrogen is 5.6 grams in NO_2. then number of moles of NO_2 is	A. 0.5 B. 0.4 C. 0.04 D. 0.05
9	A ring contains 3 gram diamond. The number of C-atoms which a ring contains is	A. 3.01 x 10²³ B. 1.5 x 10²³ C. 6.02 x 10²⁴ D. 3.01 x 10²⁴
10	One mole of C_2H_5OH contains the number of H-atoms	A. 6.02 x 10²³ B. 3.61 x 10²⁴ C. 1.81 x 10²⁴ D. 6.02 x 10²⁴
11	A balloon contains 0.02 gram of H_2 gas, it contains H_2 molecules	A. 6.02 x 10²³ B. 3.01 x 10²² C. 6.02 x 10²¹ D. 3.01 x 10²¹
12	How many moles of hydrogen atoms does 3.2 g of methane, CH_4, contain?	A. 0.02 B. 0.2 C. 0.4 D. 0.8
13	A compound contains 75% carbon and 25% hydrogen, by mass. What is the molecular formula of the compound/	A. C₃H₈ B. CH₄ C. C₂H₄ D. C₂H₆
14	Two different hydrocarbon each contain the same percentage by mass of hydrogen. It follows that they have the same	A. Empirical formula B. Number of atoms in a molecules C. Number of isomers D. Relative molecular mass
15	A compound X contains 50% sulphur and 50% oxygen by mass. What is the empirical formula of compound X?	A. SO B. SO₂ C. SO₃

		D. SO₄
16	One mole of ethanol and one mole of ethane have an equal	A. Mass B. Number of atoms C. Number of electrons D. Number of molecules
17	Which has greater number of moles	A. 0.1 g sodium B. 6.02 x 10²⁰atoms of magnesium C. 20 cm³0.1mole per dm³of NaOH D. 12.2 dm³of nitrogen at standard [A_rNa = 23, Mg = 24, O = 16]
18	A compound having empirical formula C_3H_3O and its molecular mass is 110.02. Its molecular formula is	A. C₃H₃O B. C₆H₆O₂ C. C₉H₉O₃ D. C₃H₆O₂
19	A compound contains one atom of oxygen and % of O 34.78, then molecular mass of compound is	A. 46 B. 78 C. 110 D. 180
20	The percentage of which element in the organic compound is determined by the difference method	A. Carbon B. Hydrogen C. Nitrogen D. Oxygen
21	The value of R(General Gas Constant) is	A. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">8.3134 JK⁻¹<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">mole⁻¹ ^{<o:p></o:p>} B. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">1.987 Cal K⁻¹<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">Mole^{-1<o:p></o:p>} C. Both a and b D. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">1.987 JK⁻¹<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">mole⁻¹<o:p></o:p>
22	The empirical formula of a liquid compound is known to be C_2H_4O. What other information is needed to work out its molecular formula?	A. The percentage composition of the compound B. The relative molecular mass of the compound C. The density of the compound D. The volume occupied by one mole of the

		compound
23	Which one of the following compounds does not have the empirical formula CH_2O?	A. Ethanoic acid, CH₃CO₂H B. Ethanol, CH₃CH₂OH C. Glucose, C₆H₁₂O₆ D. Methanal, HCHO
24	Which of the following compounds contains the highest percentage by mass of nitrogen?	A. Ammonia, NH₃ B. Ammonium carbamate, NH₂CO₂NH₄ C. Ammonium carbonate, (NH₄)₂CO₃ D. Hydrazine, N₂H₄
25	Which of the following statements is not true?	A. Isotopes with even atomic masses are comparatively abundant B. Isotopes with even atomic masses are comparatively abundant C. Isotopes with even atomic masses and even atomic numbers are comparatively abundant D. Isotopes with even atomic masses and odd atomic number are comparatively abundant
26	Isotopes differ in the	A. Number of neutrons B. Number of protons C. Number of electrons D. Number of atoms
27	The relative abundance of the ions with a definite m/e value is measured by	A. High pressure of vapours B. Strength of electric current measured C. Quantity of fast moving electrons D. Electron gas
28	The pressure of vapours when sent to the ionization chamber in mass spectrometer is	A. 10⁻⁵to 10⁻⁶torr B. 10⁻⁶to 10⁻⁷torr C. 10⁻⁷to 10⁻⁸torr D. 10⁻³to 10⁻⁴torr
29	The relative abundance of Pb isotopes is 1.5% Pb^{204}, 23.6% Pb^{206}, 22.6% Pb^{207}, 52.3% Pb^{208}The relative atomic mass of Pb is	A. 207.94 B. 208.24 C. 206.94 D. 207.24
30	The empirical formula of a compound is CH_2O. What may be the compound	A. C₂H₅OH B. C₆H₅OH C. HCOOH