ECAT Chemistry Online Test

Sr	Questions	Answers Choice
1	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
2	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
3	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]
4	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
5	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
6	The percentage of which element in the organic compound is determined by the difference method	A. Carbon B. Hydrogen C. Nitrogen D. Oxygen
7	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></p>
8	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
9	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
10	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
11	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
12	Isotopes differ in the	A. Number of neutrons B. Number of protons C. Number of electrons D. Number of atoms
13	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
14	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
15	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
16	The empirical formula of a compound is CH_2O. What may be the compound	A. C₂H₅OH B. C₆H₅OH C. HCOOH
17	Ascorbic acid contains 40.92% carbon, 4.58%, hydrogen and 54.4% oxygen. The empirical formula is	A. C₃H₄O₃ B. C₂H₄O₃ C. C₃H₅O₄ D. C₂H₃O₁
18	The percentage of H is the highest in	A. CH₄ B. NH₃ C. H₂SO₄ D. C₆H₁₂O₆
19	Mass spectrometer measures the	A. Exact mass of an element B. Average mass of an element C. The number of elements present in a molecule D. m/e value of a positive ion
20	The relative atomic mass of chlorine is 35.5. What is the mass of 2 mol of chlorine gas	A. 142 g B. 71 g C. 35.5 g D. 18.75 g
21	Relative atomic mass of an element is the mass of the element relative to	A. 1/12 mass of carbon-12 B. 1/12 mass of carbon

	Relative atomic mass of an element is the mass of the element relative to	C. 1 mass of hydrogen atom D. 1/16 mass of oxygen
22	X-ray work has shown that the diameters of atom are of the order of	A. 8 x 10⁻¹⁰m B. 2 x 10⁻¹⁰m C. 8 x 10⁻⁸m D. 2 x 10⁻⁸m
23	A molecular ion is formed by	A. Passing a high energy electron beam through gaseous molecule B. Dissolving a salt i dilute acid C. Passing electric current through molten salt D. Passing electricity through aqueous solutions
24	A beaker contains 9 grams of water. The number of H atoms is	A. 6.02 x 10²³ B. 3.01 x 10²³ C. 6.02 x 10²⁴ D. 3.01 x 10²⁴
25	Where energy is released during a reaction it is	A. Exothermic reaction B. Endothermic reaction C. A free radical reaction D. A bond breaking reaction
26	$Al^{3+}$is a symbol for aluminium	A. Atom B. Ion C. Cation D. Anion
27	Which of the following statement is correct for a chemical reaction to occur molecules of substances must	A. Collide with each other B. Collide with energy more than activation energy C. Collide with energy less than activation energy D. Collide with high frequency
28	Each molecule of haemoglobin is 68000 times heavier than one atom of	A. C B. H C. N D. O
29	A molecule of haemoglobin is made up if nearly	A. 10,000 atoms B. 50,000 atoms C. 2500 atoms D. 1500 atoms
30	Which one of the following statements is not correct	A. A molecule is the smallest particle of an element which can exist independently B. He is a molecule of helium C. S₈is a molecule of sulphur D. O₃is a molecule of oxygen